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EDITORIAL

Christopher H. Tienken, Editor
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The Expanding Charter Movement: Separate, Unequal, and Legal?

Charter proponents trumpet *choice* as the hallmark of a democratic public education system. They put a “parents right to choose” at the forefront of their argument for expanding the commercial charter school market and thus place the parent in the role of consumer. On its face, it sounds logical. In the eyes of choice advocates, to not support free choice would be of course, un-democratic, and un-American.

But what if “choice” results in greater social stratification and a dual, semi-private education system that separates the “haves” and “have nots” along socio-economic, cultural, racial, and ethnic lines? Reality might not match the increasingly manufactured positive perceptions about choice. There is something amiss with the large-scale charter movement.

Choices

The argument put forth by the purveyors of an expanded charter movement usually sound something like this: *Education is the civil rights issue of our lifetime. Students should not be made to attend schools that are persistently unsafe and that do not deliver a quality education. Parents should have the right to choose a school that is best for their children.*

On its face it sounds democratic and consumer-chic, yes? However, by allowing people to choose their “school” there is potential in the weakly regulated charter system that exists, for parents to choose certain schools

based on factors that create greater segregation along academic, racial, ethnic, special education, or socio-economic lines. Separate and perhaps unequal.

Certainty

There is certainty that the public school that most parents do not choose to leave will lose much needed funding because every child that attends the charter school takes a majority of his or her per-pupil funding with him/her. The parents and children who do not choose to leave are in essence punished with less funding provided to their public school. I am unsure how a decrease in funding is supposed to improve the education experiences for the children whose parents choose to remain in the public school. I am sure that the expansion of the charter school movement is creating a dual system of education that violates core aspects of the Jeffersonian vision for education. A vision that reformers like Horace Mann, Henry Barnard, Francis Parker, John Dewey, and other giants who supported a unified, democratic, free system of comprehensive public schools fought so long ago to help establish.

Research Results

Several large studies found that the expansion of the charter school market is siphoning students who are better-off economically and academically. In many cases the students in charter schools either come from homes that

are more economically stable (less poor), have higher prior achievement levels, do not require special education or ELL services, require less intense medical services, and generally have parents or guardians with more resources to support their education (Finnigan, et al, 2004).

Charter schools have a less diverse student population in terms of socio-economic characteristics than their peer public schools. Ascher, et al, (1999) reported that only 35% of charters, compared to over 70% of public schools had economically diverse populations. This means that charters serve either primarily poor or non-poor students (as is usually the case) in more cases than public schools that serve more economically mixed populations in a majority of the schools. Some of you might be saying, "Well that was in 1999, things have matured since then." Consider that others (e.g. Carnoy, et al, 2005; Miron, et al, 2010; Skinner, 2009), found the same level of economic concentrations and segregation today. So much for growing older and wiser.

The Miron et al, (2010) study found several interesting aspects of charters and segregation: (a) Only about 25% of charter schools operated by education management organizations (EMO) had a student population demographically similar to that of the surrounding public schools; (b) Charter schools administered by EMOs had extreme levels of economic segregation: either very wealthy or very poor; (c) Charter schools, as a whole, enroll fewer students with special needs than the surrounding public schools; (d) Charter schools provide fewer special education and ELL services and enroll far fewer of students who need those services (Baker, 2011a; 2011ab).

In some cases charter schools do not have to provide special education services if special education is not part of their mission

(Welner & Howe, 2005); (e) Virtual charter school students are likely to be white and not economically disadvantaged. Of course not all charters segregate in every situation, but as a market and a movement, their student populations are more segregated than the surrounding public schools. Of course there are some charters that are more inclusive, less segregated, and offer better programs than their surrounding schools, but that is not the overall characteristic of the population of charter schools. Those are the exceptions and not the rule. A system cannot be built on non-scalable exceptions.

False Advertising

Do not be fooled by misleading or incomplete statistics distributed by charter marketing companies and special interest groups. For example, it was reported by the charter industry that over 33% of all students in charter schools were black, whereas only 17% of students in public schools were black. Seems like charters are more inclusive and do serve a larger minority population. That is good, right? Maybe, but it depends on your goal. Consider this: Over 70% of black students in charter schools were in schools that were 90-100% black, lacking almost any racial diversity, whereas only 34% of black students in the public schools were in schools that were 90-100% all black (Frankenberg and Lee, 2003). The black students in charter schools more often have little to no exposure to racial diversity compared to their peers in the public schools.

Students in public schools attend more racially diverse schools on average than their peers in charter schools (Frankenberg, 2011). If your goal is to facilitate the silo-ing of students, and thus eventually society, by race, ethnicity, academic achievement, special needs and ELL status, and economics, all based on the "free choice" marketed by commercial interest and

supported by law, then charters are good. If your goal is a unitary system in which people of all races, ethnicities, economic, language, special needs, and cognitive backgrounds, learn, collaborate, deliberate, and persist together, side-by-side, in the rich pool of diversity, then charters might not be such an effective large-scale policy option. What's healthier in the long run for a democracy? I argue for the more diverse, desegregated (in every sense of the word) option.

Selection Bias

It is important to enter into the record the fact that some charter schools practice selective admissions (Welner & Howe, 2005). Yes, I know that is illegal and undemocratic. Public schools must admit anyone who lives within the school's boundaries and comes to the door, regardless of socio-economic status, race, special education status, ELL status, or any other demographic characteristics. Lady Liberty's flame cannot be extinguished at the public schoolhouse door.

In most states charter schools must hold lotteries or have some similar random mechanism to admit students—and they do. The issue is what happens after lottery in some schools. Although I am aware of the literature on the subject of charter school selectivity (e.g. Frankenberg & Lee, 2003; Molnar et al, 2008; Skinner, 2009; Welner & Howe, 2005) I had private discussions with the heads of multiple charter schools in several states about their admissions practices in an attempt to come to a better personal understanding of why charter school populations differ so much from their local public schools in terms of the percentage of students with special needs and ELL's. The charter heads represented schools that spanned the K-12 spectrum.

The scenario generally goes something like this: (1) Students who win the lottery must

fill out a detailed student intake form. The form requires parents to disclose any special needs the child might have and in some cases free/reduced lunch status; (2) Parents and students must submit to an "intake interview" with the leadership of the charter school to be "oriented" to the "expectations" of the school; (3) In some schools, students must produce a writing sample; (4) Students who have special needs, behavior issues, are ELL's, have poor writing samples, or possess other factors that might influence achievement negatively are gently counseled about the possible mismatch between their needs and the school's mission and available services.

In some cases parents are told that their student might not fit the mission of the school or that the school does not offer the level of special education or ELL services needed. Parents and students might also be made to feel uncomfortable or made to feel that they are not quite the type of clientele served by the school.

It is similar to stories you might hear about in some communities of the country when an African American couple go house shopping and they are shown homes in one section of town and not another, or are dissuaded from purchasing a home in a traditional white middle-class neighborhood. Yes, that still happens. I need to stress that not all charter schools participate in selective admissions counseling and not all charter school leaders who do it are acting nefariously. In fact, many believe they are just being honest with students who they think will not do well in their environment.

Those charter school leaders are looking out for the best interest of the children. Their schools really do not have the programs necessary to meet the needs of a diverse learning population. There is nothing sinister about it. A problem I have is that those schools

should not be known as public schools. They should be known as semi-private or corporate schools that take public monies.

Some other reasons why charter schools generally have more favorable student demographics are that the poorest of the poor have less means (e.g. time, money, information, support) to make informed choices or to get their students to the new school. New schools sometimes mean new schedules, which in turn means new child care, a scarce commodity for the poor. Selective admissions only exacerbate an already troubling situation. Some charter schools have parent participation requirements and parents must sign “contracts” to participate in school activities. For some parents who work non-standard hours or two jobs to support their families it just might not be possible to meet the “participation contract” requirements. Does that make them less of a participant? Should parents be punished for financially supporting their families?

More Data

By law the public school must attempt to meet the needs of the child, not the other way around. If the charter school does not offer the special education service currently, it must to meet the needs of the child. The fact that the school might not want to offer the service or does not currently is immaterial. Subtly counseling parents to rethink their choice is illegal, but difficult to prove. Creating an uninviting environment during an intake interview in hopes that a parent will not choose to send a child with special needs to the charter is immoral, unethical, and undemocratic when it is done with intent. But it happens.

Baker (2011) demonstrated by using GIS mapping software and free lunch data from the National Center of Education Statistics Common Core of Data that as a group, the charter schools in Newark and Jersey City,

New Jersey, enroll almost half as many students eligible for free lunch as do the local public schools from which they draw students. The distinction between being eligible for free lunch as opposed to reduced lunch is important here. Free lunch is a statistically significant reducer of achievement on standardized tests. Children eligible for free lunch represent the poorest of the poor, the most economically fragile of children.

Baker also demonstrated that charter schools in Newark and Jersey City enroll 40%-90% less students with special needs (other than speech/language, a less intensive need). For example, in 2007, two of the “nationally recognized” charter schools in Newark, Robert Treat Academy and North Star Academy enrolled 3.8% and 7.8% of students with disabilities (excluding speech) compared to 18.1% for the Newark Public Schools. The average percentage of ELL’s in the Newark charters hovers around only 3%. Thus, we have a situation in the state’s two largest cities where a dual system exists.

The first system is for students who are less poor and students who are non-or less disabled, whereas the public school system is being turned into a transfer station for the academically and economically neediest children. This is an interesting way to build a national reform model, unless you are building the education version of Enron, Halliburton, TYCO, Global Crossing, Arthur Anderson or any of the multitude of big business that have turned out to mislead the public, their employees and shareholders in the last 15 years. Is this country pursuing a policy of legalized Enron-education?

Separation of Church and State?

A quiet trend is taking place within the charter movement. Some charter schools are legally blurring the lines between church and state.

There are currently charter schools that focus on Turkish language and culture, Hebrew language and culture, and some charters are housed in Christian church basements. Charter schools devoted to other languages and cultures also exist, and they are all publically funded. This creates the context in which covert or subtle religious instruction or indoctrination can take place. Now we have a potential situation in which religion can be brought into the public classroom through the study of culture and language. It is very hard to separate Hebrew language and culture from Judaism or Turkish language and culture from aspects of Islam. In terms of housing charter schools founded by Christian church pastors in church-owned buildings ... well you can reflect on that a bit for the potential conflicts.

The Turkish language and cultural schools in particular have raised some concerns in the past five years. Many of the over 120 Turkish language and culture schools that service more than 35,000 students have financial and philosophical connections to Fethullah Gulen, a Turkish nationalist, now living in exile in Pennsylvania. He is well known for proposing that religion should take

greater precedence in Turkish secular society. Gulen-affiliated or inspired groups operate schools in 25 states. Although most Gulen inspired schools distance themselves from the exiled nationalist, the money flows from those committed to his teachings into organizations that support the charter schools. This creates the ability to purchase influence.

Some of these Turkish language and culture schools have been cited for crossing the line between church and state. In Minnesota the Tarek ibn Ziyad Academy authorized by the Islamic Relief USA organization was cited by state education officials for having teachers take part in Friday prayers voluntarily. Questions also surround the Hebrew language and culture charter schools that have opened in New York City and Florida. In the case of New York, Diane Ravitch (January 18, 2009) described a situation surrounding the opening of the Hebrew Language Academy Charter School in Brooklyn, NY, funded in part by Michael Steinhardt. Steinhardt is known as a philanthropist who has donated millions of dollars to promote Jewish culture and identity. Ravitch wrote:

His generosity is unquestionable. In this case, however, he is asking taxpayers to support an institution that has obvious religious overtones. In a city with a great variety of Jewish schools and other agencies that encourage Jewish identity, it makes no sense to create a public school with the same purpose ... The proposal to the Regents asserts that the school will not engage in any devotional activities. Even so, the Hebrew language is so closely aligned with the Jewish religion that it is baffling that the Regents are willing to treat the proposed charter school as a nonsectarian institution.

On the website for Hebrew Language Academy you can find students waving Israeli flags, Israeli flags hanging throughout classrooms, and classrooms are given Hebrew names such as Hertzeliya, an Israeli city named after Theodor Herzl, the founder of modern Zionism. Another class has the name Eilat,

which is a city and is also known for being part of the Book of Exodus. Another classroom name Netanya means among other things, *God has given*. Ravitch stated that it is very difficult to separate Hebrew language and culture from religion. The Hebrew culture is rich with history and much of that history revolves

around religion. Consider a charter school with classroom names Peter the Fisherman, or Martin Luther, or the Garden of Eden. See the potential problem here?

My purpose is not to single out three specific religions or cultures. Religious freedom is a hallmark of our democratic society and it is important that these and other types of schools exist. There are also Chinese, Haitian, Austrian, Korean, and other such language and culture charters in the United States. My purpose is not to question their existence or advocate against them. My purpose with raising this issue is to provide examples of how funding specific cultural charters can facilitate the blurring of the lines between church and state and possibly cause further balkanization of the population.

Publically funding, encouraging, and supporting through policy, schools with such narrow cultural and religious foci, brings America further and further away from the original unifying vision of the democratic,

The justification for segregated schools as places of opportunity is basically a “separate but equal” justification, an argument that there is something about the schools that can and does overcome the normal pattern of educational inequality that afflicts many of these schools. Charter school advocates continually assert such advantages and often point to the strong demand for the schools by minority parents in minority communities, including schools that are designed specifically to serve a minority population. It is certainly true that minority parents are actively seeking alternatives to segregated, concentrated poverty, and low-achieving public schools. White parents have also shown strong interest in educational alternatives as evidenced by the strong demand for magnet schools. Unfortunately, despite claims by charter advocates, there is no systematic research or data that show that charter schools perform better than public schools (p.3).

We are left in a situation in which the struggling school loses funding, is more racially, academically, or ethnically segregated, and based on the evidence, loses some of its

unified, public school system. Instead of uniting the population around democratic principles, these types of charter schools might actually unite the church and the state and lead to less religious freedom.

I cannot help but be reminded of James Conant’s warning about the use of public funds for private or independent schools. Conant stated, “The greater the proportion of our youth who attend independent schools, the greater the threat to our democratic unity. Therefore, to use taxpayers’ money to assist such a move is, for me, to suggest that American society use its own hands to destroy itself” (1970, p. 464).

Final Word on Separate, Unequal, and Legal

Frankenberg and Lee (2003) stated it clearly. There is something undemocratic and fundamentally unethical occurring with the current policy push to expand charter schools. Public tax dollars are being used to tier the social system, through the legal and education systems:

more involved and economically more stable parents. In essence, the aggregate charter school movement then facilitates greater segregation across a variety of lines and takes

money away from children that probably need it. This leaves the children who stay in the public school in a more segregated situation without the funding they need to do better or receive more effective programs. That seems somewhat un-American.

I think it is important to remember that at various times in our country's history people have "chosen" to keep slaves, not allowed women to vote, created separate and unequal facilities for non-white citizens, instituted

voting laws to make it difficult for certain citizens to vote, restricted who can get married, and banned bilingual education, all in the name of liberty and a person's right to choose. Choice for choice's sake can be irresponsible, reckless, immoral, and in some cases, undemocratic. Passing laws and policies that have been shown to weaken the democratic fabric of the country by facilitating people's choice to segregate is immoral, and those who knowingly create and support such laws and policies are engaging in education malpractice.

Editor's Note: For additional independent research on all forms of school choice readers should refer to: <http://nepc.colorado.edu/site-search/results/taxonomy%3A830>.

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Lost at Sea: Summary Results of a Meta-Analysis of the Efficacy of Teacher Induction and Implications for Administrative Practice

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Abstract

This paper summarizes a qualitative meta-analysis of the empirical research on the effectiveness of teacher induction programs over the last decade for the purpose of identifying the essential elements that make them effective in reducing teacher attrition. The study used Herzberg's two-factor theory of motivation as the theoretical framework for analysis. Study conclusions indicate a lack of research measuring the effectiveness of induction programs with inconsistent results regarding their efficacy. Induction programs are on the rise, vary in length and structure, and often focus solely on mentoring. Comprehensive induction may not be as effective as believed with hygiene and motivational factors possibly confounding results. Implications include the need for a comprehensive definition of induction utilizing motivational theory as the framework.

Keywords

Induction, Motivation, Novice Teachers

Introduction

A 2007 Florida Office of Program Policy Analysis & Government Accountability (OPPAGA) report found that 81.7% of a representative sample of former teachers in the State of Florida reported that they received inadequate preparation from their school or district through mentoring, induction, and other programs (p. 16). By 2009 it was reported that in Florida, “more than 4 out of 5 teachers participated in a formal induction program, with most rating their programs as overall ‘effective’ or ‘very effective’” (Milton, Curva, Kolbe, Milton, & Milton, 2009, p. 58).

Despite this positive report, the national statistic that “almost one out of every two new teachers has left the classroom by the end of the fifth year” (Fulton, Yoon, & Lee, 2005, p. 1) remains constant, and Florida is no exception. While these contradictory statistics reflect recent increases in induction programs nationwide, they are problematic in that they also reflect the reality that these approaches to induction are not resulting in improvements in teacher retention. Florida offers a compelling example of an apparent contradiction between perceived satisfaction with induction and continued high rates of teacher attrition.

What might explain this apparent contradiction and what can we learn from existing research that can guide administrators toward affordable and effective teacher induction? The answer is undoubtedly complex. Without answers, school administrators will be unable to help develop and retain quality teachers that our educational system so desperately needs.

Compounding the issue of new teacher turnover is a high rate of teacher retirement which further exacerbates attrition rates. There are over three million teachers working in the United States and more than half of whom are nearing retirement (Duncan, 2009). “During the next four years we could lose a third of our veteran teachers and school leaders to retirement and attrition” (Duncan, 2009).

Purpose, Objectives, and Methodology of the Meta-Analysis

The authors borrow a term from Smith and Ingersoll (2004) that describe new teachers as “lost at sea” within their new professional work environment (p. 682). The researchers are concerned with teachers who find themselves lost at sea and who are unable to successfully navigate the early years in the teaching profession. This research paper summarizes the results and conclusions of a qualitative meta-analysis that sought to identify the essential elements of teacher induction programs, as well as the conditions of implementation that make them effective in reducing teacher attrition in K-12 public schools. The findings from this study are intended to guide policy makers, legislators, as well as district and school leaders who are seeking ways to increase teacher retention and develop high quality instruction in schools.

This research is a qualitative meta-analysis of research studies conducted on the effectiveness of teacher induction programs. It includes a review of findings from ten empirical studies (see Table 1 for a summary of the studies included in this meta-analysis).

Table 1

Chronological Table of the Ten Scientific Studies and Reports Included in the Meta-Analysis

Author(s) of study	Year published	Title of study	Publication information	Type of study
Ingersoll & Kralik	2004	The impact of mentoring on teacher retention: What the research says	Denver, CO: Education Commission of the States	Quantitative meta-analysis using secondary data collection
Lopez, Lash, Schaffner, Shields, & Wagner	2004	Review of research on the impact of beginning teacher induction on teacher quality and retention	Report prepared for the U. S. Department of Education. Menlo Park, CA: SRI International	Qualitative meta-analysis using secondary data collection
Smith & Ingersoll	2004	What are the effects of induction and mentoring on beginning teacher turnover?	American Education Research Journal, 41(3), 681-714	Quantitative analysis using primary data collection
Allen	2005	Eight questions on teacher recruitment and retention: What does the research say?	Denver, CO: Education Commission of the States	Qualitative research review using secondary data collection
Fulton, Yoon, & Lee	2005	Induction into learning communities	Paper prepared for the National Commission on Teaching and America's Future, Washington, DC	Qualitative case study analysis using secondary data collection
Kapadia, Coca, & Easton	2007	Keeping new teachers: A first look at the influences of induction in the Chicago public schools	Consortium on Chicago School Research, University of Chicago, Chicago, IL	Quantitative analysis using primary data collection
Office of Program Policy Analysis & Government Accountability (OPPAGA)	2007	Dissatisfaction with school governance, student behavior, parent support, and career opportunities lead to teacher attrition	Report prepared for the State of Florida Legislature, Tallahassee, FL	Quantitative analysis using primary data collection

Humphrey, Wechsler, Bosetti, Park, & Tiffany-Morales	2008	Teacher induction in Illinois and Ohio: Findings and recommendations	Report commissioned by The Joyce Foundation, Menlo Park, CA: SRI International	Mixed methods analysis using primary data collection
Milton, Curva, Kolbe, Milton, & Milton	2009	Teachers from Florida teacher preparation programs: A report on state approved teacher preparation programs with results of surveys of 2006-2007 program completers	Tallahassee, FL: Florida State University	Quantitative analysis using primary data collection
Mathematica Policy Research, Inc. (Various authors over three publications)	2010	Impacts of comprehensive teacher induction: Results from a randomized controlled study	Report prepared for the Institute of Education Sciences, U. S. Department of Education	Quantitative analysis using primary data collection

Reprinted from “*The efficacy of teacher induction: Surprising results from a qualitative meta-analysis*,” by Authors, 2010, Manuscript submitted for publication.

Scholarly articles and books were reviewed to provide a broader understanding of the perceptions that are shaping program designs. Given the vast amount of literature on the subject, the researchers selected studies that drew conclusions about the impact of induction on teacher retention and student achievement. Meta-analyses were particularly useful, as were documents that could help triangulate and strengthen findings. The data sources for this study included books, journal articles, government and non-profit commissioned reports on teacher induction programs published within the last ten years.

In conducting this study the authors sought to answer the following questions. Can the essential elements of effective teacher induction programs be identified? If so, what may be the conditions that enhance the effectiveness of teacher induction? Finally, what relationships may exist between teacher induction programs, teacher motivation, job satisfaction, and teacher retention. By focusing

on these questions the researchers are hoping to provide information that will enable school leaders to develop more effective induction programs that provide teachers with support during the length of their induction program, strengthening their skills and satisfaction so that they will be successful and remain in their profession.

Herzberg’s two-factor theory of motivation is the theoretical framework for this study and the lens through which the researchers analyzed the studies of teacher induction and their efficacy. Herzberg based his theory in part on Maslow’s Hierarchy of Needs human motivation model. The two-factor theory asserts that higher order needs are required to be met in order to achieve job satisfaction and motivation to work, while mutually exclusive and independent extrinsic hygiene factors need to be addressed to reduce job dissatisfaction (Herzberg, 2001; Herzberg, Mausner, & Snyderman, 1993). The researchers’ theoretical position is that

induction programs should address both basic and higher order needs in the workplace in order to maximize effectiveness. Essential elements of effective induction would be those that increase satisfiers and decrease dissatisfiers in the workplace.

Herzberg (2001) found in his research that attention to motivational factors results in job satisfaction, but that a lack of such factors does not actually create dissatisfaction, simply *no* job satisfaction. In addition, employees' tolerance for job dissatisfiers increases when motivational factors, or satisfiers, are met.

Addressing workplace dissatisfiers may help evade job dissatisfaction, but will not result in job satisfaction. Teachers often work in conditions that satisfy in some ways and dissatisfy in others. While addressing teacher job dissatisfaction is important, it is more critical for school leaders to address teacher motivational factors. Induction as a job satisfier would then likely be a significant contributor to teacher motivation, success, and retention.

Results

The findings from this meta-analysis revealed conflicting results, as well as a serious need for more empirical studies with strong methodologies to determine the relationship between induction programs and teacher retention. Experts present several examples of school districts with comprehensive induction programs and reportedly low attrition rates in the literature (AFT, 2001; Wong, 2004).

Unfortunately research is not provided to validate any presumed correlation between induction and retention in many such claims by states and school districts nationwide (Allen, 2005). The literature consists primarily of program evaluation than empirical research. While programs can boast success simply by

reporting positive teacher evaluations of induction activities as they occur or shortly after they conclude, more robust research studies are needed to validate these claims, particularly over time.

Lopez, Lash, Schaffner, Shields, and Wagner (2004) concluded that “there are very few rigorous studies that have investigated the impact of induction on teacher quality and retention” and further, “studies of induction have been weak” and “are not strong enough for us to conclude that induction works—that it improves teacher retention or effectiveness” (p. 32). Dangel (2006) and Smith and Ingersoll (2004) conclude the same. Studies with stronger methodologies, and a theoretical framework from which to view findings, such as the two-factor theory of motivation, are needed. Despite this, the researchers were able to find the following in their analysis of the data pertaining to teacher induction and retention.

Findings

Mentoring and collaborative planning work

The most critical finding is that mentoring and collaborative planning may support teacher retention. Ingersoll and Kralik (2004) found, in their own meta-analysis that, “collectively the studies do provide empirical support for the claim that assistance for new teachers and, in particular, mentoring programs have a positive impact on teachers and their retention” (p. 1). Smith and Ingersoll (2004) report that teachers with mentors in their field had 30% higher retention rates (p. 702). Other recent studies also suggest that a solid mentoring program may support retention (Dangel, 2006).

Collaborative planning time also helped to retain teachers. Ingersoll and Kralik (2004) concluded however, that “the findings of the studies are seriously limited” and “there remain a number of pressing questions concerning

mentoring and induction that require more controlled and systematic research than currently exists” (p. 1). Further research through the lens of Herzberg’s theory could illuminate these, and other factors, responsible for successful induction.

Comprehensive induction is often ineffective

Another critical finding of this study is that, contrary to popular belief, comprehensive induction programs may not be as effective as is generally believed by practitioners of school leadership. While numerous self-published reports on induction programs claim that their induction programs are effective, independent studies cast shadows on their purported impact on teacher retention and student achievement (Glazerman et al, 2010).

Allen (2005) found “limited evidence that induction and mentoring can increase teacher retention ... the literature is inconclusive as to what precisely makes such programs successful” (p. x). Allen (2005) continues,

“the impact of induction and mentoring programs on beginning teachers is contextual ... a good deal of additional research is needed to provide more definitive guidance for educators and policymakers. In the meantime, they must rely on the consensus of experts” (p. xi).

Allen’s report is corroborated by a study commissioned by the U.S. Department of Education.

The researchers found in a recent study of teacher induction that,

“there is little empirical evidence on whether investing more

resources in a more comprehensive, and hence more expensive, induction program would help districts attract, develop, and retain beginning teachers. According to several research reviews (Ingersoll and Kralik 2004; Totterdell et al, 2004; Lopez et al, 2004), little of the research on teacher induction to date has been conclusive or rigorous” (Glazerman et al, 2008, p. vii).

No significant impact on teacher practices/retention

The authors also found in their review of a study by the University of California Santa Cruz’ New Teacher Center and Educational Testing Service’s induction program out of Princeton, New Jersey, that there was no significant impact on teacher practices or teacher retention between treatment and control groups, as well as no positive impact on student test scores after years one and two (Glazerman et al, 2008; Glazerman et al, 2010; Isenberg et al, 2009). As Isenberg et al (2009) note, “nor did we find any evidence of positive impacts on teachers’ satisfaction or feelings of preparedness” (p. xxviii).

These empirical studies from several sources all agree that comprehensive induction has yet to be proven effective on teacher preparedness, satisfaction, and retention.

Despite Lack of Evidence of Efficacy, Induction Programs Continue to Grow

Induction programs are on the rise nationwide (Fulton, Yoon, & Lee, 2005; Smith & Ingersoll, 2004):

“The proportion of new teachers participating in induction across

the nation has nearly doubled over the last decade, from approximately 41 percent receiving induction assistance in 1990 to almost 79 percent in 2000. Nationally, more than half the states have initiated some form of induction for beginning teachers” (Kapadia, Coca, & Easton, 2007, p. 8).

Given the lack of evidence as to their effectiveness this finding seems curious and may be problematic. Investment in induction may be well worth the effort and cost, and certainly the authors feel that such an investment can be a value-added fiscal policy for schools and districts. However, without knowing if the induction program itself is effective, the return on investment may be out of balance with program intentions.

Induction Programs Vary

Studies have shown that induction programs vary by type of new teacher, length of program implementation, purpose, and organization (Smith & Ingersoll, 2004). While this reflects a local approach to teacher education, support, and one that the authors acknowledge is a positive sign for the development of creative approaches to induction, it also makes establishing minimum standards for effective teacher support systems and performing research on their effectiveness, much more challenging.

In terms of length, induction programs may run anywhere from one to five years (American Federation of Teachers [AFT], 2001; Wong, 2004). The National Commission on Teaching and America’s Future (NCTAF) considers the first three years of a teacher’s career to be the most critical (Fulton et al, 2005), therefore programs shorter than three years may not be sufficient in length.

However, studies are not yet able to inform educational leaders about the optimal length of time induction programs should run to increase teacher retention rates (Ingersoll & Kralik, 2004).

Comprehensive induction programs vary in composition as well and may include; mentoring, coursework, workshops, seminars, collaboration, networking, and supportive communication from administration, among other components (American Association of State Colleges and Universities [AASCU], 2006; Smith & Ingersoll, 2004; Wong, 2004). Humphrey, Wechsler, Bosetti, Park.

Tiffany-Morales (2008) recommend investment in high-quality induction programs paying particular attention to the school environment, including opportunities for alternative certification teachers, frontloading support for late hires, formative assessments, individualized induction plans for teachers, a focus on special student populations, and support and time for mentoring.

Thus far, no studies have concluded what the most effective components of induction programs are or in what combination are they most effective (Allen, 2005; Ingersoll & Kralik, 2004). Ultimately, regardless of the components of induction programs, the questions remain; how supported do teachers feel during the challenging initial years of teaching, and do teachers feel adequate job satisfaction and motivation to stay in the profession?

Furthermore, how are teachers’ perceptions of job satisfaction and motivation related to the conditions in which they are teaching? How much tolerance do teachers’ have for dissatisfiers in their positions and work environments?

Mentoring and Induction Used Synonymously

Smith and Ingersoll (2004) define induction as “support, guidance, and orientation programs ... for beginning elementary and secondary teachers during the transition into their first teaching jobs” (2004, p. 681). Smith and Ingersoll (2004) also recognize that mentoring, a practice that includes voluntary and assigned mentoring pairs, trained and untrained mentors, and formal and informal mentoring program structures, has become the primary form of induction and, inappropriately, synonymous with the term induction. This failure to distinguish between the two terms in common practice is acknowledged by NCTAF and others (Dangel, 2006; Fulton et al, 2005; Kapadia et al, 2007; Wong, 2004). The implication is problematic for study of program effectiveness and return on investment.

Research Results May Be Confounded

The 2008 Humphrey et al study of teacher induction programs in Illinois and Ohio found that,

“high levels of support from induction programs and mentors can improve new teacher retention and efficacy. However, even high levels of program and mentor supports are undermined if schools suffer from weak leadership, a shortage of basic supplies and materials, or a lack of a professional community” (p. 1).

While seemingly positive in terms of the potential impact of specific induction programs, it also speaks to the question of impact of environmental factors and school leadership on induction program effectiveness.

In addition,

“Longitudinal data in a recent report on teacher retention in Illinois suggest positive statewide trends in teacher retention, with only 27% of beginning teachers leaving the profession after 5 years (DeAngelis & Presley, 2007) ... however, the same study showed that 44% of new teachers left their initial school after 2 years” (Humphrey et al, 2008, p. 4).

While school to school transfer is a different attrition cost, it still is significant. If school leaders can improve working conditions then perhaps the fiscal and educational cost of transfer attrition can be reduced as well.

“All of the districts that we studied had induction programs, but many still had high attrition rates. This suggests the need to understand the mix of induction supports and the school environments that result in better outcomes” (Humphrey et al, 2008, p. 4).

A study based on Herzberg’s hygiene and motivational factors as related to induction programs could help identify confounding factors that may be impacting retention. In other words, are programs focusing on addressing job dissatisfiers or are programs directed toward improving job satisfiers and motivation to teach?

Implications

“By 2014 ... the U.S. Department of Education projects that up to one million new teaching

positions will be filled by new teachers” (Duncan, 2009). The need to address the shortage of high quality teachers in the United States effects programs that seek to impact their development, evaluation, and compensation in substantial ways.

Policy makers who respond to the federal governments call can begin to create commissions to establish standards for teacher induction in their states where none may exist. District and school leaders then have the responsibility to assess and redesign their induction programs. Ultimately, school district personnel must realize that programs that do not address job satisfaction will not work.

As the funding mechanism for the Obama administration’s Race to the Top initiative unfolds, there also exist implications on the funding of teacher induction programs including how they are funded and how well they are funded, implemented, and evaluated.

Those states that recognize the opportunity presented to them by Race to the Top with regard to the development of their professional state-wide teaching force will likely see the greatest gains in teacher quality, retention, and student achievement over the next several years. Such states may also benefit from strengthened relationships with local districts and federal agencies, increasing their power, influence, and opportunity for future fiscal awards.

Recommendations

In light of this study and the implications for state legislators, district and school leaders, the authors recommend the following.

Define comprehensive teacher induction

Teacher induction programs vary widely in purpose, length, and components making assessment across schools and districts

impossible, particularly from a state or federal funding perspective (Kapadia et al, 2007; Smith & Ingersoll, 2004). A standardized definition of comprehensive teacher induction is therefore required.

The researchers are not suggesting that a one-size-fits-all induction program be created and implemented, only that there exist a foundation for understanding what induction is, how it might be best formulated within a given school or district, and what conditions might foster the most effective implementation of a customized program based on the essential elements found to be most correlated with effective induction. As Chauncey (2005) notes, an effective induction program is a “system of supports, not merely a menu of offerings” (p. 73). A comprehensive induction program would offer interdependent components that teachers would experience as a whole with creative leeway afforded for the optimal use of available resources and talents.

Expand research on teacher induction, efficacy, retention

Further research is needed to validate the prevailing theory that induction programs increase teacher retention (Allen, 2005; Smith & Ingersoll, 2004). Additional efforts to design, implement, and empirically evaluate the efficacy of comprehensive induction programs is also encouraged with special attention to support systems that improve job satisfaction. Given the high fiscal costs of teacher attrition, it is crucial that district and school leaders learn which are the most effective components of induction programs and how to best design a comprehensive program (Authors, 2010).

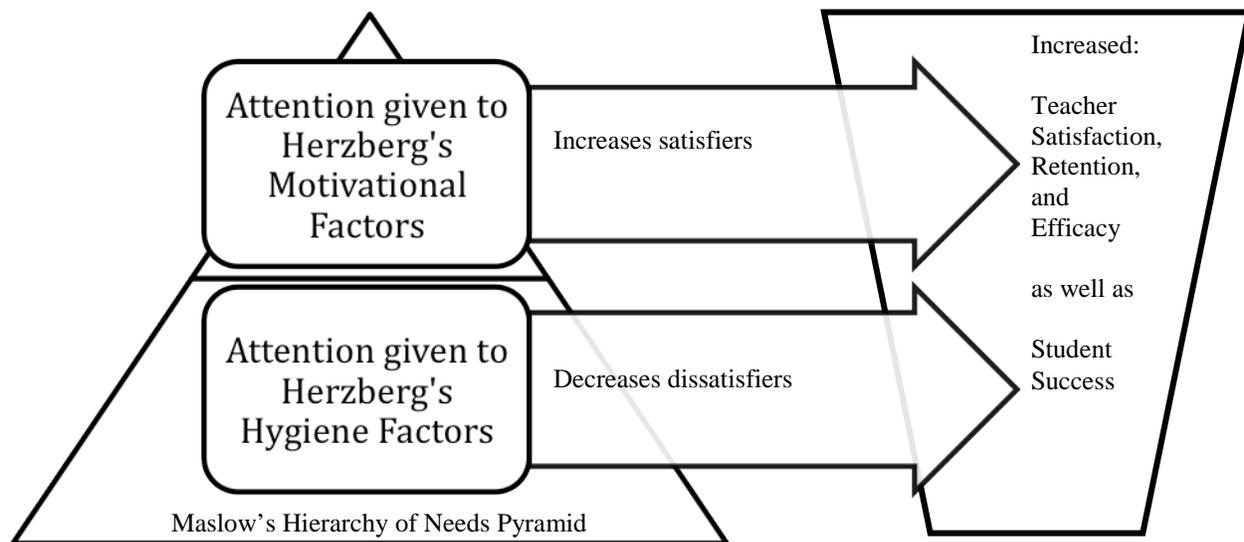
Employ theoretical model for teacher induction in program redesign

A theoretical model for teacher induction can guide the development, implementation, and evaluation of comprehensive induction

programs. The ideal induction program would aim to both reduce job dissatisfiers as well as maximize job satisfiers in our schools to reduce teacher attrition (see Figure 1).

The Weighted Balance Teacher Satisfiers Model is the authors' proposal for just such a model which holds to the finding of this study that focusing on teacher job satisfiers is paramount in any formulation of comprehensive induction.

Figure 1. The Weighted Balance Teacher Satisfiers Model: a theoretical model for the design of teacher induction programs based on Herzberg's two-factor theory of motivation. Reprinted from "The efficacy of teacher induction: Surprising results from a qualitative meta-analysis," by Authors, 2010, Manuscript submitted for publication.



Create school cultures of support/trust

A culture of support and trust created by school leaders is vital to the success of teacher induction and retention efforts. Principals in particular set the tone for professional

development efforts in their schools and need to create multi-level opportunities for teacher development through comprehensive induction programs.

Sharing of responsibility for school leadership, encouraging collaborative planning, and establishing team leadership roles, for example, can help establish trust, and more importantly increase job satisfaction.

Create instrument for evaluating teacher induction

An evaluation instrument to assess the efficacy of induction programs must include items to measure both motivational factors and hygiene factors. It is the contention of the authors that effective induction is more than the sum of its component parts. Consequently, the systems of support, however they are arranged, must impact teacher motivation and job satisfaction.

Outcomes assessment focusing on teachers' perceptions of support and attitudes toward the teaching profession are needed.

Appraise state of teacher induction in US, abroad

Ten years after the publication of the AFT's 50-State Analysis of state policies on induction, an update is due. Where and how induction is mandated, who benefits, and how programs are funded is valuable data to policy makers and district and school leaders, offering a look at best practices highlighting opportunities for improvement in state-wide systems. An international comparative analysis of teacher induction programs would also be an invaluable contribution to the field in this era of globalization.

Begin induction early

Early induction for new teachers during their final year of formal teacher preparation might help novice teachers feel better prepared for the responsibilities, stresses, and pressures of teaching. Given that teachers' early years are the most precarious in terms of their retention, partnerships between school districts and local colleges and universities could bridge the gap

in teacher preparation in support of long-term retention.

Conclusion

What is the nature of effective teacher induction programs and what conditions enhance their effectiveness? Unfortunately, as of yet, we simply do not know. Identifying a relationship between teacher induction programs, teacher motivation and job satisfaction, and teacher retention remains equally as elusive.

Induction programs have been studied for decades and are prominent in many of America's schools, but only a few recent studies have documented their success in retaining qualified and effective teachers (Ingersoll & Kralik, 2004; Smith & Ingersoll, 2004). As Lopez et al (2004) note, "the enthusiasm of advocates and policy-makers for induction programs may be based more on intuition and anecdotes than on strong research evidence" (p. 1). Until research can provide us with answers, we are left to expert opinion, rather than solid research, to inform policy making (Allen, 2005).

Of specific interest to the authors is the role that leadership plays in developing a culture of support in our schools. This has been a major focus missing from the existing literature on teacher induction. Our field needs more studies that reveal induction program's power to effectively train, support, and retain quality teachers within the context of school environment and culture.

What is it about school leadership that enables the development of a culture of support, providing challenge to our students to learn and encouraging teachers' belief in their own professional development, as well as the development of their students?

Herzberg would likely suggest that induction programs could not be expected to be successful if job satisfaction and human motivation for teaching are not addressed. The challenge to the teaching profession is to

establish systems of support and a school culture that makes teaching a rewarding profession. While this is no simple task, it may be the key to salvaging this nation's public school system.

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The Role of the Professional Learning Community in Dropout Prevention

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Abstract

The focus of this commentary is the possibilities for learning communities in dropout prevention and their interventionist role in this problem. Educators are urged to develop advocacy for adolescents at risk of dropping out and failing to graduate. High school dropout has been described as a national epidemic, yet urban youth continue to be disengaged in their learning and success. The role of professional learning communities in simultaneously engaging students and improving schools offers a solution for dealing with the dropout problem. This type of collective school-wide initiative is potentially a significant strategy for coping with student disengagement, failure, dropout, and teacher isolation across grade levels. Work within learning communities can prepare teachers for the changing culture within their schools.

Keywords

Dropout, Professional Learning Community, High School Graduation

What are the possibilities for learning communities in dropout prevention and their interventionist role in this problem? Specifically, how might educators shift into high gear as advocates for adolescents at risk of dropping out and failing to graduate? School dropout in the United States affects youth from all backgrounds, particularly ethnic and low socioeconomic groups (SES).

According to President Obama's Council of Economic Advisors, high school dropout is a national epidemic that incurs a major economic loss, likely more than \$3 trillion over the next decade (PR Newswire, 2009). Economists and educators generally agree that student dropout is largely responsible for such social problems as unemployment, underemployment, welfare, teen pregnancy, and incarceration. In the 50 largest U.S. cities, the dropout rate is almost 50 percent which translates into 1.3 million high school dropouts each year (PR Newswire, 2009).

Underlying this widespread problem is the recognized disengagement of urban youth in their learning and success (U.S. Department of Education [USDOE], 2008). This government report confirms that because small learning communities facilitate the personalized attention of teachers, the learning community or small schools model has a positive effect on reducing dropout rates.

Small and restructured schools within Chicago and in Florida and other states have benefitted from the higher attendance rates and improved academic performance that these structures seem to afford. However, student dropout is so pervasive that a large-scale campaign is needed. Schoolwide professional learning must occur and be backed by governments, professional associations, and community supporters.

Professional learning communities (PLCs) simultaneously engage students *and* improve schools but they need to include and focus on the dropout problem. Unfortunately, a piecemeal, non-systematic approach to student dropout is all too common.

While attention rightly calls for small learning communities, tutoring enrichment programs, and other academic supports that offer intensive assistance to students (USDOE, 2008), cultural change depends on an across-the-board commitment. PLCs build capacity for low-performing schools in which teachers struggle with high diversity, insufficient resources, and under-qualified teachers as compounding problems that affect student learning (Mullen, 2009).

While multiple interventions are necessary antidotes for curbing dropout rates, consciousness-raising on the part of stakeholders, primarily teachers and administrators, is an important antecedent for change.

A promising practice is that of whole school, job-embedded PLCs wherein practitioners systematically work together across grade levels to study problems and seek solutions (Hord, Roussin, & Sommers, 2010; Mullen, 2009).

Whether informal or formal, this support system can influence students' sense of engagement and belonging, and ability to regulate their learning. Through collaborative learning, teachers can identify productive strategies for addressing student absenteeism, disengagement, and isolation. Beyond identifying solutions for students' academic success, teachers can conduct action research by, for example, comprehensively monitoring "students' sense of engagement and belonging in school" (USDOE, 2008, p. 14) and assessing outcomes.

“Quality teaching” is the agreed upon goal for improving student performance and for propelling learning communities (Hord et al, 2010). Within PLCs, pedagogical and student issues such as student disengagement, failure, dropout, and teacher isolation across grade levels can be collectively addressed.

Work within PLCs can prepare teachers psychologically, practically, and pedagogically for the changing culture within and beyond their school communities.

For example, practitioners have been urged to examine biases and assumptions about the students they serve (King, 2005), including the slippery label of at-risk student (Gadsden, Davis, & Artiles, 2009).

Despite the increased diversity within their classrooms and the education that preservice teachers receive for the changing cultural realities of schools, King has reported that many African American and Latino students feel segregated.

Teacher dialogue can foster understanding across student cultures and build relationships that embrace diversity as positive and affirming (Cooper, Allen, & Bettez, 2009).

Students who are at-risk of academic failure need to feel accepted and included by their teachers (Gadsden, Davis & Artiles, 2009), the success of which depends on the vigorous advocacy of adults.

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A Role for Neuroscience in Shaping Contemporary Education Policy

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Abstract

Advanced technologies have made it possible for neuroscientists to make remarkable discoveries regarding how our brains learn. This research should provide new insights into the designs of learning environments. This essay is an attempt to suggest how the possibilities of neuroscience might be employed to meet contemporary educational demands, through practice in schools, integration of university departments, and through policy decisions. Contextually we situate our attempt in a frame that seeks to describe its role rather than define its limitations. In addition, we cite claims that depict pedagogical practice (and success) to further define neuro-applications for neuro-educators.

Keywords

Neuroscience, Brain-based Learning, Neuroeducation

Introduction

The possibilities of neuroscience seem endless but the applications must be definite, deliberate and specific, supported by research and sanctioned by a sense that rejects neuro-myths and promotes practical and effective results in schools (Geake, 2008; Wolfe, 2006). These myths sometimes multiply possibilities beyond their rational range and embellish claims that may be premature given their non-use in the classroom. Thus this essay is an attempt to suggest how we might pragmatically employ the possibilities of neuroscience to meet contemporary educational demands. It hopes to distinguish authentic possibilities based on rigorous research from the excitement that sees neuroscience as a nostrum, educationally speaking.

Contextually we situate our attempt in a frame that seeks to describe its role rather than define its limitations without, however, denying these based on contemporary understanding. In addition, we cite claims that depict pedagogical practice (and success) to further define neuro-applications. Our attempt is more of a survey than a Summa Theologica of neuro-educational possibilities. In confining our efforts so, we hope to provide proponents with a pragmatic depiction of its possibilities. Our primary claim is that neuro-advocates might benefit by focusing some of their efforts on changing educational policies that limit the liberal application of neuro-findings in the classroom.

Questions and Rational Conclusions

According to Shakespeare, “The play’s the thing” (Glaser, 1965, *Hamlet* Act 2, scene 2, 603–605). Neurologically, however, the brain’s the thing. In fact, the outpouring of information on the brain resulting from new investigative technologies brought then President George Bush to declare the 90’s the “Decade of the Brain” (Wolfe & Brandt, 1998).

Moreover, the scientist Koizumi contends that education, aptly defined, is “a nurturing of the brain” (Howard-Jones, 2008). Eric Jensen goes further and connects education with brain-based learning specifically, defining it as, “The engagement of strategies based on principles derived from an understanding of the brain” (Jensen 2008, p. 409). David Sousa stated that in the education profession, it is the teacher’s job “to try to change the human brain every day” (Sousa, 2006, p. 3).

The advancement in neuroimaging has been key to helping us better understand how the brain actually works, specifically, the complexity of how learning occurs. Rather than observing behavior over months or years, seeing and understanding the inner workings of the brain through neuroimaging in real time has lead to many new discoveries in the medical treatment of patients, its initial obvious purpose.

More recently, however, translational researchers suggest that some of the information might also illumine educators in working with students to develop more apt interventions based on what is actually viewed in brains (Noble, 2005, p. 72). Neuroimaging brings a specificity that when properly translated, may allow for cognitive tests to be designed to assess a single neural system, allowing for a more exact investigation of the underlying brain regions utilized during specific tasks and consequently more effective interventions to promote learning.

Researchers such as Bruce McCandliss at Vanderbilt University are actively engaged in pinpointing exactly which neural networks are activated when student brains are asked to retrieve a word through visual or auditory cues. McCandliss is one researcher who has been

applying cognitive neuroscience tools to help understand changes in brain function during the development of auditory and visual language perception. Recommendations as simple as insuring that teachers (and principals and superintendents) always give instructions both aurally and visually (in writing) is a natural outgrowth of findings from these and similar cognitive studies.

An unlikely example is the age old adage for teachers, “don’t smile before Christmas,” implying that a stern, frowning teacher will be better able to manage a classroom filled with active learners. This approach to setting a tone for learning has no backing from recent studies showing that positive emotional involvement is a critical component to best practices in teaching and learning for children and for adults (Kort 2004, Kort, Reilly & Picard, 2001).

Consequently it should come as no surprise that a meta-analysis on the impact of leadership on student learning recently found “that school leaders have an impact on student achievement primarily through their influence on teachers’ motivation and working conditions” (Seashore, et al, 2010, p. 21).

If teachers operate in an atmosphere of trust and support that is emotionally satisfying, somehow this climate translates into improved learning conditions for students. The same document stated that “their (school leaders) influence on teachers’ knowledge and skills produces less impact on student achievement” (Seashore, et al, 2010, p. 21).

I recall my first administrative interview for a vice principal position. I was asked if it was more important that the teachers liked me or respected me. Being a relatively young candidate, I responded that it was most important that they respected me. After a few years in the job, I reflected on that answer and

in reality, it was easier to work with teachers and effect change if they liked me. Now I know why.

Exactly what makes for a positive versus a negative climate in a room of people? Knowledge from the neurosciences has allowed us to more specifically define differences between positive environments and stressful or negative environments and in very simple terms, these differing environments are for the most part characterized by different neurotransmitters flowing through the brains in the room.

The ratios of different brain chemicals can in some respects, predict behavior (Amen, 1998). A classroom of students where adequate amounts of dopamine and oxytocin flow through brains and lesser amounts of adrenalin and cortisol are present will be more positive and provide for better learning environments.

Fear of anything—a teacher, a grade, another student—inhibits learning whereas when teachers and students like each other and view going to school as an opportunity to engage with content and each other in a safe, supportive environment, learning is better facilitated (Sousa, 2006; Jensen, 2004).

A meta-analysis involving nine studies in which children’s cortisol levels at daycare centers were assessed showed that children in lower quality centers experienced higher levels of this stress hormone than did children in high-quality centers (Vermeer, van IJzendoorn, 2006). In the lower quality centers, students were less successful focusing or paying attention.

This may sound trite, but ask any school leader how they help teachers change classroom climate from negative to one more conducive to learning and it is not likely they

will be able to delve into a conversation involving hormones or neurotransmitters. Why shouldn't they be able to?

If Sousa, Jensen, Koizumi and others are correct, the role of neuroscience must be determined by our understanding of the brain's operation, and our ability to develop the appropriate educational environments via instructional strategies and curriculum that maximizes its potential, while fulfilling educational mandates simultaneously for its contributions to be seen as authentic rather than cosmetic, credible rather than contrived (Willingham, 2008; Jensen, 2005).

Central to this need is the necessity of nurturing interdisciplinary alliances that combine the best of each in order to validate claims and justify practices to promote their use and extend their range (Geake, 2008; Hardiman & Denckla, 2009).

The National Council for Accreditation for Teacher Education (NCATE) recently commissioned a panel of experts who made policy recommendations on how we can improve education through discussions with folks in the other fields, namely, the developmental sciences. Their publication, *The Road Less Travelled: How the Developmental Sciences can help Prepare Educators to Improve Student Achievement* (2010) specifically recommends increasing the application of knowledge about child and adolescent development and learning in educator preparation programs.

From where is this knowledge to come? They specify the fields of psychology, biology, cognitive science and neuroscience. They suggest that the Elementary and Secondary Education Act (ESEA) should promote an integration of the developmental sciences through professional development as well (p. 19). They caution that education faculties may

not have the capacity to implement developmental sciences curricula effectively on their own, thus the need for collaboration across disciplines within universities. If incorporating a mandate for more brain-based instruction in teacher-education programs were to become an accreditation requirement, perhaps professors of education would be moved more rapidly to collaborate with scientists to help accelerate results of their work into possible classroom practices.

For Hardiman and Denckla (2009), a role for neuroscience should be to establish methods that facilitate the translation of neurofindings into specific pragmatic classroom practices. Otherwise the pressure to meet education mandates may undermine application of these findings, confining them instead to labs and labyrinths of neuro-experiments that lack the sanction of real-world success in classrooms. In this regard, Geake contended that "brain-based research in and of itself does not introduce new strategies for teachers."

It provides, he posits, "a stronger rationale as to why particular styles of teaching and certain strategies are more effective in reading and writing, for example, than others" (Geake, 2008, p. 88). For neuroscience to fulfill more of its potential, neuroeducators must take their arguments to the street, where policymakers and other education architects determine the culture and climate in which education occurs. Education research literature can play a role in this by presenting important translational studies as they are submitted in education journals as well as science journals.

A recently published meta-analysis of the sleep-wake cycles of adolescents helps not only inform education professors but empowers school administrators with some of the evidence they need as they work to change middle-and high-school start times. Later start times for these schools may not be most

conducive to their athletic programs, but the early start time is “associated with cognitive impairments, and appears to adversely affect behavior, subjective levels of sleepiness, subjective levels of depression, and school-related variables such as attendance and tardiness” (Kirby, Maggi, & D’Angiulli, 2011).

More visionary neuroeducators conceive changing education policy mandates accordingly, as our understanding of the brain increases and our emphasis on nationalizing curricula (and standards) are restrained by more rational approaches that consider local contexts, available resources, and the fundamental principles of democracy itself (Tienken & Canton, 2009).

In fact Tienken and Canton (2009) argued that “the idea of national curriculum standards and nationalized testing violate core principles of our democracy and does not take into account the empirical literature that exposes the idea as educationally bankrupt” (p. 3). More than that, such claims curtail experimentation and integration of neurofindings into classroom practices.

Politics, Pedagogy and Practice

While one may contest Tienken’s and Canton’s contention, the sentiment that the idea of a national curriculum increasingly stirs in the minds of many make it the first site that must be assailed in order for neuroeducators to be released from the constraints of No Child Left Behind, for example, which is based partly on a general fear of the deficiencies in America’s educational system (Tienken & Canton, 2009).

To ignore notions of a national curriculum and the corresponding political components (and climate) is to consign neuroscience and its findings to the fringe, defrauding students and teachers of the instructional capital they need to accomplish learning goals via effective brain-based

strategies. Teaching to tests becomes king of instructional strategies and direct instruction, teachers talking to fill students’ *tabula rasas*, increasingly takes over as the instructional method of choice.

Education, like any other endeavor, occurs in a context contemporary with, yet often contrary to, itself. In this climate, research itself becomes an ambiguous term that generates ambivalent tones depending upon the prevailing sociopolitical climate. Jalongo (2008) readily, radically even, acknowledged the role that politics and economics plays in promoting one set of findings over others by citing Farstrup & Samuels (2002), saying, “The truth is that research is most influential when it matches the social, political, and economic tenor of the times” (p. 488). Basing teacher and administrator bonuses or even jobs on student test scores creates a frantic dynamic in which experimentation and action research in classrooms is too risky to undertake.

This same sentiment is expressed by others concerned with the political and policymaking implications of neuroscience. In fact Britto et al (2008) asserted similarly, saying, “The validity of the information is tested in terms of the quality of the research, the methodological robustness and technical merit. The utility criterion, on the other hand, tests the implications of the research for ameliorating the problem situation the policy is designed to address” (p. 103). Translated, Britto et al (2008) bellowed the often complex and complicated relationship between scientific findings and the political systems that either sanction or subvert their use.

Therefore among the questions neuroadvocates must ask include the following: What is the relationship between science and policy? As an example, consider what recent evidence of early childhood development can inform education policy; “The age span from

three to ten is absolutely crucial for children's optimal learning and development...If these opportunities are squandered, it becomes progressively more difficult and more expensive to make up the deficits later on" (Bruer 1997, p. 5).

Should a free and appropriate public education really begin at age six when so much science research suggests a child's brain development is so far underway by then? How many generations and missed opportunity years must we lose before the age of the "first day of school" is reconsidered? (Shore, 2010) How can such evidence be applied to policies and to what stage of the policy formulation process? By the time a free and appropriate public education is in place in kindergarten, far too many children have already been left behind.

Unless neuro-advocates and educators acknowledge these facts, focusing their efforts accordingly (within the context of No Child Left Behind, for example), the role of neuroscience will be hampered because of the need to satisfy its admittedly ambiguous demands, or because its findings fail to produce "useable knowledge" (Christodoulou, Daley, & Katzir, 2009), or because it fails to reflect the interests of political elites based on special interests rather than student needs.

The ambiguity, however, isn't with No Child Left Behind (NCLB) or its stringent standards; these are relatively transparent. On the contrary, ambiguity prevails because these standards fail to adequately consider the globalized climate, which requires students to do more than be able to recall rehearsed materials while failing to develop their critical thinking skills, at the elementary level especially, where many neuroeducators agree that the brain's learning potential is optimal; though neurogenesis suggests that its capacity is limited only by our ability to stimulate it (Sylvester, 2006; Jensen, 2008; Willis, 2008).

Thus it is crucial that we use neuro-findings to catalyze these critical periods (Bruer, 1997; Bruer, 1998; Shore, 2010).

Despite claims that call into question traditional educational policies, contemporary applications of neuro-findings have been tentative by some and intrepid by others (Willingham, 2008; Rushton, Juola-Ruston & Larkin, 2009). The latter are risk-taking radicals who embrace the "Hobby of Thinking" (1974), and thus see neuroscience as key to creating an educational climate that leverages learning opportunities and energizes students without compromising their professional integrity by following fads (Wolfe, 2006).

These practitioners root rather their efforts in rigorous findings to ensure the accomplishment of learning goals (Rushton, Juola-Ruston & Larkin, 2009; Erlauer-Myrah, 2006). According to Jalongo (2008), these practitioners aren't afraid to "strike out in new directions with their work and continually push themselves to work at the edge of their competence as necessary" (p. 488). Of course, William Golding wrote before No Child Left Behind, when thinking as a hobby wasn't as hindered by nationalist fears and communist aims. (Remember Sputnik and the spunk it inspired in our leaders to finance a revolution in education.)

Ever since, however, not only has our nation been at risk but so has the range allotted to those thinkers who challenge convention and embrace innovation as a method rather than as a result of spontaneous technologies and novel ideas, which often fade when the flame dwindles that kindled them. Such thinkers resemble Eric Jensen and other neuro-proponents who advocate prudent risk-taking, yet risk-taking nonetheless. They respect but reject Dan Willingham's contention that neuroscience's findings must be *unequivocal* before being implemented in American

classrooms. Characteristically, NCLB not only inhibits thinking by “teaching to the test” (Jensen, 2008, p. 413), it also contradicts much of what we know from the research.

In the absence of consideration of findings from the neurosciences, many education administrators interpret meeting the mandates of NCLB challenges by reducing physical activity at an increasing number of schools (Rushton & Juola-Rushton, 2008); this, in an era of an exploding childhood obesity epidemic.

Further, increased physical activity is important for improving brain function, and for the latest neuroeducational notion, encouraging neurogenesis (Willis, 2008; Geake, 2008; Howard-Jones, 2008; Jensen, 2008). Sadly, the proven research that increased exercise improves brain function cannot find a place in classrooms, being pushed out in efforts to spend more time focused on the very learning that research implies that it will improve. This is a policy-induced paradox.

Most neuroscientists and educators understand that contemporary teaching practices should be based on research to make data-driven decisions when appropriate (Jalongo, 2008). They also understand that this must emerge from a collaborative approach among various practitioners across disciplines and of varying perspectives (Hardiman & Denckla, 2009). In doing so, however, they exhort us to remember that, in terms of evolution, the classroom, like neuroscience, “is a relatively new experience and is not necessarily a natural environment” (Rushton & Juola-Rushton, 2008, p. 89; Wolf et al, 2009).

Embracing this constructivist approach can make us less cautious in our application of neuro-findings. To this end, Wolf et al (2009) cited a study where employing neuro-findings (cognitive and linguistic) enabled an increase in

naming speed, which is related to improving the reading proficiency of students with dyslexia-related reading disabilities. The implications of this claim apart from its evidence suggest that education and experimentation are inevitable evolutionarily and beneficial pragmatically when we recognize these facts and accommodate them accordingly rather than dismissing them uncritically or with incredulity.

Educators and neuroscientists need to be aware of their biases while scrutinizing their practices to ensure that their classroom behaviors (and research approaches) stimulate thinking rather than inhibit it. Consciousness of this fosters the creation of education environments and research approaches that stimulate the brain, which increases learning capacity accordingly (Rushton, Juola-Rushton & Larking, 2009).

Unless and until, however, a change in the ethos that asserts the need for national standards or a uniform curriculum, (and further revision occurs in NCLB) it will be difficult for neuroeducators to receive the experimental sanction they need to test neuro-claims for their efficacy. Thus some segment of our education system must be allowed to integrate the results of neuro-findings to determine their value in environments where praise encourages experimentation. The implications of creating such educational spaces would require critical scrutiny and clear objectives, both in the goals for the schools, their curricula, pedagogy, and in the students who are selected as participants.

Characteristically, such neuro-schools will differ from others only to the degree that they apply brain-based learning strategies to test their relevance. In this climate, according to Hardiman and Denckla (2009),

Educators can design instructional methods based on research results,

and researchers can assess whether these new methods enhance student learning. Such translational research collaborations have the potential to improve teaching and learning and to influence both the practices of school administrators and the policies of boards of education (p. 2).

This ability to practice is a pivotal prerequisite to revising policies that discourage the innovative pursuit and sustained application of neuro-findings in a climate of high-stakes testing (Rushton & Juola-Rushton, 2008; Jensen, 2008; Tienken & Canton, 2009).

Without a revision in policies and a reversal of sentiments, we sentence neuroscience to the fringes of possibilities that, if pursued, could yield the kind of results consonant with and indicative of human potential once the climate accommodates their development. Much like the rapid emergence of technology use in schools, two decades ago an administrative position for IT did not exist, and school administrators were among the last to climb aboard the wave of uses for technology in schools. We hope this is not the case with brain-based learning information and education.

A few universities have vigorously embraced neuro-possibilities even as educators advocate on sociopolitical fronts to reframe discussions accordingly. Two prominent institutions are Johns Hopkins University School of Education, which offers a graduate certificate in Mind, Brain, and Teaching, and Harvard University's master's degree in Mind, Brain, and Education.

Encouraging neuro-education relationships can be translated into schools through educational leaders who promote, at a

basic level, learning more about how the brain learns, then sharing that information within the learning community. Below is one education administrator's account of how we might diffuse the findings of neuroscience effectively:

To lead an entire district toward the use of brain-compatible instruction, I'd begin with a group of motivated teachers from each level (primary and secondary) and ideally from each school building. You might hand-pick the initial group based on your knowledge of their teaching, enthusiasm and positive leadership potential.

Let them know that you are aware they all have something in common ... they are leaders in their schools ... or whatever else is applicable. Tell these teachers that you want to support their focus...by sending them to a terrific workshop.

Several presenters on brain-compatible learning will ignite their enthusiasm to learn more (Erlauer-Myrah, 2006, p. 17).

This approach may appear simplistic to some but it represents an authentic attempt to create educational spaces where we can train (and re-train) a new species of educators. This training is especially important for educators who haven't yet been exposed to the possibilities of brain-based education.

More importantly, it reflects an effort to describe the role of neuroscience in shaping contemporary education, even as neuro-advocates lobby for revision of restrictive policies. To be able to teach better, educators must first know better how the brain functions.

Conclusion

The role of neuroscience in shaping contemporary education has been both assumptive and assertive, encouraged by some and hindered by others. Changing this ambivalent reception requires that neuro-advocates continue to produce useable knowledge (Christodoulou, Daley, & Katzir, 2009), and instructional strategies (Geake, 2008, p. 88) that convince the most ardent skeptic. In this regard, neuroscientific evidence must eclipse when possible and validate when necessary contemporary practices, connecting them to neuroscience accordingly. In the former capacity neuroscience's role is confirmatory; in the latter it is pioneering.

Yet both roles are essential for suggesting how neuroscience might maximize our interdisciplinary understanding, and transcend current boundaries—political and practical. Some of these boundaries are basic to the science and its lack of appropriate technologies to test its assumptions. Others exist because of educational policies that discourage implicitly and forbid brazenly (because of the pressure to meet educational mandates) the classroom application necessary to test neuro-findings. Yet how can we know what is tenable unless it is testable in the dynamic psycho-drama of the classroom?

Knowing why certain strategies work and why others don't are instrumental for aiding the evolution of education pedagogically, and in creating brain-based curricula that mirror its operations while optimizing these simultaneously. Here the onus lies with neuroscience rather than with educators, because science merely represents a possibility of clarifying our understanding and improving our practices. Otherwise its efforts are impulsive and imperious though scientifically-grounded. Thus, the role of neuroscience should remain as open as are the possibilities of the science itself. Neuro-

advocates should remain focused on the politics of policymaking, arbitrating accordingly. Otherwise we will merely generate profound possibilities without having the proper educational spaces for their application.

To ensure and appease policymakers, neuro-advocates should collaborate deliberately and corroborate honestly findings that reflect its capacity to support educational practices that work and revise those that don't, based on legitimate objectivity and democratic scrutiny from an informed team of interdisciplinary constituents, critics included. If we assume this symbiotic approach, we won't have to impugn pedagogies and instructional strategies as being unscientific or neuroscience as being an unreliable educational ally. Otherwise we will repeat the presumption of the past when scientific findings were hailed as heralds of a new age of ratiocination, which would dispel myths and the mists that clouded reason and hindered progress.

The role of neuroscience can be described by experiment and defined through experience, even as we remain open to its possibilities in relation to contemporary educational needs based on relevant policy revisions. Critical reflectivity, suspension of judgment and respect for ambiguity are essential for us to exploit its possibilities prudently rather than to reject them perniciously because of elements of ambiguity (Willis, 2008).

Employing prudence will grant us the opportunity to enhance our understanding without impeding the application of neuro-strategies, while remembering that the effect of most scientific theories are evolutionary not revolutionary. Thus changes in practice and policy will be more subtle than sudden.

Advocates, educators and neuroscientists should distinguish, for example,

in what dimensions (curriculum or pedagogy) they are working in order to determine the role of neuroscience in shaping contemporary education accordingly with this clarified understanding. Unless neuroscientists understand the difference and demands of these dimensions they risk misappropriating its possibilities and hindering its successes (Geake, 2008). Ever mindful of the relationship between science and politics, they ought also to acknowledge the sources whose suggestions seek to determine its role (s).

Neuro-advocates must also acknowledge our tendency to tout science as a savior, an equally egregious error, as when we allow politics to prevent the application of

legitimate neuro-findings. Otherwise we ignore Richard Feynman's warning about succumbing to "cargo cult science" (Geake, 2008). This science sees itself, its methods, motives and manifestoes as comprehensive, exhaustive and exemplary because of its fidelity to the scientific method. For the best of neuroscience to integrate the classroom, support must come from educators in general and not just those wedded to the sciences in particular. An official statement, for example, on the stance of teachers, administrators, and other advocates will create a climate wherein the role of neuroscience is seen as essential to positively reshaping contemporary education, beginning with policy revisions.

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Mission and Scope, Upcoming Themes, Author Guidelines & Publication Timeline

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The **mission** of the Journal is to provide peer-reviewed, user-friendly, and methodologically sound research that practicing school and district administrations can use to take action and that higher education faculty can use to prepare future school and district administrators. The Journal publishes accepted manuscripts in the following categories: (1) Evidence-based Practice, (2) Original Research, (3) Research-informed Commentary, and (4) Book Reviews.

The **scope** for submissions focus on the intersection of five factors of school and district administration: (a) administrators, (b) teachers, (c) students, (d) subject matter, and (e) settings. The Journal encourages submissions that focus on the intersection of factors a-e. The Journal discourages submissions that focus only on personal reflections and opinions.

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Length of manuscripts should be as follows: Research and evidence-based practice articles between 1,800 and 3,800 words; commentaries between 1,600 and 3,800 words; book and media reviews between 400 and 800 words. Articles, commentaries, book and media reviews, citations and references are to follow the *Publication Manual of the American Psychological Association*, latest edition. Permission to use previously copyrighted materials is the responsibility of the author, not the *AASA Journal of Scholarship and Practice*.

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address. Authors must also provide a 120-word abstract that conforms to APA style and a 40-word biographical sketch. The contributor must indicate whether the submission is to be considered original research, evidence-based practice article, commentary, or book or media review. The type of submission must be indicated on the cover sheet in order to be considered. Articles are to be submitted to the editor by e-mail as an electronic attachment in Microsoft Word 2003 or 2007.

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AASA Resources

- ❖ ***The American School Superintendent: 2010 Decennial Study*** was released December 8, 2010 by the American Association of School Administrators. The work is one in a series of similar studies conducted every 10 years since 1923 and provides a national perspective about the roles and responsibilities of contemporary district superintendents. “A must-read study for every superintendent and aspiring system leader ...” — Dan Domenech, AASA executive director. See www.rowmaneducation.com/Catalog/MultiAASA.shtml
- ❖ ***A School District Budget Toolkit***. In a recent survey, AASA members asked for budget help in these tough economic times. The toolkit released in December provides examples of best practices in reducing expenditures, ideas for creating a transparent budget process, wisdom on budget presentation, and suggestions for garnering and maintaining public support for the district's budget. It contains real-life examples of how districts large and small have managed to navigate rough financial waters and offers encouragement to anyone currently stuck in the rapids. See www.aasa.org/BudgetToolkit-2010.aspx. [Note: This toolkit is available to AASA members only.]
- ❖ Learn about **AASA's books program** where new titles and special discounts are available to AASA members. The AASA publications catalog may be downloaded at www.aasa.org/books.aspx.
- ❖ **Join AASA** and discover a number of resources reserved exclusively for members. Visit www.aasa.org/Join.aspx. Questions? Contact C.J. Reid at creid@aasa.org.

Upcoming AASA Events

Visit www.aasa.org/Calendar.aspx for information.

- ✓ **College-Going Data to Drive School Improvement, San Diego (Coronado Island), Calif.**
Oct. 19, 2011
- ✓ **Inside Innovation™, Arlington, Va.**
Oct. 19-20, 2011
- ✓ **AASA Women in School Leadership Forum, San Diego (Coronado Island), Calif.**
Oct. 20-21, 2011
- ✓ **Building School Culture™ Workshop, Arlington, Va.**
Oct. 27-28, 2011
- ✓ **Global Ethics Workshop, Arlington, Va.**
Oct. 27-28, 2011

- ✓ **Turning Your District Around: Lessons from Professional Sport and Business, Arlington, Va.**
Nov. 3-4, 2011

- ✓ **Leadership Through Technology, Boston, Mass.**
Nov. 9-11, 2011

- ✓ **AASA's National Conference on Education, Houston, Texas**
Feb. 16-19, 2011