# A Paradigm Shift to Improve Academic Performance

Rudolfo B. Rulloda

NorthCentral University

November 15, 2009

## Abstract

A shift to computer skills for improving academic performances was investigated. The No Child Left Behind Act of 2001 increased the amount of high school dropouts after the Act was enacted. At-risk students were included in this research study. Several models described using teachers for core subjects and mentors to built citizenship skills, along with computer skills, might increase academic performances. The use of business partnership provided the possibility to enhancing job opportunities for high school dropouts still seeking employment.

*Keywords:* computer skills, academic performance, no child left behind, high school dropouts, at-risk students, teachers, mentors, citizenship skills, business partnerships

# A Paradigm Shift to Improve Academic Performance

This research project is to present a need for a paradigm shift to improve academic performance. The computer would accelerate the process towards academic performance. Therefore, why not make computer skills part of the academic curriculum? The paradigm shift is from typing classes to computer classes. The typewriter keyboard is still the same as the computer keyboard. The curriculum for typing skills was shelved when the computer became part of our educational system.

Paradigm is defined as a philosophical and theoretical framework of a discipline within which theories, laws, and generalizations and the experiments performed in support of them are formulated. In addition, I define academic performance as to whatever the standards are, which belongs to the eyes of the beholder. For example, the parents of a student perceive beyond the letter grades of their student's report card; there are "P" for passing or "S" for satisfactory. In addition there is the behavior-conduct (citizenship) such as "G" for good conduct, where student display behavior that exceeds the basic standards set by the teacher, and "N" for the student who needs to improve in paying attention, who seriously interferes with classroom instruction; is rude to teacher, classmates, refuses to work, shows lack of respect for teacher. Another terminology is "skill." Many regard skill as physical such as a carpenter carrying hammers and nails or the court reporter sitting behind his/her transcriber. For this research project, skill is defined as the ability to use one's knowledge effectively and readily in execution or performance. A change from typewriter to computer also requires a new terminology. It is no longer called "typing" but "keyboarding" Biersdorfer (1999).

Businesses have their own salient indicators that go beyond the grading system. To

illustrate, the owner of a plumbing firm might apply this whenever an individual seeking employment; the owner would likely ask the applicant if he/she had the proper skills in handling tools, reading blueprints, and operating a laptop computer. The owner might also look further into the applicant if he/she is dependable and works well with others.

The No Child Left Behind (NCLB) Act of 2001 was considered the silver bullet for the educational system. It was designed to help low-performing schools, where the central focus is on standards, test scores, and accountability. It required schools to boost achievement across all subgroups including low-income, racial minorities and second-language learners Lashway (2004) and Phillips (2007). The Act was also intended to eliminate achievement gaps among student subgroups. It required annual testing in reading, math, and science. In addition, states are required to set adequate yearly progress goals for districts, schools, and student subgroups, and use the state tests to determine if schools are making adequate yearly progress toward 100 percent proficiency for all students by the school year 2013-2014 Anonymous (2008), Dillon (2008), and Glickman, Gordon, and Ross-Gordon (2007).

On the other hand, the Act prescribed drastic measures. Schools lagging behind will lose students, autonomy, and perhaps their right to exits Lashway (2004). The Act also allows schools failing to meet annual proficiency goals two years in a row enter Program Improvement. In the first few years, there would be free tutoring for kids, extra training for teachers, and other technical help. However, schools persistently fail to meet the goals after three years would face drastic restructuring measures such as shutting schools and reopening them as charter schools, firing teachers and principals, being operated by the state or an outside agency, or they may choose by changing the curriculum Asimov (2008).

The cost for administrating this program comes to the tune of $24 billion per year even though primary and secondary education continues to spiral downward Anonymous (2009). After nine years of rigorous attempt to make NCLB a success, it appears the Act is not meeting educational expectations. Nevertheless, it is becoming a liability.

The No Child Left Behind Act of 2001 has its vocal critics. To illustrate, Will (2009) referred to Arne Duncan, the new secretary of education, as saying that under No Child Left Behind Act of 2001, "we have been lying to children and their parents because states have dumbed down their standards" of proficiency. Anonymous (2007) suggested that student scores increased more before NCLB was implemented in 2002, not after it. In addition, the Civil Rights Project at Harvard University concluded that NCLB has not significantly improved test scores or reduced racial achievement gaps.

Darling-Hammond (2006) wrote where the NCLB accountability provisions provided counterincentives. These have been created to encourage higher dropout and push-out rates for low-achieving students (especially non-English and limited English language students), create obstacles to staffing that allow for greater personalization, and discourage performance assessment that cultivate higher-order thinking and performance abilities.

Robert Linn, a University of Colorado professor emeritus who is one of the Nation's testing expert argued that no society anywhere has brought 100 percent of students to proficiency, and that the annual gains required to meet the goal of universal proficiency were unrealistic Dillon (2008).

More than 1,000 of California's 9,500 schools are considered chronic failures and the numbers are growing. State officials predict that all 6,063 public schools serving poor students

will be declared in need of restructuring by 2014, when the law requires universal proficiency in math and reading Schemo (2007). The number of California schools facing restructuring has increased significantly since last year, jumping to 701 in the current school year from 401 during 2005-06. In addition, more than 200 of the California schools have failed for eight years. Schools that have replaced staff members have not improved on state tests more than other schools Jacobson (2007).

The foremost causalities from the NCLB fallout are high school dropouts. They remain inconspicuous within our society; yet, year after year, their numbers keep rising. Nationally, there are about 6.2 million high school dropouts Dillon (2009). While each day in America, nearly 2,756 high school students drop out from the educational system White, Lare, Mueller, Smeaton, and Waters (2007).

There are several reasons why high school dropouts occur. In the past, the most likely explanation for dropping out from high school was being the oldest member of the family and requiring to support the family. Today, there are many variables. For example, Tidwell (1988) did a study on why high school dropouts left the school early for the Los Angeles Unified School District. The study listed several reasons:

1. The attitudes students have toward school; students dislike the school system.
2. Social integration in the school environment; students experience alienation.
3. Poor school achievement; students repeating grades or classes are at risk to drop out.

Tidwell (1988) also enumerated several consequences.

1. Dropouts are having difficulty in finding employment and resorting to low-status, low-

paying jobs.

2. Dropouts have lower lifetime earnings and more likely to be recipients of welfare payments than are high school graduates.
3. Dropouts must cope with idleness, which would lead to engaging in antisocial behavior.

Rogers and O'Bryon (2008) explained that students who are exposure to high teacher turnover, less parental involvement in schooling, access to fewer books and computers have a high potential rate of becoming a school dropout. They further explained that dropping out has implications for health, and propensity to be involved in an array of high-risk behaviors, some leading to incarceration. Dillon (2009) suggested that on any given day, about one in every 10 young male high school dropouts is in jail or juvenile detention, compared with one in 35 young male high school graduates. It is worst for African-Americans with nearly one in four young black male dropouts incarcerated on an average day. In contrast, there are about one in 14 young, male, white, Asian or Hispanic dropouts.

California dropout crisis has reached epidemic proportions. Ten percent of California's high schools are considered dropout factories, where schools having more than 60 percent of the freshman class fail to graduate in four years. And while 70 percent of all California students graduate, two out of every five African American and Latino students do not, and more than 50 percent of California's Cambodian, Laotian, and Hmong students did not graduate in 2000 Anonymous (2008).

In California the dropout data for school year 2004-05 had the highest number of grade 9-12 dropouts with more than 43,000 (National Center for Education Statistics, 2007). Each

annual wave of dropouts costs the state $46.4 billion over their lifetimes because people without a high school diploma are the most likely to need state-funded medical care and pay no taxes Asimov (2008).

Trunnell (2009) indicated that it is costing California $1.1 billion annually in juvenile crime costs alone. If California could reduce the dropout rate, it could subsequently reduce the juvenile crime rate and its staggering impact on the state budge. He further explained that according to the Alliance for Excellent Education, the nearly 162,000 non-graduates from California's class of 2008 will for go more than $40 billion in lifetime earning. If California can raise the graduation and college enrollment rates of students of color to the levels of their white peers by 2020, the state would see more than $101 billion injected into its economic.

Phillips (2007) cited employers consider scores on national and state exams have little significance to them as compared to whether an applicant has multiple skills that can be applied in an occupational setting, especially technological skills, social skills, and maturity. He suggested also that think tanks and policy makers need to focus on examining our archaic approach to vocational education, including technical work in computer science instead how U.S. students stack up next to students from the rest of the world.

Lewis (2004) argued where American business community seldom hire on the basis of academic skills. In addition, employers want workers to have strong basic skills and good behavioral skills such as arriving on time and working in teams.

From 1992 to 2002, the U.S. ended up with 400,000 fewer jobs that high school dropouts were qualified to do. Surprisingly, at the end of this 10 year period, while there were 2.4 million new jobs created nationally for individuals with some postsecondary education,

there were just 100,000 more jobs available to workers who had only a high school degree or less Twomey (2008).

A collective cost to the nation over the working life of each high school dropout is at $292,000.00. Dropouts would earn less and pay less in taxes than high school graduates. Nationally, the same increase in graduation rates would add, more than $310.4 billion to the U.S. economy Dillon (2009).

High test scores and IQ do not correlate with business success: the ranks of business superstars are full of dropouts. One research concluded that effective communication, critical thinking, ethical understanding, decision making, and problem solving are vital skills Davis, Proe, and Boxx (2006). They alluded to UC President Richard C. Atkinson in 2001 calling for the elimination of the SAT as a requirement for admission to all eight of the university's undergraduate campus. His reasoning was that the test is "unfair" and "fails to measure" how much a student has learned in high school.

Education and business are communicating with the so called "pell-mell" (defined as mingled confusion or disorder) rush to add more requirements and rigor so the high school curriculum is being fueled by business leaders claim over the performance of young people in school over their plans for college and their entry level skills. Even Microsoft's chairman, Bill Gates does not see the connections between what business says it want and what business actually does. He said in a Senate hearing that today's students are fully immersed in the digital culture, while their schools are stuck in the demands of 50 years ago. Consequently, many high school students are bored, unchallenged, disengaged from the high school curriculum that they either drop out or simply try to get by Lewis (2007).

Congress wants to increase the amount of visas allotted to foreign skilled workers to fill Information Technology job openings Alexander (2000). The Coalition for Fair Employment in Silicon Valley and the National Urban League argued that many Americans, who, if given the opportunity would be able to go into Information Technology jobs, if they had the proper training. Lewis (2004) further suggested that high-quality education is a waste of time if skilled labor and enterprise go unrewarded or are used with inferior technology.

## Method

Most of the literatures for this research project were obtained online at Northcentral University Library. ProQuest was predominately utilized in reviewing full-text, journals, trade publications, magazines, and newspapers in the area of education and business.

### Procedure

The foremost criteria were on literatures dealing with computer skills, academic performance, measurement, teachers, and high school dropouts. Literatures on academic performance, measurement, and teachers were plentiful. However, literatures on computer skills with high school dropouts were very limited; most of the topics were on high school dropouts. Eventually, the search was expanded to include at-risk students. There were more information on this particular topic. For instance, At the Northeast High School in Broward County, Florida, an innovative computer-based school-within-a-school-offers individualized, computer-assisted instruction to at-risk students resulted in a 72 percent rise in the graduation rate. In this three-year-old program, students can complete their coursework on the computer at their own pace. Tests are given on computer; if students failed, computer-assisted

remediation is provided until they can attain a passing score Mernit (1993).

Another model described by Ward, Kester, and Kouzekanani (2009) called for pre-service teachers delivering individualized instruction of basic computer skills to at-risk, ethnic minority alternative high school students. The alternative high schools student's achievement of computer skills, motivation to use computers, and self-efficacy as current and future students was assessed. University pre-service teachers taught a keyboard/computer skills curriculum developed specifically for the collaborative teaching and learning project in 10 1-hr-long sessions 2 times a week over a 5-week period. A series of 2 by 2 repeated measures analysis of variance showed achievement gains.

Besides computer skills, the idea of citizenship skills and business partnerships were also investigated. The program should be designed to incorporate both concepts. After reviewing the literatures, several interesting models were found that addressed these issues.

**Citizenship Skills.**

White et al. (2007) conducted a study dealing with homebound students. Associating with two school districts, faculty members from a small state university, and a university-based technology company specializing in distance education, they developed a citizenship curriculum and mentoring program. The citizenship component targeted social-emotional issues in an articulated curriculum created to help students navigate the frequently troubled journey through adolescence.

They adopted the Hellison's Teaching Personal and Social Responsibility Model, which engage students in the intra- and interpersonal behaviors that would enable them to achieve the personal and social responsibility necessary for academic success. There are five levels:

Level 1. Respecting the Rights and Feelings of Other (self-control).

Level 2. Participation and Effort (self-motivation).

Level 3. Self-Direction (developing on-task independence and setting realistic goals).

Level 4. Caring (interacting positively with others and understanding diverse perspectives).

Level 5. Community (service to others and acting as a positive role model).

Curriculum development created instructional approaches that would be effective to the mandates of No Child Left Behind and the state standards, which are Social Studies, Health and Physical Education, Family and Consumer Science, and Career and Work. Linking to standards was a necessary factor in being able to award academic credits, thereby helping to institutionalize the citizenship component within the school curriculum.

The curriculum was converted to a Web-based delivery system that students could access at home or in a lab setting. The program was used in a computer lab at the school site after school hours. Technology company personnel taught students how to use the system and provided ongoing support. The program maintained student responses so that progress could be evaluated. The system recorded grades and allowed for internal e-mail between mentors and students.

Because many of the students did not have positive relationships with adults and looked to peers for values, identification, and affirmation, the use of the face-to-face mentoring program was incorporated. The literature has reported increased academic achievement, improved school attendance, and fewer at-risk behaviors with the use of mentors.

White et al. (2007) also used pre-service health and physical education teachers. The college mentors were paired with students after initial training on Hellison's Model, positive

role modeling, confidentiality, and teambuilding activities. The mentors met for two hours each week to work with their student partners on the high school campus.

During the first hour of each session, mentors led the group in a sequence of outdoor adventure activities with the goal, over time, of building identity, appreciating diversity, solving problems, team-building, and trusting one another. In the second hour, all participants returned to the computer laboratory and worked with the online core curriculum. The mentors provided support and encouragement while building partner relationships. After several months, some of the students chose to work at home or independently on their academics during the second hour.

One of the results was the program had a significant monetary benefit for the school district, saving more than $75,000 in the first year. Later it was streamlined by conducting cost-effective classes after the school day in computer labs, physical activity spaces and playing fields.

College mentors had more positive perspectives on working with at-risk students and a better understanding of how to use team-building and physical activities to enhance personal and social responsibility. This program provided positive attitude by students and parents where this program was highly effective in transitioning students to the traditional school environment.

The online instruction, especially the citizenship component motivated students to finish the course work and receive credits allowing them to be promoted to the next grade. Because of the blended approach of academics and social-emotional support, students were able to meet the grade-level standards and function effectively in their traditional classrooms.

**Business Partnerships**

Partnership with industries with dropout students was another point to consider. The new face of vocational education is now called career and technical education (CTE) and that the lines between CTE and college-bound study have blurred because of the increasingly technical nature of the global economy, with many educators concluding that students need the same knowledge and skills whether they are going to work or college after graduation. In addition, school district is hoping to strengthen CTE offerings with new partnerships with trade unions, businesses and other organizations and to seek additional agreements with post-secondary institutions to give students credit or advanced standing for CTE works Smydo (2008).

In another article, Lehigh (2008) discussed the Year Up program, a nonprofit organization, that is free for students. The program starts with six months of Industrial Technology, business, and communications coursework, followed by a six-month corporate apprenticeship. It is funded in part by businesses looking for skilled employees. The students themselves earn a weekly stipend of $150 to $225, as well as college credit, for participating. Expectations are high, to mirror those of a professional workplace. Infractions such as arriving late, neglecting homework, or violating the business casual dress code are punished by a loss of points – and a reduction of one's stipend. Lose too many points, and you're dismissed from the program.

## Results

The model utilized at Northeast High School would provide computer skills to at-risk

students. The Project IMPACT, a program offering students computer-based instruction, raised the graduation rate by 72%. On the other hand, issues such as academic performance and teachers were not discussed. Buddin and Zamarro (2009) did a study on teacher qualifications and student achievement. The results were teacher quality is a key element of student academic success. Student achievement also increases with teacher experience.

The model described by Ward et al. (2009) provided computer skills. The academic performance was addressed. They provided the mechanism to measure achievement. The teacher issue was also addressed. Their program allowed at-risk students and ethnic minorities to participate. However, the article did not go into details as to the type of teachers that would be teaching at-risk students. It only addressed the pre-service teachers, which they would be teaching only computer skills. In Tidwell (1988) study, there were two major issues where the dropouts gave reasons for leaving the educational system. The dropouts pointed out to improve the schools, teachers should give them more opportunities to learn. One dropout wrote "Teachers should give more assistance with math and reading and to students who have problems." The other issue is many teachers needed to improve their pedagogical skills. Another dropout wrote "I need for my teacher to teach and interact with me rather than just hand out material for me to read."

The White et al. (2009) model provided homebound at-risk secondary student computer skills. Subject-area teachers developed a yearlong curriculum for grades 9-12 in English, mathematics, science, social studies, and citizenship. An added feature was having college

mentors, which would provide role models for several dropouts to continue their education in order to attend college or university. It was also a cost-savings program, which would appeal to any school district. On the other hand, the issues would likely be academic performance and evaluation. Teachers as to the quality of their qualifications or experiences were not fully addressed.

The Career and Technical Education (CTE) program provides computer skills. It did not address academic performance or methods of measurement. The article did not address teachers as to their quality of their profession and qualifications. The article also did not mention anything about at-risk students.

The Year Up program offers computer skills. However, there are issues. Academic performance or methods of measurement, teachers and at-risk students were not addressed.

## Discussion

A paradigm shift from typing classes to computer classes might improve academic performance. In the past, typing classes were offered in high schools. Typing classes were also graded. Many students took typing classes as an "easy class" to improve their Grade Point Average (GPA). A few students enrolled in these classes hoping to acquire typing skills for employment after graduating from high school; individuals with typing skills usually enter the business or government as clerks. Quality teachers most likely would have double duty; teaching computer skills and enhanced English. Mentors would likely provide citizenship skills. Guest speakers would likely come from businesses that would offer workshops.

With the passage of the No Child Left Behind Act of 2001, the number of high school dropouts increase ever year. Many of these dropouts had poor grades in high school. Their outlook for a good job is dim. Had there been computer classes in place the numbers of dropouts might be less as it is today. The computer classes might have increased their Grade Point Averages. They might also acquire computer skills, which would likely assist them in finding and landing a reasonable and better paying job. The computers would be one of the reasons for many of the dropouts to remain in school and likely to graduate.

The model described by Ward et al. (2009) needs further research. It might be adapted for high school dropouts. Another model conducted by White et al. (200) also needs further research. It might be targeted for high school dropouts already looking for employment but lack the computer skills. It is nonprofit; therefore, as California face financial troubles, the program is funded by businesses. In addition, there are several positive traits: it is free to students, it is a short program, students acquire educational and trade skills, and students have weekly stipends. On the other hand, would college credit be in Reading, Mathematics, or English? How would they test for academic performance? The article did not elaborate as to teachers' qualifications or experiences. What about at-risk students? Are at-risk students able to participate in this program? Also would high school dropouts be able to gain participation into this program?

The Tidwell (1988) study is very interesting and needs more research. It might be valuable to any school district or state to bring this same study up-to-date. The high school dropouts of today might have different opinions as that of those dropouts in the past.

**References**

Alexander, G. (2000, October). Crossing the Border. *Black Enterprise,* 31(3), 19.

Anonymous. (2008, December). Campaign for High School Equity; Campaign for High School Equity Calls on California and Federal Policy Makers to Address Dropout Crisis. *Education Letter*. p. 5.

Anonymous. (2007, March 12/March 13). No Child Left Behind Has Failed. *Chicago Defender*, 101(175), 9.

Anonymous. (2008, October). University of California – Riverside; Most Elementary Schools in California Will Fail to Meet Proficiency Requirements by 2014. *Education Letter*. p. 31.

Anonymous. (2009, September 2). Waving our Future Goodbye. *Chattanooga Times Free Press*. p. B7.

Asimov, N. (2008, February 28). High School Dropouts' Alarming Cost to State. *San Francisco Chronicle*, p. A1.

Biersdorfer, J. D. (1999, September 30). Typing for the Show-and-Tell set: How early is too early? *New York Times*, p. G-11.

Buddin, R., & Zamarro, G. (2009, September). Teacher Qualifications and Student Achievement in Urban Elementary Schools. *Journal of Urban Economics*, 66(2), 103.

Darling-Hammond, L. (2006, Winter). No Child Left Behind and High School Reform. *Harvard Educational Review,* 76(4), 642.

Davis, M., Proe, J., & Boxx, R. (2006, Autumn). The Millionaire Mind: Implications for Business School Education. *S.A.M. Advanced Management Journal,* 71(4), 35.

Dillon, S. (2009, October 9). Study Finds That About 10 Percent of Young Male Dropouts Are in Jail or Detention. *New York Times,* p. A12.

Dillon, S. (2008, October 13). Under 'No Child' Law, Even Solid Schools Falter. *New York Times*, p. A1.

Dillon, S. (2008a, October 9). Study Finds That About 10 Percent of Young Male Dropouts Are In Jail or Detention. *New York Times*, p. A12.

Glickman, C. D., Gordon, S. P., & Ross-Gordon, J. M. (2007). *Supervision and Instructional Leadership: A Developmental Approach* (7th ed.). Boston: Pearson Education, Inc.

Jacobson, L. (2007, March). Schools in California Face NCLB Makeovers. *Education Week*, 26(26), 17.

Lashway, L. (2004, June). The mandate: to help low-performing schools. *Teacher Librarian*, 31(5), 25.

Lehigh, S. (2008, November 19). Teaching Students 21st-Century Skills. *Boston Globe*, p. 19.

Lewis, A. C. (2007, May). Working at Cross-Purposes. *Phi Delta Kappan*, 88(9), 643.

Lewis, A. C. (2004, January). From School to Rewarding Work. *Phi Delta Kappan*, 85(5), 339.

Mernit, S. (1993, April). Mini-school lowers high school dropout rate. *Electronic Learning*, 12(7), 5.

*Merriam-Webster's collegiate dictionary*, (11th ed.). (2005). Springfield, MA: Merriam-Webster.

National Center for Education Statistics. (2007, December). Numbers and Rates of Public High School Dropouts: School Year 2004-05. Retrieved from http://nces.ed.gov/pubs2008;hsdropouts/findings.asp

Phillips, M. (2007, March). Backwards into the Future - Again. *Phi Delta Kappan*, 88(9), 712.

Rogers, M. R., & O'Bryon E. C. (2008, December). Advocating for Social Justice: The Context for Change in School Psychology. *School Psychology Review*, 37(4), 493.

Schemo, D. J. (2007, October 15). Failing Schools Strain to Meet U. S. Standard. *New York Times*, p. A1.

Smydo, J. (2008, May 27). City Schools Work So That Vocational Education Sheds Stigma. *Pittsburgh Post – Gazette*, p. A1.

Tidewell, R. (1988, Winter). Dropouts Speak Out: Qualitative Data on Early' School Departures. *Adolescence,* p. 939.

Trunnell, D. P. (2009, September). $1.1 billion: High School Dropouts are Costly to State. *The Sun.*

Twomey, J. (2008, June/July). Supply and Demand. *Community College Journal*, 78(60), 12.

Ward, M. J., Kester, D., & Kouzekananil, K. (2009, April). Using Preservice Teachers to Improve Computer Skills of At-Risk Alternative High School Students. *Journal of Education for Students Placed at Risk*, 14(2), 189.

White, G., Lare, D., Mueller, S., Smeaton, P., & Waters, F. (2007, Fall). The Virtual Education Academy: A Novel Approach to Engaging At-Risk Students. *Kappa Delta Pi Record*, 44(1), 13.

Will, G. F. (2009, March 23). Calling the Baby Ugly; Arne Duncan, the new Secretary of Education, says that under No Child Left Behind 'we have been lying to students and their parents.' *Newsweek,* 153(12).