

Reframing Schools to Enhance Gender Access – Making the World a Better Place

A Presentation for

The 2010 International Conference “Peace through Understanding”

Jackson State University

Jackson, Mississippi

April 14-16, 2010

By

Ruben Gentry, Ed. D.

Professor of Special Education

ruben.gentry@jsums.edu

(601) 979-1064

And

Jessica L. Buck, Ph. D.

Assistant Professor of Technology

Jackson State University

Jessica.l.buck@jsums.edu

(601) 979-1145

Abstract

With whom does the American education system get high grades? For race and ethnicity, disparities are ever so prevalent. For socioeconomic status and family income, poor people never seem to get a fair share. For geographical location, inner city students are almost always underserved. Perhaps the one entity on which the system can boast is gender—that both males and females are provided equitable education in the same school, if not all schools in the system. Unfortunately, the research does not reflect such equity. Females are often denied opportunities to equally engage in the complete agenda of school programs and activities. Nevertheless, the dropout rate is skyrocketing for males, and their graduation rate is taking a nosedive. One might sincerely ask – America, who are the poster kids in your educational system? This paper explores some unassuming, but upon notice, some glaring inequities in the education system. Explicit attention is given to the gender issue. Considerable effort is spent on addressing the question – What education reform is needed to ensure that males and females receive a fair, equitable, and quality education in today’s society? Evidence is analyzed and an authentic course of action is charted to make education a system that is truly responsive to the needs of all students. Education in America must come to exemplify what Dolly Parton (n.d.) sings about in her song, *A better place to live*, “If we’d all climb together, we could climb the highest hill. We could make the world we’re living in a better place to live.”

Introduction

American schools are not highly proficient in accommodating either females or males. Females are short-changed in the curriculum and males drop out at high rates.

Equitable and accessible education would allow students equal access to the curriculum and retain them until graduation.

According to Corbett, Hill and St. Rose (2008), there are three overarching facts about gender equity in schools today. One, girls' successes do not come at boys' expense. In other words, educational achievement is not a zero-sum game, in which a gain for one gender results in a corresponding loss for the other. In fact, a positive connection has been observed between girls' and boys' educational achievement. Where girls do well, boys also do well and where girls score poorly on tests, boys also score poorly. Two, on average, girls' and boys' educational performance has improved. However, this should not be interpreted to mean that the both are achieving at acceptable levels. Three, understanding disparities by race/ethnicity and family income level is critical to understanding girls' and boys' achievement.

Family income level and race/ethnicity are closely associated with academic performance. Children from the lowest-income families have the lowest average test scores. As for gender, in general girls tend to outperform boys on reading tests and boys overall outperform girls on math; but gender differences seen in one ethnic group are not always replicated within another group. As for level of achievement, overall educational outcomes for both girls and boys have generally improved or at least stayed the same.

Schools must rise to the level of providing all girls and boys a fair and meaningful education. Meaningful education would include a progressive co-ed teaching plan that prepares students for the contemporary workforce. Equitable and accessible education will encourage them to seek a broader range of career choices based on inherent talents and abilities rather than on stereotypes or biased expectations (Foldes & Foldes, 1993).

Gender issues in society and schools

It is no understatement to say that America is not making the grade in educating its students. For example, the needs are not being met for 51% of the students in most schools. They are the girls in classrooms. It was reported that girls get less attention than their male counterparts and by the time of puberty, girls' academic achievement and self-esteem take a dive (Handy, 1994). When it comes to academic performance, Handy found a remarkable gap in math and science achievement scores between male and female students. The gap increased as the grade level increased.

Much of the equity problem has not reached a level of consciousness among principal constituents. One study indicated that teachers and students perceived their school to be gender fair; yet classroom observations and interviews with students brought into view serious differentials in how boys and girls experienced, behaved and were treated in their classrooms. The students read these differences in classroom behaviors as reflecting inherent or natural differences between boys and girls (Spencer & et al., 2003).

There is a serious disproportion between male and female teachers, which may to some extent impact gender equity among students. Approximately one-fourth of all classroom teachers are male and the proportion decreases to about 10% in the elementary grades. The belief is that with so few male teachers it is difficult for boys to develop a healthy masculinity against a preponderance of women teachers and increasing rates of absent fathers (Johnson, 2008). According to Johnson it is nearly impossible to determine how teacher gender factors into achievement gaps between girls and boys. It was noted that students are even uncertain if the gender of their teachers matters, which

may also affect students' choices of major, especially STEM (Science, Technology, Engineering, and Mathematics).

School infrastructure and the treatment of boys and girls in school manifest themselves in numerous ways in both school and later life. As the demand STEM disciplines increase, boys' and girls' interest continues to dwindle. For example, Dubie (2009) reported that a recent survey from the American Society for Quality indicated that more than 85% of students do not consider careers in engineering. The study found that interest in engineering careers has waned significantly, with a majority of respondents citing a lack of knowledge about engineering as the top reason they would not pursue such jobs. Other reasons were that they considered it boring, that students in the area were perceived as "geeks," and the lack of female mentors. McGrath (2009) indicated that John Cohn, an IBM Fellow, called upon engineers to get involved in promoting the field of engineering to kids in order to change misperceptions about the profession and STEM the global trend of engineering enrollment decline. He urged engineers to commit to joining him by doing engineering outreach in schools, churches, clubs and other venues. Engineers could go out into the community to get kids excited about science and technology. Cohn further stated that perceptions of engineering among kids need to be changed, adding that engineering needs a "new Sputnik" which will galvanize students' interest in science and technology.

One of the unfortunate outcomes of girls' narrow career path is that women represent only 7.2% of corporate officers in Fortune 500 technology companies. Equitable and accessible education would ensure that females are made aware of, and encouraged to pursue, various career opportunities early in their academic matriculations.

Secondary and post-secondary educational institutions are amplifying initiatives to encourage female participation in academic programs, such as STEM, that were once deemed as male dominated. According to Appiah (2002) males typically pursue the STEM areas. Females, on the other hand, are encouraged to pursue liberal arts disciplines such as education and social sciences. Such perceptions may impact and direct career paths, in male or female students. This should be done by having increasing female faculty, which would serve to draw more female students. However, some female students do not choose STEM, because of the lack of female instructors. It was revealed that female students desire a female faculty in which to identify. Nelson (2004) contended that efforts to alleviate this issue are to develop more female faculty within the existing student body who are apart of growing STEM Programs. Female students should be encouraged to pursue careers and should be sponsored to pursue advanced degrees in this respective area through department-sponsored scholarships. This may encourage females to continue education and professional pursuits; however, there remains a constant increase in the male drop out rate.

The problem of males dropping out of school

The school dropout rate is unacceptable for all students, but it is very alarming for minority groups, the poor, and males. Nationwide, the overall graduation rate for 2001 was 68 percent. The rates for Black, American Indian, and Hispanic students were 50, 51, and 53 percent, respectively (Swanson, 2004). Male students complete high school at consistently lower levels than females. Graduation rates are also substantially lower for students educated in highly segregated, socioeconomically disadvantaged, and urban

school systems. Strong regional disparities consistently emerge, as does tremendous variation in the performance of individual states (Losen, 2004; Swanson, 2004).

Recent legislation has been enacted to enhance school performance and lower school dropout. No Child Left Behind mandates that performance indicators include achievement test scores and the graduation rate at the high school level. States, districts, and schools are required to report performance measures for their overall student population and to disaggregate results separately for student subgroups defined on the basis of race and ethnicity, gender, English-language proficiency, socioeconomic status, disability classification, and migrant status (Losen, 2004; Swanson, 2004).

Performance measures data are now being reported. They show that there is a substantial and systematic gender disparity in graduation. Nationally, female students graduate from high school at a rate of 72 %, compared to 64 % for males, constituting an 8 percent gender gap. Larger gender gaps by race exist among Hispanic and Black students, with females graduating at rates 11 and 13 percent higher than males in these groups, respectively (Losen, 2004; Swanson, 2004).

Efforts to address gender issues in society and schools

Some people may think that “gender issues” are adequately being addressed in schools and society. For example, Handy (1994) reported that most teachers believe that they treat girls and boys the same, but both female and male teachers have been found to interact more with boys – providing boys with more approval, more disapproval, and more opportunities to respond. Nevertheless, appropriate content can aid teachers in effectively communicating with male and female students alike. Teachers who intervene with gender issues often do so through the selection and promotion of appropriate

curricular materials. An authentic curriculum, implemented with modern technology, can reflect the awareness that female students have special needs and that their life experience and perspective enable them to make special contributions (Handy, 1994).

The Carl Perkins Vocational and Applied Technology Education Act of 1990 mandates equitable education in vocational programs. Suggestions by Foldes and Foldes (1993) to extend this spirit of fairness across the curriculum are: Recognize the causes of sex stereotyping and its impact on the workplace and develop strategies to combat existing inequities; Promote nontraditional career choices to better serve the needs of all students; Communicate equity needs to school personnel and the community at large; Revise teaching materials that may reflect sex-biased attitudes toward vocational choice; and Hire either women or men to teach courses traditionally taught by the other sex. Nevertheless, the curriculum is pertinent in promoting gender equity.

In regards to the curriculum, Marshall (2000) asserted that technological programs were being directed toward preparing students for technological and management careers; thus, supporting female participation. While female representation in technical disciplines continues to rise, strategic action plans must persist to have a consistent inclination. There must be a renaissance of the technical programs to become more appealing to the females. According to the Chronicle of Higher Education (2004) there are improved recruitment and retention strategies for females in technological and scientific areas. Opportunities to encourage female participation include early introduction, on the secondary level, of the STEM discipline, secondary summer enrichment programs, and mentorship of female students by female STEM faculty and practitioners, and awareness of career opportunities. Such strides assist in increasing

female representation to assuage perceived historical barriers and stereotypes that impacted moderate participation.

Secondary education stands at the vanguard of promoting change in the field of Industrial Technology. The National Council of Research on Women (as cited in Washburn & Miller, 2004) revealed that mentorship is essential in supporting women in science and technological fields. Washburn and Miller indicated that having role models who can put a “human face” on science, engineering, and technology will aid in establishing a productive learning community that is centered on common interests.

The Minnesota Career and Technical Education: Perkins Nontraditional Careers’ Final Report (2008), encouraged local secondary and post-secondary institutions to heighten awareness of gender bias in education and career options; increase awareness of educational and vocational options; increase understanding of the connection between secondary and post-secondary educational electives with career objectives; and provide an introduction to the business community on the inter-relatedness of workforce preparedness to the economy. Research from this project also affirmed the importance of progressive inventiveness such as providing clear description of technical areas to include welding and fabrication, construction, and architecture; identifying technically related areas to industry and engineering; and inviting lunchtime speakers for local secondary schools. Field trips also served an instrumental part to encourage females to participate in technical and scientific disciplines. These are benchmarks to effective recruitment and retention methods.

Retention is not only fundamental in keeping female students well informed of Industrial Technology opportunities; however, female faculty must have an avenue of

support. A study by Washburn and Miller (2004) found that dinners, retreats, and other outings were influential in developing a strong network for female faculty in technological disciplines, and it provided opportunities to brainstorm, propose ideas, and establish working relationships. Washburn and Miller also contended that the development of a living-learning center would be beneficial for female students “to study together, live together, and take classes together” (p. 164). The additional function of the living learning centers is to have upper-class students (e.g. graduates, seniors, juniors) tutor and mentor the lower-class students (e.g. freshmen, sophomores, and transfers). Moreover, Washburn and Miller asserted that such a community would foster a supportive environment where females would be able to help sustain each other through graduation, and they would ascertain lasting networks of colleagues who would be resourceful in future endeavors.

Efforts to address school dropout problems

Researchers have observed strong and significant relationships between graduation rates and a variety of district characteristics. For example poverty or segregation may have a direct or indirect impact on the educational experiences of students in ways that affect their odds of graduating from high school. Other characteristics may be that high-poverty districts attract less qualified teachers, which results in less effective and less engaging instruction, producing lower levels of academic achievement, which in turn may lead students to drop out of high school at higher rates (Swanson, 2004).

Unfortunately, according to Losen (2004), neither the reporting nor the graduation rate accountability provisions in NCLB were seriously monitored or enforced. At the

same time, the test-score accountability provisions were being rigidly implemented. Anecdotal evidence shows how high test-score accountability inadvertently creates incentives for encouraging low-scoring students to drop out, in subtle and not so subtle ways, which is referred to as a “push-out” phenomenon. If low-scoring students drop out, their school’s average test score rises. To some extent the incentives to push students out are exacerbated by the failure to enforce graduation rate accountability, which was added to the law purposefully to mitigate this problem.

Understanding why students drop out of school is key to addressing the problem. Yet identifying the causes of dropping out is extremely difficult to do because, like other forms of educational achievement (e.g., test scores), it is influenced by an array of proximal and distal factors related to both the individual student and to the family, and to the school and community settings in which the student lives. A major study in 1988 (Rumberger, 2004) reported a wide variety of reasons for students leaving school including school-related reasons (77%), family-related reasons (34%), and work-related reasons (32%). Most specific reasons were Did not like school (46%), Failing school (39%), Could not get along with teachers (29%), and Got a job (27%).

Reframing schools to enhance gender access

Handy (1994) reported that ninety percent of student learning time is spent using educational materials. If the materials include women and men in a variety of jobs it will cause children to view more jobs as appropriate for both women and men and by extension, to themselves. Reading about successful women has been found to cause females to have higher expectations of female success, which is an important component of achievement. An amazing finding was that after hearing stories about a member of

their own sex achieving, both females and males spent more time on school tasks. This “time on task” is one of the most important components of achievement.

Table 1 presents some key interventions extracted from the literature that might reframe schools to achieve gender access. Included are interventions for gender equity and interventions for dropout prevention. Further elaboration is provided on these and other reported interventions.

Table 1
Interventions for Reframing Schools to Enhance Gender Access

Gender interventions

- Attend to the 51% female population
- Encourage girls to be achievers, leaders
- Recognize that sex stereotyping/discrimination influences career/life choices
- Promote nontraditional career choices
- Provide living-learning centers for female students

Dropout interventions

- Make early interventions (Problems are manifested in early school years)
 - Emphasize technological and management careers
 - Provide mentorship to support women
 - Increase awareness of educational and vocational options
-

Handy (1994) recommended five steps that educators can take to address gender-fair education: **Attend** to the 51% female population – be aware of their special

problems, different ways of thinking, role models, and stereotypes; **Balance** – kids care about fairness. Integrate gender-fair materials into the curriculum; **Compensate** – encourage girls to be achievers, classroom leaders. Give girls permission to be wild and creative (at least sometimes!) and at the same time you reward boys for being sensitive and caring. Consider inviting girls to run for office, play solos in jazz band, and join the chess team or the science club. Boys may have to be invited to the drama club, the literary magazine, or Future Teachers of America; **Develop** strategies for attacking the problem. It may mean de-emphasizing sports and competitive activities and emphasizing cooperation; **Evaluate** the change that takes place and the materials that were adopted. See if tests given by teachers reflect gender-fair lessons and materials.

According to Foldes and Foldes (1993), the key to providing equitable education is the recognition of three disparities that exist in today's society. First is the fact that sex stereotyping and discrimination influence career and life choices for both males and females. Students generally pursue courses in high school that lead to a career or profession that seems appropriate based on gender expectations. A second disparity focuses on self-concept. Some females view themselves as more dependent and less competent in relation to work as compared to males. On the other hand, men question their ability in specific areas such as parenting and domestic-helping roles. Third, there exists an inequality in analytical and decision-making skills related to making career choices. Females are indoctrinated to believe that their three life choices are to become a homemaker, a career person, or one who integrates family and career; males envision themselves as being the primary or sole wage earner having the responsibility of working to support the family.

For the school dropout issue, Rumberger (2004) stated that problems that cause students to drop out of school often appear early in their school careers, suggesting the need for early intervention. Reducing dropout rates will require comprehensive approaches both to help at-risk students address the social and academic problems that they face in their lives and to improve the at-risk settings that contribute to these problems. Thus, the question was raised, Does the United States have the capacity and political will to reduce dropout rates and eliminate disparities in dropout rates among racial and ethnic groups? The response was, the United States does seem to have the capacity to reduce school dropout rates and eliminate disparities among racial and ethnic groups, or at least it has the potential to do so (Rumberger, 2004b). Program models would need to range from early intervention programs serving preschool students, to supplemental yet comprehensive middle school programs, to alternative middle and high school programs. But to achieve widespread improvement in the dropout problem requires both systemic and programmatic solutions. Without eliminating disparities in the resources of families, schools, and communities, it is also unlikely that the United States will ever eliminate disparities in dropout rates among racial and ethnic groups. And those disparities may be more difficult to eliminate in the face of increasing racial and ethnic segregation of America's schools (Rumberger, 2004b).

It is evident that "reframing schools to enhance gender access" is a comprehensive endeavor; there is no particular beginning or ending point, nor is there a point of 100% success. It is like a work in progress. However, to develop motivation, inspiration, and determination for the job, words of encouragement are offered in the form of lyric for a song (see Figure 1). The objective is to hammer out gender access by

using a hammer, bell, and song. The song is paraphrased from the once popular song, *If I had a hammer*, by Peter, Paul, and Mary (n.d.).

Figure 1

Reframing American Schools – Hammering out Gender Access

If I had a hammer, I'd hammer on Monday; I'd hammer thro Friday
All over the school
I'd hammer out off-limit activities, I'd hammer out dropout; I'd hammer out equal access
for girls and boys,
All over the school

If I had a bell, I'd ring it on Monday; I'd ring it thro Friday
All over the school
I'd ring out stereotypes, I'd ring out low self-esteem; I'd ring out challenging access for
girls and boys,
All over the school

If I had a song, I'd sing it on Monday; I'd sing it thro Friday
All over the school
I'd sing out poverty, I would sing out absentee fathers; I'd sing out gainful access for
girls and boys,
All over the school

Well I got a hammer, and I got a bell; And I got a song to sing
All over the school
It's the hammer of fairness, it's the bell of graduation; It's the song about access for girls
and boys,
All over the school
It's the hammer of fairness, it's the bell of graduation; It's the song about access/success
for girls and boys,
All over the school

Summary and implications

It is evident that American schools are not highly responsive to the needs of either gender. Females are not engaged in a full array of academic programs and males are not graduating high school at acceptable rates. But being aware of knowledge as to why

females' curricular participation is limited and why males frequently drop out of school, we should be able to develop more successful interventions to combat these crises whenever and wherever they exist (Losen, 2004; Swanson, 2004).

It appears that the possibility to make American schools more equitable and accessible for boys and girls is within reach. For if we hammer out gender access Monday through Friday all over the school, and if we climb together, we could climb the highest mountain and make the world we are living a better place to live (Parton, n.d.). What a wonderful day that will be!

References

American Society of Engineering Education. (2009). *First Bell: Most Students Are Not Considering Engineering Careers*. Retrieved on February 09, 2009, from

<http://www.asee.org>

Appiah, E. N. (2002). *Race and gender differences in educational attainment, field of study, and increments to earnings (evidence from University of Illinois tracer studies and nationwide earning data)*. (Doctoral dissertation, University of Illinois at Urbana-Champaign, 2002). Digital Dissertations, 63(02), 157. (UMI No. 3044041).

Corbett, C., Hill, C. & St. Rose, A. (2008). *Where the girls are: The facts about gender equity in education*. Washington, DC: AAUW Educational Foundation.

Dubie, D. (2009). Mommas don't let their babies grow up to be engineers. *IT World*.

Retrieved on April 15, 2010, from

<http://www.itworld.com/career/62315/mommas-dont-let-their-babies-grow-be-engineers>

- Foldesy, E. & Foldesy, G. (1993). Occupational education: *Equity issues*. Clearing House, 67(2), 69-70.
- Handy, A.E. (1994). Gender fairness: Are we failing half of our students? *Book Report*, 13(3), 20-21.
- Johnson, S.P. (2008). The status of male teachers in public education today. *Education Policy Brief*, 6(4), 1-11.
- Losen, D.J. (2004). Graduation rate accountability under the No Child Left Behind Act and the disparate impact on students of color. In G. Orfield (Ed.), *Dropouts in America: Confronting the graduation rate crisis*. Cambridge, MA: Harvard Education Press. (pp. 41-56)
- Marshall, J. A. (2000). Focus on industry for success. *Journal of Industrial Technology*, 16 (3), 2-5. Retrieved August 08, 2003, from <http://www.nait.org>
- McGrath D. (2009). IBM Fellow urges engineers to promote the profession
Stakes 'couldn't be higher' for profession, the world, John Cohn tells ISSCC crowd. *EE Times*. Retrieved April 15, 2010, from <http://www.eetimes.com/news/semi/showArticle.jhtml?articleID=213401796>
- Minnesota Career and Technical Education (n.d.). Perkins Nontraditional Careers Competitive Grant: Final Report. *Industrial Technology Careers for Women (ITCW)*. Retrieved on June 23, 2008 from, <http://www.cte.mnscu.edu/nontraditional/localpractices/itcwreport.html>.
- National Institute of Women in Trade, Technology, and Science. (n.d.). Retrieved April 20, 2008, from <http://www.niwtt.org>.
- Parton, D. (n.d.). A better place to live. Retrieved March 11, 2010, from http://www.absolutelyrics.com/lyrics/vie/dolly_parton/a_better_place_to_live/

Peter, Paul, & Mary. (n.d.). *If I Had a hammer lyrics*. Retrieved February 16, 2010,

from

<http://www.stlyrics.com/lyrics/confessionsofadangerousmind/ifihadahammerthe>

hammerso...

Rumberger, R.W. (2004). Why students drop out of school. In G. Orfield (Ed.),

Dropouts in America: Confronting the graduation rate crisis. Cambridge, MA:

Harvard Education Press. (pp. 131-155)

Rumberger, R.W. (2004b). What can be done to reduce the dropout rate? In G. Orfield

(Ed.), *Dropouts in America: Confronting the graduation rate crisis*. Cambridge,

MA: Harvard Education Press. (pp. 243-254)

Spencer, R., Porche, M. & Tolman, D. (2003). We've come a long way – Maybe: New

challenges for equity in education. *Teachers College Record*, 105(9), 1774-1807.

Swanson, C.B. (2004). Sketching a portrait of public high school graduation: Who

graduates? Who doesn't? In G. Orfield (Ed.), *Dropouts in America: Confronting*

the graduation rate crisis. Cambridge, MA: Harvard Education Press. (pp. 13-

40)

Washburn, M. H. & Miller, S. G. (2004). Retaining Undergraduate women in science,

engineering, and technology: a survey of a student organization. *Journal of*

College Student Retention, 6(2), 155-168.