

“Health and Learning”

*Motivational Efforts To  
Improve the Curriculum*

~ by Marlow Ediger



THERE HAVE BEEN AT LEAST THREE MAJOR EFFORTS TO IMPROVE PUBLIC SCHOOLS IN THE LAST HALF CENTURY. Two have come and gone, whereas the third is ongoing but faces many criticisms. The first major effort was the National Defense Education Act of 1958. The second was the publication “A Nation At Risk” published in the early 1980’s. Both emphasized weaknesses in the teaching of science and mathematics. The third was the “No Child Left

Behind (NCLB)” law of 2002. NCLB placed major stress upon reading and mathematics, mandating testing in these two curriculum areas in grades three through eight as well as a high school exit test. In 2007, science achievement of pupils is also to be in the mandated testing arena. Presently, there has been another call for a need for more scientists (Viadero, March 22, 2006).

**The National Defense  
Education Act (NDEA)**

The NDEA was signed into law in 1958. This Act was in response to the Soviet Union having sent up the first satellite to orbit the planet earth. There was much criticism then of the United States lagging in scientific and mathematics achievement. American Schools were criticized for these weaknesses. Soviet schools were praised for their challenging and demanding curricula, especially in science and mathematics. The Golden Age of education was then ushered into the United States. Schools could receive fifty per cent of the cost of science and math equipment, if approved by the state department of education. To secure approval was relatively easy. The writer was a school administrator during the 1957-1961 school years. Here, the elementary school was fairly well equipped with science equipment through the NDEA. When attending professional national conventions, the writer frequently noticed signs that stated “NDEA

funded” in exhibition halls where commercial companies had science and math equipment on display.

There were national projects, NDEA funded, which stressed innovative programs and were developed by the Greater Cleveland Mathematics Project, the Madison Project, The School Mathematics Study Group (SMSG), and the University of Illinois Arithmetic Project. Members of the study groups were largely college/university mathematics professors who emphasized the structure of knowledge in their respective academic disciplines, in this case mathematics.

These national study groups incorporated new ideas into their respective publications, and the ideas were later adopted into leading mathematics textbooks written for public school students. Structural ideas stressed were the commutative properties of addition and multiplication, the associative properties of addition and multiplication, the distributive property of multiplication over addition, as well as the property of closure. Algebra and geometry were introduced early into the elementary school mathematics curriculum. Pupils were to use methods of inquiry as exemplified by professional mathematicians on the college/university levels (Ediger and Rao, 2003).

Not only were structural ideas identified by college/university

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academicians in science and mathematicians, but also in other subject matter disciplines. For example, the High School Geography Project (HSGP) was federally funded in its development by academic specialists in the middle 1960s. Many of these federally sponsored programs and projects were soon forgotten. In the late 1970s, a graduate student of the writer asked where to secure the HSGP materials. She had taught public school students using these materials. None in my class had ever heard of the HSGP materials. It does not take long before selected materials which drew much fanfare in their day are forgotten.

The NDEA provided funding for taking graduate courses in science and mathematics as well as provided stipends for family members of participants, away from home. The writer received NDEA moneys for working on and receiving the doctorate. Ten per cent of the total amount of the loan was forgiven for each of five years of teaching at a public university. There were students who received master's degrees through NDEA moneys and used the training to teach in the public schools.

The next major emphasis placed on education was the 1983 "A Nation At Risk" publication which was developed by the National Commission on Excellence in Education. This publication gave a dire warning of the United States being overtaken by foreign com-

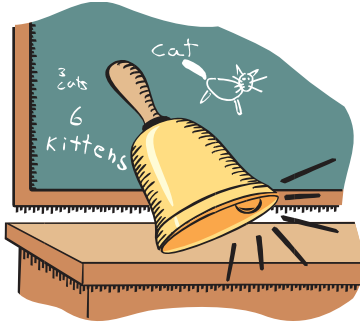
petitors unless public school students were challenged to achieve. Much fanfare was made of the contents of this publication, stressing the need for students to be better prepared to meet the challenges of foreign competitors. There were states which followed the recommendations of "A Nation At Risk" report by requiring

National Governor's Conference has been highly critical of American high schools. They again recommend making the high school years more demanding. The recommendations of state governors include more mathematics and science courses be taken by students. Each student taking Algebra 2 has received much attention. Seemingly, having taken Algebra 2 makes students brighter and more intelligent.

Third, The No Child Left Behind (NCLB) law of 2002 has truly been revolutionary in education. With NCLB, students in grades three through eight are tested annually. They must pass these tests or be held back from being promoted. An exit test must be passed to receive a high school diploma. A school

must pass the Adequate Yearly Progress (AYP) standard. If the school fails to do this two years in a row, it is listed as failing and a child may opt out to a satisfactory school. How much NCLB has assisted in pupils achieving at a higher rate is certainly open to question. The following complaints are seen frequently in educational journals pertaining to the NCLB:

\* Much time is spent on drilling pupils to up test scores. Does much drill make for important learnings?



**1958: National Defense Education Act**  
**1980's: "A Nation At Risk"**  
**2002: "No Child Left Behind"**

four years of English and three years each of mathematics, science, and the social sciences in high school. Beginning statements in "A Nation At Risk" were very demeaning toward American Public Education. As the report went on in sequence, the criticism was somewhat muted.

The high school curriculum comes under much criticism, much more so than does elementary schooling. President Bush, recently, advocated testing high school students on an annual basis, but this lacked support from Congress. The

\* Teachers are under much tension to maximize pupil test performance. How helpful are high test scores for being a good citizen, caring for people, being polite; and is the subject matter useful in school and in society? Then too, does tension make for better teaching?

\* A single annual test is inadequate in determining what pupils have learned. Should there be additional evaluation devices, not solely testing, used to ascertain learner achievement (Ediger and Rao, 2003)?

The NCLB has truly changed the educational landscape. A federal law with state standards is in the offing. The state standards apply to individuals as well as to an entire school. Thus, a pupil may fail a grade or a school may be labeled “failing” if appropriate scores on tests are not secured. States must participate in NCLB or federal moneys will not be forthcoming.

### **Recommendations for Change in NCLB**

From reading educational literature, it appears that the following recommendations are desirable:

- \* a variety of assessment techniques need to be used to appraise pupil achievement;
- \* more input from the local level of schooling needs to be considered and implemented regarding educational standards;
- \* an increased amount of moneys needs to be infused into improving the quality of education. The NDEA may well serve as a model; and
- \* negative publications, such as “A Nation At Risk” do little to enhance teacher and pupil growth in achievement.

### **References**

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*Dr. Marlow Ediger is Professor Emeritus at Truman State University in North Newton, Kansas. He can be contacted at mediger2@cox.net.*