

## ***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 1980s. 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, and thus mandated testing has been in evidence in grades three through eight as well as a high school exit test in these two curriculum areas. 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 sending up the first satellite to orbit the planet earth. There was much criticism then that the United States lagged in scientific and mathematics achievement. American Schools were criticized for these weaknesses, while Soviet schools were praised for their challenging and demanding curricula, especially in science and mathematics. The Golden Age of education was then ushered in to 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. This 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 very frequently noticed signs that stated “NDEA funded” in exhibition halls where commercial companies displayed science and math equipment.

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 which 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 academicians in science and mathematics, but also in other subject matter disciplines. For example, the High School Geography Project (HSGP) was federally funded in its develop-

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ment 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 one could 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 who were 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 for each of five years of teaching at a public university were forgiven. 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 that the United States was at risk of being over-

taken by foreign competitors 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 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 the curriculum in the elementary years of schooling. President Bush recently advocated testing high school students on an annual basis, but this lacked support from Congress. The National Governor's Conference has been highly critical of the American High School. They again recommended making the high school years more demanding. The recommendations of state governors include more mathe-

matics 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. Also, a school is required to pass the Adequate Yearly Progress (AYP) standard. If the school fails to pass the AYP 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 pupils to achieve at a higher rate is certainly open to question. The following complaints are read about frequently in educational journals pertaining to the NCLB:

- Much time is spent on drilling pupils to raise test scores. Does much drill make for important learnings?
- Teachers are under much tension in maximizing pupil test performance. How helpful are high test scores in being a good

<p style="text-align: center;"><b>Efforts to Improve Public Schools</b></p> <ol style="list-style-type: none"><li>1. <b>National Defense Education Act of 1958</b></li><li>2. <b>"A Nation At Risk" 1980's</b></li><li>3. <b>"No Child Left Behind" 2002</b></li></ol>
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citizen, in caring for people, and in being polite? Also is the subject matter useful in school and in society? Then too, does tension make for better teaching?

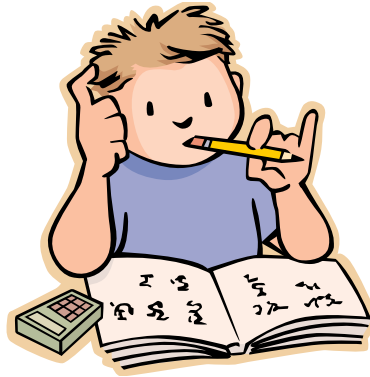
- A single annual test is inadequate in determining what pupils have learned. Should there be additional evaluation devices used, rather than testing solely, to ascertain learner achievement (Ediger and Rao, 2003)?

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 needs 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 infused into



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improving the quality of education. The NDEA may well serve as a model.

- Negative publications, such as “A Nation At Risk” do little to enhance teacher and pupil growth in achievement.

### **Selected References**

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