

Behavior and Social Issues, 16, 50-58 (2007). © Robin Rumph, Chris Ninness, Glen McCuller, James Holland, Todd Ward, & Tiffany Wilbourn. Readers of this article may copy it without the copyright owner's permission, if the author and publisher are acknowledged in the copy and the copy is used for educational, not-for-profit purposes.

STIMULUS CHANGE: REINFORCER OR PUNISHER? REPLY TO ELLIS AND MAGEE

Robin Rumph, Chris Ninness, Glen McCuller,
James Holland, Todd Ward, and Tiffany Wilbourn
Stephen F. Austin State University¹

One's view of *NCLB* may be largely determined by how one views what came prior to it being in effect. As Ellis & Magee suggest, flaws exist in the rules of *NCLB*, and changes to improve those flaws are very much needed. We have pointed to many of these same flaws as well as additional ones. But the question in terms of scrapping *NCLB* or refining it is one of being on the path to improvement or the path to decline. To evaluate this legislation one must take the long view and clearly see what was taking place before *NCLB* and see what is now occurring after the passage *NCLB*. We have tried to layout the history of progressive education, its world views, its contemporary views and how these views have led to an intractable and unaccountable educational system the performance of which is among the worst of the developed nations. We also presented some of the post *NCLB* international data that are suggestive of some improvement. Ultimately, despite the flaws, we believe that *NCLB* is helping to break up the stranglehold on public education by the culture of progressive education and that *NCLB* firmly supports the use of scientifically supported educational models.

EVALUATION WITH OBJECTIVE TESTS

The attack on objective tests by progressive educators is one of long standing. It is not surprising that groups representing progressive education such as The National Education Association (NEA) attack standardized tests as flawed because they "can only measure certain kinds of learning"(NEA, 2006). This is progressive education code for progressive educators' preference for subjective measurement and their revulsion for teaching subject matter. Using terms like "authentic assessment" for their preference for subjectively scored performance measures, reveals the cynical view progressives educators have for objective measurement which they view as inauthentic. Since objective tests are generally related to subject matter, part of the disdain for objective tests may be that objective tests imply that subject matter should be taught. The anti-intellectual, anti-fact, anti-subject matter, anti-practice educational views are of long standing and represent core progressive ideology.

¹ Corresponding Author: Robin Rumph, School & Behavioral Psychology, PO Box 13019, SFA Station, Stephen F. Austin State University, Nacogdoches, Texas 75962, email rrumph@sfasu.edu, office number (936) 468-1159

STATE AND FEDERAL GOVERNMENTS

Ellis & Magee suggest that the federal government through laws like *NCLB* dictates the practices of the public schools. Constitutionally, the states have been delegated the power to regulate the public schools, not the federal government. What authority the federal government has in regulating public schools is through monetary allocation. Legally, states do not have to accept the monies provided under any education law passed by the federal government. However, if they do, then they are subject to the provisions of that law. It is true that states and the federal government have had a more significant role than in the past in influencing curriculum, textbook selection, and indirectly, the pedagogy used in classrooms. Certainly, when these influences promulgate ineffective practices as happened in the 1980's and 1990's, public education suffers. During these years, the states' curricula, textbook selections, and the accompanying implied or embedded pedagogy in math and reading, were largely consistent with the recommendations of the two progressive educational organizations, the National Council of Teachers of Mathematics (NCTM) and the National Council of Teachers of English (NCTE). The result was a lockout of scientific models like Direct Instruction in favor of progressive practices such as "whole math" and whole language.

Our view is that *NCLB* was passed in large part due to the failure of states' efforts to support effective practices and adopting ineffective progressive education practices. We have argued that the standardization of educational practices, particularly without scientific evidence of the practice's effectiveness, is a particularly pernicious cultural practice (Rumph, Ninness, & McCuller, 2001). However, *NCLB* is flexible in this regard because it favors no particular form of educational practice only that it has scientific evidence of its effectiveness.

NCLB AND DROPOUTS

Although we agree with Ellis & Magee that promotion or graduation should not be based on standardized tests, we do believe that such tests are appropriate for determining how school programs are performing. The NEA would prefer to see graduation rates and progress on standardized tests taken into consideration in determining how a school is performing. As Ellis & Magee have pointed out it is possible for a school to manipulate its overall students' performance by increasing the dropout rate. Such a practice is unethical and administrators engaging in it should be fired. It appears that underlying such an unethical practice by administrators is an inability to use legitimate means to accomplish an effective educational system.

The article cited by Ellis and Magee regarding the manipulation of dropouts in Sharpstown High School to produce the so-called by "Texas Miracle" (Wood, 2004) appears in a volume entitled "Many Children Left Behind" (Meier and Wood, 2004), which contains a critique of *NCLB* by prominent progressive educators. Ironically, the article cited by Ellis and Magee contains on the very next page a diatribe against Direct Instruction, an educational practice which Ellis and Magee support, based not on evidence but solely on form and ideology. No educational model has more evidence of its

effectiveness than Direct Instruction. Authors of other articles in the volume implore progressive educators “to figure out how best to resist” *NCLB* (Kohn, 2004, p.96), that *NCLB* is a plot to privatize schools (Karp, 2004), advocates for a plan that would essentially return education back to the good old days of unconstrained progressivism before *NCLB* (Neill, 2004), and suggests that *NCLB* undermines democracy (Meier, 2004). Progressive educators don’t like *NCLB* because it attempts to break-up their dominant intellectual monopoly over the schools. This is not to say that some progressive criticism may not be on target but only to suggest that progressive educators’ dislike of *NCLB* is largely because it threatens the ineffective practices and underlying ideology progressive educators have championed for 85 years. If *NCLB* favored progressive education, progressive educators would no doubt be discussing the educational Renaissance promulgated by the legislation.

We certainly disagree with McNeil as quoted by Easton (2003) that “dropouts become absolutely necessary” in order to get test numbers up. All that is needed to improve test performance is an effective curriculum beginning in kindergarten that uses effective pedagogy. McNeil, from Rice University, can find exemplars of what to do in her hometown, Houston, TX. The Rodeo Institute for Teacher Excellence (RITE), Codwell, Frost, Montgomery and Caldwell schools and the non-RITE Wesley school use a Direct Instruction curriculum, have won state and national awards, and have good test scores despite being located in inner city, impoverished areas.

Those in the scientific educational community have been pointing the way to effective educational practices for more than 40 years, but the educational establishment controlled by progressive educators has summarily rejected any practice that conflicts with progressive ideology, no matter how substantial the evidence of the effectiveness of the practice. School systems have all too often simply graduated almost everyone regardless of accomplishment. Graduation rates in such cases are not sensitive measures of a schools’ performance. To suggest that a school is doing well because of high graduation rates would distort facts best ascertained with objective tests. However, we do agree with Ellis and Magee that school progress on objective standardized measures as well as the absolute values should be taken into account in evaluating the performance of a school.

TEST ABUSES

We agree with Ellis and Magee that teaching to the test is a poor practice but it is not a practice that is suggested by *NCLB*. Progressive educators have decided that teaching to the test is a reasonable practice, given accountability provisions, because they do not possess the knowledge or skills to meet content-based performance goals. Rather than select an excellent curriculum based on scientific research with excellent embedded pedagogy, progressive educators try to contend with testing provisions by keeping as much of the ineffective progressive curriculum and pedagogy as they can and then choose to teach the test, cheat, or teach to the test as a kind of last minute strategy as the time of testing approaches. Other “tactical strategies” mentioned by Ellis and Magee to

improve test scores never seem to include adopting effective scientific based pedagogy and curriculum materials like those of Direct Instruction and hence to legitimately improve performance. It is reasonable to ask why progressives don't choose these legitimate means. These effective materials and pedagogies are shunned because they offend progressive values. Effectiveness as measured with objective tests is not a value embraced by progressive educators.

CEREMONIAL AND TECHNOLOGICAL CONTROL

The concept of ceremonial control raised by Ellis and Magee is an interesting one in regard to the educational system. We suspect that most of the practices within the system of education are controlled ceremonially, with few being the result of improvements in the teaching of children as evidenced by objective measures of learning. This is particularly the case if practices must first be consistent with an overarching ideology rather than being selected on the basis of the effectiveness of the practice. For example, students in college teacher education preparation programs are asked to have a set of dispositions or beliefs which align with the beliefs of progressive education. Failure to demonstrate the "correct" beliefs may lead to non-acceptance in the program or to failure once the program is begun. The National Council of Accreditation of Teacher Education (NCATE) was the subject of a complaint to the Department of Education for "mandating accredited schools to seek students committed to social justice...When the Department of Education held a hearing on the issue in June, NCATE agreed to eliminate the social justice language from the platform" (Johnson, 2006; Wasley, 2006). However, member schools were not similarly asked by NCATE to remove "social justice requirements" (Johnson, 2006). The Columbia University Teachers College's conceptual framework, a document required of institutions accredited by NCATE, contains an entire section entitled "Education for Social Justice" that was the subject of complaints by the Foundation for Individual Rights (Johnson, 2006). This section lays out the progressives' agenda to transform society through the public schools with future teachers being selected based on their dispositions toward progressive doctrine. The Columbia conceptual framework states, "To change the system and make schools and societies more equitable, educators must recognize ways in which taken-for-granted notions regarding the legitimacy of the social order are flawed, see change agency as a moral imperative, and have skills to act as agents of change. They need to expand their reading of texts and symbols embedded in social practices and institutions to uncover how they protect privilege and undermine democracy. Thus the stance of critical inquiry is essential in our vision of education for social justice" (Columbia Teachers College, 2006). Similar language can be found in many colleges' of education conceptual frameworks. The uniformity of such views in colleges of education is very troubling. More troubling is the weeding out of those who view education with scientific values instead of those of critical pedagogy or who do not agree with the progressives' political agenda. One must remember that the public schools are funded with public funds and that the progressives' political agenda is in no way sanctioned by the public.

Although we agree with Ellis and Magee that the preference in *NCLB* for pedagogy based on scientific research is an instance of technological control while the behavior of those at the local level is largely ceremonially controlled, we do not view this as a necessarily adverse circumstance given that prior to *NCLB* little technologically controlled pedagogy was occurring at the local level anyway. It is our view that technological control at the local level is made more likely when forms are used that actually produce better student learning. While agreeing that it is a “problem” when those at different levels of a permaclonic superstructure are not both technologically controlled, we believe that as a result of schools following the provisions in *NCLB*, even ceremonially, educators will increasingly come under the control of superior outcomes produced by technological forms and thereby will eventually be controlled technologically. Even if this circumstance did not occur, the students would benefit as long as the technological form was implemented irrespective of educators being ceremonially controlled. The bigger problem has been the adherence by educators to ineffective progressive forms of pedagogy maintained by the ceremonial control of the progressive education culture.

NCLB PROVISION FOR HIGHLY QUALIFIED TEACHERS

We are confused by Ellis and Magee’s use of the term “highly qualified” in a manner suggesting that it has something to do with the evaluation of teaching. The term “highly qualified” as used in *NCLB* means that in addition to training in teacher education majors must also have subject matter education in a field of interest. This provision appears to have been included to guard against the view of progressive educators that subject matter knowledge is unimportant. We believe that such a provision is an improvement over the status quo prior to *NCLB* because education students would now appear to have improved chances of gaining competency in a given subject matter rather than merely being trained in progressive pedagogy.

EVALUATION OF TEACHERS AND SCHOOLS

The issue of using student performance as a means of evaluating individual teachers raised by Ellis and Magee is an interesting one. How students perform is the ultimate test of how a school is doing. However, it is difficult to argue that a given teacher who is often only implementing a plan selected by school officials should be held personally responsible when the plan fails. Evaluating teaching by the instructional forms being used without looking at actual student performance is also a mistake. In a progressive education world, forms that produce good performance data like Direct Instruction will result in a teacher’s low evaluation because the form does not comport with progressive education values such as creativity. Conversely, those forms consistent with progressive values are viewed as good teaching despite data indicating the forms are ineffective. We have no specific recommendations regarding how individual teachers should be evaluated but we believe that schools and school systems should be evaluated on the basis of student performance.

STUDENT TRANSFERS

We agree with Ellis and Magee that difficulty in obtaining student transfers is a circumstance that is regrettable. Sadly, it is clear that those with more wealth and time who can arrange for transportation to schools distant from their places of residence are more likely to exercise this option. We do think the empowerment of parents to select the best fit of schools and their children is generally a good idea. It is a contingency that encourages better performance by schools at least to the issues with which parents are concerned. To some extent this concern is for the quality of the academic program. Parents may also be concerned about issues of safety, arts, athletics, etc.

SCIENCE BASED RESEARCH REQUIREMENTS

We have substantial disagreements with Ellis and Magee regarding the *NCLB* requirement and preference for scientifically based practices. They state that “few educators would disagree with federal legislation requiring instructional technology be proven effective via rigorous scientific testing.” The vast majority of educators are progressive educators and progressive education largely rejects science particularly if the findings are not in agreement with progressive ideology. Scientific research has generally found progressive pedagogy to be ineffective (Grossen, 1995; Becker & Englemann, 2006). We believe many educators as a whole disagree with the idea that they should use scientific based pedagogy.

NCLB does not require all subject matters to be taught using scientific practices as Ellis and Magee suggest. Reading, math and science are priorities of the federal government for academic improvement. There was good reason to start with reading since reading provides a way to be “instructed” by books in any subject matter. Although we agree that the teaching of many content and skill subjects can be improved with science-based pedagogies, we also would agree with the federal government that reading, math and science are the areas of greatest need based on the critical importance these skills have for individual improvement as well as for the culture. Should educators begin to be controlled by the superior outcomes produced by science-based practices then application to other subject area may occur without any specific requirement to do so. We have stated that change through governmental means is not ideal. The same governments who propose scientific based pedagogy may also propose “Intelligent Design” even though such views do not comport with scientific views. No government is bound by technological control.

Ellis and Magee suggest that due to a preference for randomized group designs the science based research requirement would “essentially preclude all evidence based via single subject research”. However, *NCLB* and the What Works Clearinghouse (WWC) of the Institute of Education Science (IES) make clear that single subject research is considered as evidence of effectiveness although not at the highest standard. The WWC standards state, “In order for a study to be rated as meeting evidence standards (with or without reservations), it must employ one of the following types of research designs: a

randomized controlled trial or a quasi-experiment (including quasi-experiments with equating, regression discontinuity designs, and single-case designs)” (WWC, 2006, p.1).

Sidman (1960) noted that in traditional psychological research, subject variability is considered a source of experimental error while in behavioral research it is a source of experimental interest. There is no question that in well-controlled single-subject preparations, the record of response variability is sufficient to demonstrate that behavior change is (or is not) a function of treatment (Ninness, Rumph, Vasquez, & Bradfield, 2002). Nevertheless, usually single-subject design is not sufficient to demonstrate that a particular behavior change is greater than or less than other treatments directed at the same phenomenon under investigation.

Perhaps one of the most common impediments to scientific inquiry is the inherent difficulty in attempting to find experimental designs that provide a fair and common unit of analysis. In fact, the randomized controlled trial design is considered by many (e.g. Montgomery, 1997; Ruxton & Colgrave, 2003) to be the gold standard in applied and basic research. Randomized controlled trial designs allow the researcher to identify the probability of obtaining particular outcomes based on randomly obtained samples from populations with known characteristics. Moreover, these designs have the unique advantage of providing researchers with a method of comparing and contrasting effects from different studies even when their dependent measures do not have a common metric. This is accomplished by expressing group differences in terms of *effect size*, a measure of the differences among groups according to standard deviation units (Hopkins, Hopkins, & Glass, 1996).

Additionally, this important statistical technique provides investigators within a given field an opportunity to perform a meta-analysis and identify effect sizes for comparable types of investigations within a given area of inquiry. Currently, almost all research standards require the reporting of effect sizes when addressing any type of quantitative outcome. This fundamental statistical strategy provides other researchers, as well as consumers of research within and across disciplines, the ability to identify the extent to which a particular treatment actually produces important changes that are greater than or less than those of another study as well the statistical probability of obtaining those changes.

Ellis and Magee suggest that conclusions from meta-analyses may be sufficiently flawed as not to trust the conclusions drawn from them. Eisenhart and Towne (2003), cited as a source for this conclusion, are ethnographic-qualitative researchers in the progressive education tradition. Eisenhart and Towne’s chief concern is about the definition of scientific research in *NCLB* as focusing too narrowly on quantitative research methods to the exclusion of qualitative. Meta-analyses can only be performed on quantitative studies. Qualitative research does not use the experimental logic found either in group design or single subject design. The methodology of qualitative research is not experimental.

Meta-analysis and logical analytical literature reviews are the two primary ways in which a body of experimental research is summarized and analyzed. It would be appropriate for policy makers to review legitimate meta-analyses and logical analytical

reviews of scientific research to become informed of effective instructional methods and programs. Both methods have their flaws and we tend to prefer logical analytical reviews to meta-analyses. That preference being stated we recognize that both methods have their supporters and detractors in the scientific community. It would be a mistake to reject conclusions as spurious when showing large effect sizes simply because it comes from a meta-analysis. The methodology of a particular meta-analysis demands close scrutiny as does the methodology and logic of logical analytical literature reviews. Certainly, either method of reviewing the scientific experimental literature should be considered superior to the subjective nature of qualitative research as far as offering evidence of the effectiveness of an educational practice.

REINFORCERS AND PUNISHERS

Given the history of progressive education and the detrimental effect it has had on our educational system, we see the stimulus change of *NCLB* as improvement and therefore a reinforcer despite its flaws. We are reinforced by seeing the beginning of the breakup of the intellectual monopoly progressive education has had over the field for so many years. We are reinforced by the stated preference in *NCLB* for scientific evidence to determine the effectiveness of practices before widespread use. We are reinforced by the stated rigorous scientific standards for evidence by the WWC. We are reinforced by efforts to place contingencies on local school districts for improved performance. We are reinforced by the use of objective testing to determine the success of school district programs. We find post-*NCLB* data that are suggestive of improvement reinforcing.

The administration of *NCLB* may not live up to its promise as a means of reform. Should *NCLB* fail to turn the educational system around to one of effectiveness, we will be punished by signs of its failure to do so. We would be particularly punished to see the control of the system of public education regress back to the progressive intellectual monopoly that created the problems that *NCLB* attempts to fix. This eventuation would be a tragedy for the country, particularly for our children. Instructional science has much to offer in improving our educational practices, but we need to have a culture within education that values those improvements. These are not the values of progressive education. A return to the pre-*NCLB* world will leave science based pedagogy out in the cold, at least within public education where it is most needed. For these reasons, we hope that the reforms begun under *NCLB* continue, and that they are hugely successful.

REFERENCES

- Becker, W. & Englemann, S. (2006) *Sponsor findings from Project Follow Through*. Retrieved November, 2006 from <http://darkwing.uoregon.edu/~adiep/ft/becker.htm>
- Columbia Teachers College. (2006) *Conceptual framework*. Retrieved November, 2006 from http://www.tc.edu/administration/oaa/PDF_DOC/Conceptual_Framework.pdf
- Easton, P. (2003). Definition of 'dropout' leads to rate discrepancies. *Denton Record Chronicle*, September 8, p. 3A.
- Eisenhart, M., & Towne, L. (2003). Contestation and change in educational policy on "scientifically based" education research. *Educational Researcher*, 32, 31-38.
<http://dx.doi.org/10.3102/0013189X032007031>

- Grossen, B. (1995). The story behind Project Follow Through. *Effective School Practices*, 15(1).
- Hopkins, K. D., Hopkins, B. R., & Glass, G. V. (1996). *Basic statistics for the behavioral sciences* (3rd ed.). Boston: Allyn & Bacon.
- Johnson, E. (2006, October 12). University policy draws fire from free-speech advocates, *New York Sun*.
- Kohn, A. (2004). NCLB and the effort to privatize public education. In D. Meier & G. Wood (Eds.), *Many children left behind: How the no child left behind act is damaging our children and our schools*. Boston: Beacon Press.
- Karp, S. (2004). NCLB's selective vision of equality: Some gaps count more than others. In D. Meier & G. Wood (Eds.), *Many children left behind: How the no child left behind act is damaging our children and our schools*. Boston: Beacon Press.
- Meier, D. (2004). NCLB and democracy. In D. Meier & G. Wood (Eds.), *Many children left behind: How the no child left behind act is damaging our children and our schools*. Boston: Beacon Press.
- Neill, M. (2004). Leaving no child behind: Overhauling NCLB. In D. Meier & G. Wood (Eds.), *Many children left behind: How the no child left behind act is damaging our children and our schools*. Boston: Beacon Press.
- National Education Association (2006). Accountability and testing. Retrieved November, 2006, from <http://www.nea.org/accountability/index.html>
- Montgomery, D. C. (1997): *Design and analysis of experiments*. Wiley, New York.
- Ninness, C., Rumph, R., Vasquez, E., & Bradfield, A., (2002) Multivariate randomization tests for small-n behavioral research. *Behavior and Social Issues*, 12, 64-74.
<http://dx.doi.org/10.5210/bsi.v12i1.80>
- Rumph, R., Ninness, C., & McCuller, G. (2001, May). The case against the standardization of education. Paper presented at the meeting of the Association for Behavior Analysis, New Orleans, LA.
- Ruxton, G. D. and Colgrave, N. (2003). *Experimental design for the life sciences*. Oxford: Oxford University Press.
- Sidman, M. (1960). *Tactics of scientific research*. New York: Basic Books.
- Wasley, P. (2006, June 16). Accreditor of education schools drops controversial 'social justice' language. *The Chronicle of Higher Education*.
- What Works Clearinghouse. (2006). Evidence standards for reviewing studies. Retrieved November, 2006 from http://www.whatworks.ed.gov/reviewprocess/study_standards_final.pdf
- Wood, G. A. (2004). View from the field: NCLB's effects on classrooms and schools. In D. Meier & G. Wood (Eds.), *Many children left behind: How the no child left behind act is damaging our children and our schools*. Boston: Beacon Press.