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# FREEING SCHOOLS FOR EXPERIMENTATION

"FOR of all sad words of tongue or pen, the saddest are these: It might have been!" Echoing from the judge's lament in *Maud Muller* may be a prophetic note for the present era of experimentation in education. Consider the conditions: professional and lay climate demanding change; sophisticated research techniques; and the promise of opulent funding. How can we miss?

## The Dilemma

It seems apparent to this writer that there is reasonable and present danger that we may muff the opportunity to foster fundamental and pervasive curriculum advancement because we are abdicating initiative and inspiration to a national echelon. The trouble rests, in large measure, upon a posture of caution which every educator finds engrained in dealings with the children and the financial treasure of all the people. Because we have so long operated with restraint, the countervailing forces of daring and flair enter but rarely into experimentation at the local level. Instead we buy a prefabricated program. In local dimensions, we seem unwilling "to do it ourselves."

We need self-examination as provocative as that displayed in the recent "God is dead" debate. Only so can the present opportunities for experimentation yield a maximum reward. The reward, of course, means that students

would be more able to make constructive use of the materials of instruction in the finding and testing of meaning.

## The Climate

Perhaps these observations seem unwarranted. An experimental atmosphere can be found in the hamlet school as well as the suburban high school of "little city" proportions. Currently curricular reorganization has proliferated from the earliest stirrings in physics and mathematics to every discipline represented in pre-collegiate education. The audience of *Educational Leadership* can recite the distinctive pitch of hundreds.

The annual federal appropriation for education approaches ten billion dollars. The per-pupil outlay nationally is \$533. New school construction in 1966 totaled \$4,900,000,000. A research climate draws nourishment from the private sector as well. In 1966 the top twenty corporations averaged grants of two million dollars each to education.

The "proof of the pudding," of course, comes in the use schools make of their opportunities. There presently exists a rough script of our reactions.

### **An Example**

A prototype of curriculum renovation from the national level, PSSC Physics, is a dramatic example of how schools react. The cry for reform in high school physics instruction had wide endorsement in the scientific community plus the propellant force emanating from Russia's upstaging of the U. S. in space. PSSC Physics was created to turn the tide. Today the course is found in approximately fifty percent of high schools offering physics.

PSSC Physics is a substantial achievement. It brings to top echelon students the opportunity to experience physics using methods of that discipline. It centers upon student discovery as opposed to the traditional cookbook variety of science instruction.

But we may question this program along lines applicable to other innovations as well. Has the original program spawned continuous experimentation? Has national publicity unintentionally demeaned traditional programs—even when a "fired-up" master teacher uses them to unleash curiosity? How free is a school system to reject a new program, hardened into a handsome text, and having the status appeal of lustrous writers, National Science Foundation funding, and appropriateness for the neglected upper quartile?

### **A Trend**

The merchandising of pilot programs has had a blocking effect upon action research. There is a dearth of data

citing the extent to which "glamour" sciences and mathematics programs have sired ones "home-grown." This is not to suggest that sponsoring groups have left the first issue unrefined. But the school's investment in hardware and design is generally of a magnitude which makes the revised product too dear, particularly when it comes as a package. For example, the full weight of educational specifications from state departments and major accrediting agencies makes almost impossible the construction of a school without a member of the language-laboratory family. Instead of functioning as a catalytic model, with sample content to illustrate what can be done, the nationally marketed programs have become sacrosanct.

John Dewey commented upon attitudes toward his philosophy in language descriptive of reactions to large-scale curricular projects:

The drive of established institutions is to assimilate and distort the new into conformity with themselves. This drive or tendency in the educational institution is perhaps most glaringly evident in the ways the ideas and principles of the educational philosophy I have had a share in developing are still for the most part taught. . . . In teachers colleges and elsewhere the ideas and principles have been converted into a fixed subject matter of ready-made rules, to be taught and memorized according to certain standardized procedures, and when occasion arises, to be applied to educational problems externally the way mustard plasters, for example, are applied.<sup>1</sup>

But we are not bound to react in this

<sup>1</sup> John Dewey. "Introduction." In: Elsie Ripley Clapp. *The Use of Resources In Education*. New York: Harper & Brothers publishers, 1952. p. x.

fashion. Pogo believes "We have met the enemy and he is us."

### **A Working Posture**

If schools are to be free in the conception and initiation of curricular development, several attitudes must prevail. The first of these calls for the deromanticizing of programs filtering down from national groups. We need to reread the story of their inception. For the most part, the intent was to demonstrate the feasibility of alternate instructional theory, content organization, and teacher training.

Perhaps because each new program promised a way out of the inferiority complex stemming from public criticism and apparent national retardation, it was embraced in toto. The publicity concurrent with initial infatuation has built new programs into panaceas. Adoptions have not been wholesale, but those who do not buy seem apologetic! In order that catalytic innovations may nudge local systems into efforts germane to their environment, curriculum workers cannot permit infatuation to become a permanent alliance.

A second attitude touches the size and scale of research endeavors. We have become addicted to large studies, field testings involving tens of thousands of students, and the exquisitely structured sampling techniques. The trials of a teacher struggling to evaluate the extent to which student behavior in a laboratory situation reveals skills and safety habits seem dwarfed in comparison and suffer from an inferiority rating. Generally the harassed teacher lacks a sophisticated research design and wanders ill at ease through a maze of validating formulas. Yet if the small-

scale experiment is to bear fruit, it cannot be sloppy or sentimental.

At this point the curriculum director, department head, or principal can help the teacher rough out a design for his "study." There should be a guiding hunch: "If I permit students to read seriously for a period of several weeks in an area of their choice, they will display more zest and real learning than from my preplanned reading assignment." There should be a preliminary assessment of how students have achieved under the prevailing plan; perhaps a reaction survey. How will zest and accomplishment be measured? Perhaps a second reaction survey, a reckoning of amount read, and a tally of spontaneous comments about "what I'm reading."

A third attitude essential to indigent experimentation shows in how we talk about what we are doing. Too often the aura of research alienates because we cannot communicate that the project's outcome, while uncertain, is not damaging. Our penchant for scientific evidence makes us leery of that which has not been thoroughly tested—elsewhere! Would we use a new hair coloring unless assured that *Good Housekeeping* had endorsed it or until a TV commercial had demonstrated that even Mother can't tell the difference? We have to make clear to ourselves and the public that an educating situation contains such an array of variables (student capabilities, teaching art, materials, etc.) that the success factors seldom if ever can be quantified. Subjective evidence from students and teachers belongs.

At times school people complain that parents are unconcerned until a child

brings home an unfavorable report card. In the case of experimentation, a student's remark that "today we ate gumdrops in class" does not go far in clarifying what is at stake.<sup>2</sup> Yet rarely does the teacher explain the rationale of the conventional lesson, let alone an experimental one. The attitude which promised to enlighten classroom studies takes the public into account as evaluating partners and as understanding observers.

### The Middle Man

The curriculum director or supervisor functions in ways which help teachers view classroom studies as respectable and contributory.

Kimball Wiles has outlined a strategy for the kind of in-school research which makes the classroom teacher the initiator rather than the initiated. He advocated pilot experimentation on a volunteer and individual basis—the type growing from the request of a first grade teacher to try Words in Color or a home-grown variation. There is no system-wide commitment. The teacher gets material, consultant help, and assistance in designing evaluations. He has the obligation to talk about his project, accept visitors, and enter into seminars with others who are testing their classroom rubrics.

Other moves are essential, however, if pilot programs are "to infect" the system. Wiles advocates:

1. In-school optional demonstrations by pilot teachers
2. In-school clinics where over a five-week period or so teachers may observe

<sup>2</sup>Gumdrops are often used to construct glucose models in the BSCS-SM lab designed to illustrate the energy reaction within a cell.

pilot programs—followed by seminars to discuss techniques observed

3. System-wide meetings to share enthusiasm

4. Training labs to develop skill and/or to devise alternative programs.<sup>3</sup>

This "upward and outward" dissemination moves teachers toward research consciousness in such a way that resulting programs, from national sources or the home front, are infused with a spirit of experimentation and evaluation. This is "curriculum reorganization as re-education of the teacher."

### The Prospect

Rogers describes a change agent in this fashion: he "functions as a communications link between two social systems."<sup>4</sup> The preceding discussion has drawn some lines between the world of national research, involving outcomes carefully projected for a large clientele, and the small-scale studies of the day-by-day teaching drama. The designs are not antithetical in purpose, but there is little reinforcement unless the spirit for quest is generated locally.

The communications role of the supervisor and curriculum director is to salvage commitment to experimentation from an atrophy latent in the gap between locally centered research and national movements. This more dynamic and sustaining role for teachers is a major dimension in "freeing schools for experimentation." 

<sup>3</sup>Kimball Wiles. "Curriculum Change: Where and When." Address to the Florida Association for Supervision and Curriculum Development, Annual Conference, St. Petersburg, Florida, January 1966.

<sup>4</sup>Everett M. Rogers. *Diffusion of Innovation*. New York: The Macmillan Company, The Free Press of Glencoe, 1962. p. 255.

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