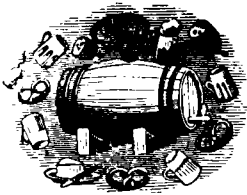


# Education's Great Boondoggle

**We have, without saying it aloud, permitted the development of the human mind to be compared to be production and shipment of kegs of beer . . .**



## The Business—Industrial Model

For education, the business-industrial model has been the greatest boondoggle of all times. The assumption has been that what works well for business and industry will work well for education. In practice, this has meant that the systems for designing and evaluating the productivity of, say, an automobile factory have been transferred to education with minimal modification. Systems analysis (i.e., the mapping of the operations involved in production and/or distribution in order to determine modes of increasing cost efficiency) has permeated every aspect of education. It has made it possible for educational administrators to chart and rechart their services without ever having to deal with the human meanings of what they are doing.

The major goal of any business must be to produce its products for as long as possible and for as much profit as possible. The lower the costs of production, the more profitable the product is likely to be. Diversification of products and the search for new markets does not fundamentally change this process of concentrated refinement toward ever greater cost efficiency.

The so-called "products of education," such as the development of cognitive skills and the acquisition of systematized information, are perceived by school administrators to be quite similar to the products of business and industry. Cost efficiency is thus a major concern. The teacher/pupil ratio is not seen as a way of increasing the amount of individualized attention each student may receive, but rather as a way of lowering costs. If the average high school teacher in a district has only 20 students per class or approximately 100 per term, the business-industrial model would indicate that such a situation is highly inefficient. It has already been demonstrated that 150 students can be handled by a teacher per school term while the awarding of diplomas at the end of the high school period remains apparently unchanged except for the increased numbers receiving diplomas.

Furthermore, the business-industrial model dictates that the "products of education" need to be comprised of specifiable units which can be objectively evaluated via the child's performance: so much of a certain input ought to yield so much in measurable returns. If the child does not perform at the preestablished level of return, then the input and whoever manages the input are assumed to be

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performing inadequately, which would undoubtedly be the case if the child were a keg of beer instead of a human being.

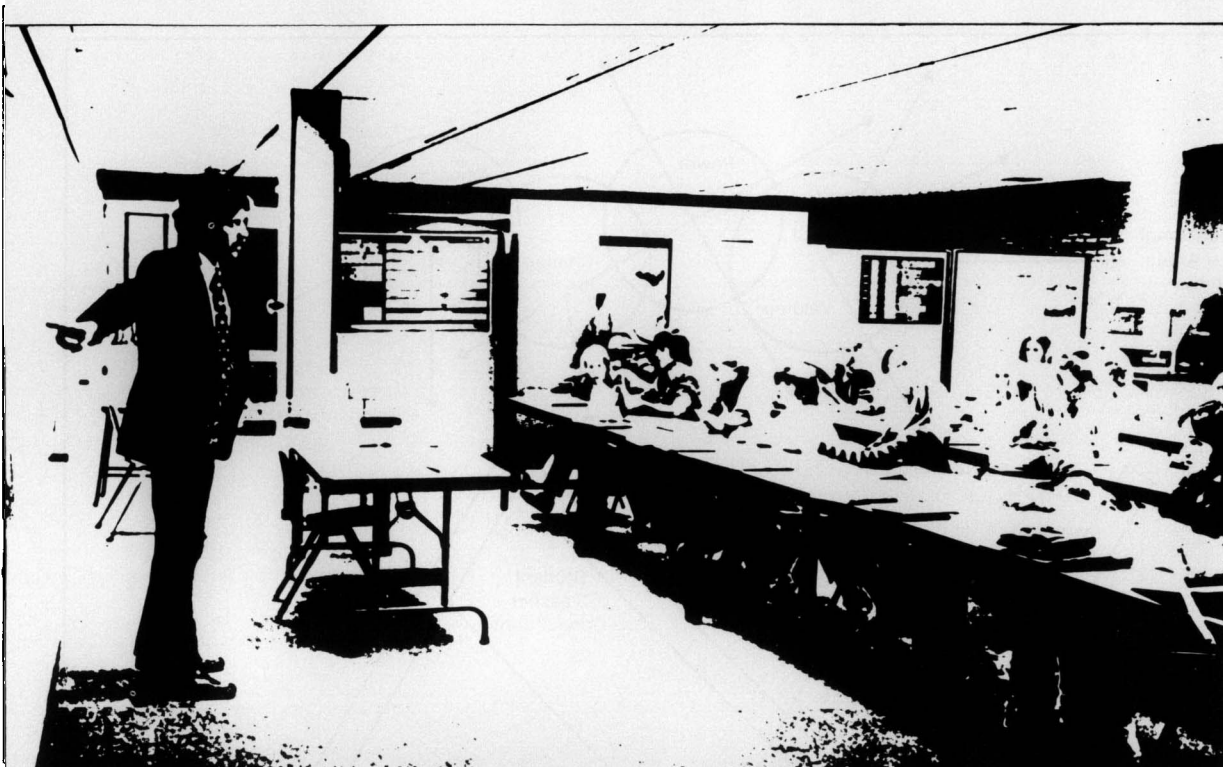
## Bogged Down in Objectives

Somehow, the inadequacy of the business-industrial model for education seems to have escaped us. We have flooded the field with flow charts and systems analyses that are practically facsimili of those used in business. Furthermore, we have accepted their organizational validity for education almost unquestioningly. We have, without saying it aloud, permitted the development of the human mind to be compared to the production and shipment of kegs of beer, or, to acknowledge greater respectability in what we have been doing, the production and shipment of electronic computers. We have allowed ourselves to be bogged down in state lists of specific performance objectives that are to make educators accountable for the performances of their students much the way business executives are accountable for the performance of their businesses. In the process, we have equated such simple skills as typing with such highly involved activities as rational decision making in a democratic society. If the objective of teaching cannot be reduced to specifically measurable units that will reveal the teacher's efficiency, then the objective, presumably, has no place in education, much as it would have no place in business.

Thorndike's old motto that if something exists it can be measured has, via the phenomenal financial and technological success of the American business-industrial model, led us to believe that we already know how to measure all that is worthwhile in human intellectual development. Especially in recent years, we have shown little patience for such immeasurables as "appreciation" or "open-mindedness," either ignoring them altogether or simplistically claiming that some observable behavior (such as buying a daily newspaper or the ability to recognize different painting styles) would place them in the realm of measurables and thereby make them "acceptable" teaching objectives.

## Need for a New Model

The world has been staggering through a maze of unknowns—uncertainty has become a part of our daily lives and yet, incredibly, we seem to have come to the conclusion that only the specifically definable ought to be dealt with in education. We have been boondoggled into not recognizing essential differences between the business-in-



**We have been boondoggled into not recognizing essential differences between the business-industrial world and education.**

*Photo courtesy of Huston Association, Dayton, Ohio; and the CEFJ Journal, Columbus, Ohio.*

dustrial world and education. While the former deals with relatively simple inputs and works toward the perfection of its products to better achieve one kind of known outcome, increased financial profitability, the latter is dealing with the most complex unit of matter known, the human mind, and must develop a range and nature of skills able to meet an infinite variety of needs and unknowns. In other words, a conception of education that would only work toward the achievement of one or even several kinds of preestablished, clearly delimited outcomes might fit a business model very well but would verge on the inconsequential when placed in the context of preparing the mind for the unpredictable complexities and nuances of life.

Public education is indeed on the brink of inconsequentiality. Beset by demands for accountability and vocational training on the one hand and by a long tradition of factual memorization on the other, schools have been reduced to expensive teaching machines responsible for counting up the number of right answers given and for the distribution of diplomas attesting to the length of time spent giving right answers. Goals which would help youngsters to cope with the increasing complexities of life, as these might relate to their values and to their perceptions of the more desirable, which would encourage reflective decision making, have been submerged in the din for quantification and for the gratification of immediately demonstrable achievement.

Of course, regardless of the model adopted, achievement is desirable. However, the achievements of education are lifelong. They permeate every aspect of our intellectual and emotional lives. They cannot and ought not be limited by any model that demands productivity

to be measured according to the simplistic scales we now have at our command. Let's face it! The business-industrial model stands in the way of true educational achievement. We need to develop models in education reflective of the uncertainty and complexity of life.

Essentially, the proponents of Open Education have been trying to do just that. They have, however, confused the central issue with an irrational, though admittedly charming, child interest that would relegate information processing to insignificance. The multiplication of knowledge and its uses has been a major contributor to the increased complexities of our personal and social lives. It is absurd to believe that we can continue to operate in anything resembling a democratic society without the abilities necessary to command the information now basic to the modus operandi of our society.

Clearly, democratic participation implies that the control and reflective use of information must be developed at the individual level. It implies that individuals have knowledge of their own belief systems—"where they are at"—and are able to relate these to the conditions of the times. It does not imply that the control of information should occur only if the child expresses interest.

The very breadth and quantity of information now affecting our lives makes its memorization an impossible undertaking. Democratic participation implies questioning, generalizing, searching, planning, etc. with as broad a view of available knowledge as possible. It implies active involvement of individuals as generalists. It does not imply the specialist able to deal intelligently only in a limited field. The specialist must be secondary in the goals of education if a democratic society is considered desirable.

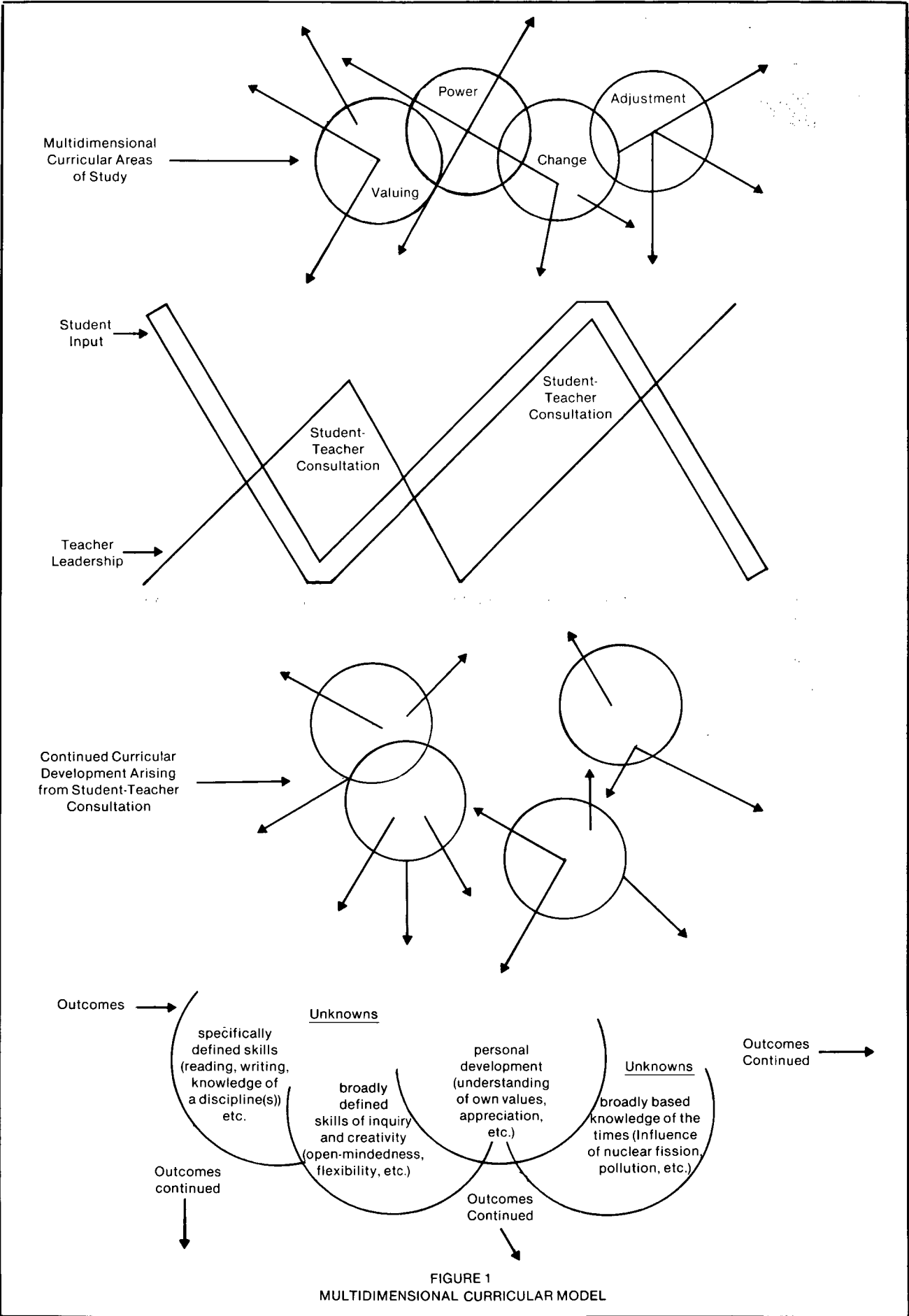


FIGURE 1  
MULTIDIMENSIONAL CURRICULAR MODEL

## A New Curriculum Design

The form of a model for curriculum design that is basically different from the business-industrial model can be discerned from the preceding discussion. The following set of conditions would underlie such a model:

1. Uncertainty and increasing complexities have become and will probably remain major characteristics of our personal and social lives. Therefore, educational goals must be set in broad and flexible terms capable of coping with uncertainty and complexity. We do not, as yet, have quantitative measures able to evaluate the success of such broadly conceived goals.

2. The multiplication of knowledge has entered the very *modus operandi* of our personal and social lives. Therefore, a general view of knowledge as it affects our lives and our society needs to be part of the basic content of education.

3. The democratic participation of individuals in the significant decisions of their society is desirable. Therefore, the individual needs to learn how to acquire, control and manipulate information; to know what his or her own value systems are; and to be able to make decisions that go beyond immediate personal concerns. The study of specific disciplines and job specialties ought to be secondary to the study of life realities as these relate to the individual and to society as a whole.

It would not be difficult to extend the set of conditions that a new curricular model for education ought to meet. The ones listed above are those which this author considers absolutely necessary to the revival of public education. Rather than the two-dimensional linearity of the business model with its preestablished outcomes and its monitor/teacher whose function is to make sure students achieve the outcomes, the educational model that would meet the above conditions would have to be multidimensional. It would have to allow for a variety of possible outcomes, some of which would be unknown to planners prior to the period of study. In other words, the areas of study planned would be capable of a variety of inputs. For example, Power, Change, Adjustment, Valuing\*, etc. might be used as a series of concepts which students would explore. While assuring a reasonable range of study, the specific topics could be determined by the students in consultation with the teacher. Important inquiry processes, such as hypothesizing or experimental control, might also serve as indicators of the broad areas of study to be dealt with during a term. Again the specific input and conclusions of study would be a result of student/teacher consultation.

The teacher in this model is perceived as a consultant and leader responsible for the scope of study and intellectual tools of inquiry and creativity employed during a term. For the sake of continuity from teacher to teacher, detailed reports of what was specifically studied and how

it was studied during a term would be developed *after the fact*.

The kinds of experiences a student had engaged in and the teacher's subjective evaluation of what might have been expanded in a student's cognitive-creative capabilities would be the basis of the student's report card. All such report cards would allow for a student's response to the teacher's evaluation. Objective evaluations of a student's measurable skills could be taken at any time during a student's attendance at a school. The results would be recorded only with permission of the student (or the parent). In all probability, the number of quantifiable evaluations submitted to would become a question of tradition and vocational need. Given the importance of information processing in this model, the objective evaluation is felt to be congruent with the model, provided that it remains in a position subservient to more important though as yet not quantifiable goals. The overall results of education in this multidimensional curricular model might be described by several areas of student development such as: control of processes and procedures, ability to conceptualize and generalize, openmindedness and flexibility, general familiarity with the knowledge areas of current relevance, etc. These would be evaluated via a variety of objective and subjective instruments including, importantly, the student's evaluation of his/her own development.

The curricular model suggested above may be diagrammed. However, being multidimensional in its content and goals, it does not have the neatness of the curricular designs traditionally charted according to the business-industrial model. In any event, an effort at diagramming appears as Figure 1.

If there is any purpose to diagramming a multidimensional curricular model which allows for uncertainty and for complex outcomes defying evaluative quantification, it is to demonstrate that the act of structuring can lead toward openendedness and flexibility, while still offering completeness in the range of knowledge to be dealt with. The business-industrial model would preestablish the content and activities of every stage of education. The multidimensional curricular model would broadly outline a range of study but would leave the specific curricular content to student-teacher consultations and, by implication, to the significant events of the times. The skills activities engaged in would arise from the necessities of confronting topics and significant social problems.

While the diagram and some of the preceding discussion are indicative of the administrative feasibility of a multidimensional model, overcoming the business-industrial set of educational planners is a major undertaking and can only be achieved in the existing public schools via a tremendous intellectual effort of a traditional institution. Reconceiving the curricular design means developing new perceptions of teacher productivity as well as new ways of dealing with students. It means bureaucratic recognition of uncertainty as well as creativity and inquiry. It means new ways of bureaucratizing.

**The multi-dimensional curricular model . . . would leave the specific content to student-teacher consultations and . . . to the significant events of the times.**

\* The curricular uses of such concepts has been explored in *A Design for Social Education in The Open Curriculum*, Shirley H. Engle and Wilma S. Longstreet (New York: Harper and Row, 1972).