Social control and human engineering are vital factors in providing balanced, controlled, planned directions for educational decision-making. Designed to encourage individual growth, these factors are morally neutral; the way in which they are implemented determines their worth. (Author)
Social Control and Human Engineering: A Framework for Decision-Making*  

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John Stuart Mill once wrote that human nature is not a machine to be built after a model and set up to do exactly the work prescribed for it, but a tree which must grow and develop itself according to the tendency of inward forces which make it a living thing. Social control and human engineering are vital factors in providing order and freedom for individual and collective growth. These factors are morally neutral; the way in which they are implemented determines their worth.

Divisiveness growing out of dichotomies in educational belief and practice is increasingly a challenge for educators. Separation of process and product, nature and nurture, achievement and performance, are reflected in value conflicts involving approaches to current educational issues. Issues such as performance contracting, accountability, competency-based instruction, alternative methods of schooling, are dealt with too frequently through oversimplification of method, leading to hasty generalizations. This paper is designed to briefly explore some ramifications of such approaches with a tentative framework for a more effective response to educational issues through social control and human engineering.

The Larger Call

An increasing number of educators faced with new demands for hasty decisions on educational innovations both in design and implementation are seeking a more global view of rationale for educational practice.

in our schools. He seeks a macro perspective. Benne\(^2\) suggests moving from narrow views of authority in education to an anthropological authority in which living in interdependence and maximizing personal freedom enriches and rebuilds authority relations. Allport\(^3\) suggests that irrelevance of much present-day psychology in human life comes from its emphasis on mechanical aspects of reactivity to the neglect of man's wider experiences, aspirations, and his incessant endeavor to master and mold his environment. His personal idea has to do with the search for a theoretical system which allows for truth wherever found, encompassing the totality of human experience, and doing full justice to the nature of man. Murphy\(^4\) indicates a need for all kinds of people, methods, and ideas, all of which should be winnowed, stressed, and studied, none arbitrarily rejected and none arbitrarily accepted, but all brought humbly yet systematically before the reviewing stand of determined reality-seeking. He becomes restless with one-sided approaches and oversimplified solutions and claims that Dewey was right in noting that one's personality shapes his philosophy. Wiener\(^5\) finds modern man tends to have much "know-how", but relatively little "know-why". He far too quickly accepts "superior dexterity of the machine-made decisions without too much inquiry as to the motives and principles behind these."

These authors might well be suggesting the need for caution in responding to pressures for quick answers to complex questions in the educational endeavor. Aristotelean "golden mean" as a focal point for balanced reasoned responses to educational issues appears to be a sought-for end. Part of this end of balanced reasoned response particularly applicable to current controversies as in Jencks\(^1\)' works might well be
found in Myrdal's *An American Dilemma*. Myrdal suggests a route to awareness of potential for bias and oversimplification in social science research. He sets forth rules for value premises pinpointing the fact that awareness of the problem of bias is the most important general protection. With these points of caution in mind, an attempt will be made to build a decision-making framework within which balanced responses can be made to educational issues.

**Social Control**

Although many would concur with Hammarskjold that there is no room for one-sided thinking in a many-sided world, a tendency still exists to think and act in terms of dichotomies. One such dichotomy is free will versus determinism. As Hartshorne noted, early modern science made such startling discoveries of natural regularities that the notion of strict determinism seemed both clearer and more credible. He suggests that over two hundred years of deterministic science and philosophy have endured from the Newtonian era. With James, Peirce and Dewey, determinism was challenged. They indicated causality requires chance because real possibility can be distinguished from mere actuality only by an element of indeterminacy in each moment with respect to the future; and purpose requires change because it is essentially social, and a multiplicity of purposes must leave their conjoining outcomes unintended. Thus the stage was set for a dichotomy seen clearly in educational writings. Although many authors view Skinner's works as finding positive reinforcement more effective and pointing to social control not as a process to be avoided but a tool which must be exercised in either a positive or negative way others find a dangerously narrow determinism therein. Hill refers to Skinner's *Beyond Freedom and Dignity* in the following manner. It is not the first time one sees the master puppeteer pulling the strings (labelled, in this case "reinforcers"). Suddenly, one of the puppets skips over to
the puppeteer and says, "I say, you're worked by strings, didn't you know?" and the puppeteer replies grimly as the pre-scientific puppet is borne away by two white-coated puppets to have his schedules restrung, "You've got to be pulling my leg." Or again Day 11 writes that Skinnerism as a social philosophy is not in harmony with our republican democracy.

Left to the behaviorists, our traditional democratic concepts of the individual disappear...To exchange an individual's freedom for Skinnerian control would be to dehumanize individuals, institutions, and the schools. 12

A social scientist should be free to select his own level of approach, but he should be respectfully aware of the whole etiological sweep. 13 This sweep would include unity and diversity in developing empathetic understanding of motives and patterns of meaning 14 in deterministic and free will traditions. Caution is in order to create an awareness of excessivism in Skinnerian theory and practice. A "mechanomorphic" view of man might well lead to men becoming soulless automatons and not even being aware of it. 15 Yet no educational system nor society can exist without order. Social control relates to order. There is no freedom without order; and no order without freedom. 16 Thus, social control is a cornerstone to the maintenance or conservative function of education. Social order might be defined as that state of affairs in which it is possible to predict with reasonable accuracy what other people will do in routine situations. The range of order may change but a range of behavior at once acceptable and predictable is imperative 17 for educational systems to survive. At a larger level, effective social control involves a delicate balance between a wide range of institutions. The goal of such control in a political democracy is to enhance the personal competence and personal control of the individual. 18 How can schools maintain a bridge or balance between freedom and authority, diversity and unity, and operational autonomy and local pressures in such a way as to enhance pupil opportunity for
growth in self control and intelligent selection of alternatives in terms of consequences of action?

Free will versus determinism may well be a false dichotomy. Interaction with each other and the quality of such relationship might well determine understanding and acceptance of social control. Parsons notes that the most fundamental ground of order in societies is the internalization of the normative culture in the personalities of its members and the institutionalization of that culture in the normative structure of the society. For educators, increasing and stimulating the involvement of all concerned in search of creative balance between control and freedom would enhance the mutuality of expectation and trust involved in successful functioning of social control mechanisms. Internal and external control forces could compliment one another through an enriched communication and interaction process. Such a process would require involvement of teachers, pupils, administrators in decision-making processes. This would serve not only as a route to gaining support for school policy but also offer due regard for the dignity and worth of individuals whose potential for responsible choice in terms of consequences of alternative decisions is a cornerstone of democratic theory. Effective social control requires involving educators in the decision-making processes. This control avoids either the extreme of the contentedness of a well-fed castrated cat or a group of children determining the sex of a cat through "lets vote on it." Educators cannot afford to be lulled into complacency nor can they in every instance operate on majority rule. Whether the issues are a balance between free will and determinism in competency-based instruction, accountability, performance contracting or other fads and slogans, educators are responsible for seeing the relation between professional autonomy and social control. The claim of a profession
to professional autonomy is based on its body of theory as well as the willing acknowledgement of superior knowledge to the layman. The educational profession, regardless of the claims and actions of laymen, is not wholly commensurate with fixing leaky pipes, making cabinets or laying bricks. 21

Macro-Structure and Macro-Process

Narrow determinism and empiricism are important research tools. The danger of such a focus is seen in oversimplification of interpretation. For instance, Hook 22 uses several illustrations pinpointing misconceptions growing out of narrow approaches. One such misconception was that since Dewey stressed the importance of freedom, he was opposed to authority. Dewey indicated the need for authority as a constant need of man. For Dewey, supreme authority is intelligence which is a constant need because conflicts, differences, incompatible desires, perspectives, and possibilities are ever present features of existence and experience. He further noted that the democratic idea of freedom is not the right of each individual to do as he pleases, but instead basic freedom is that of freedom of mind and of whatever degree of freedom of action and experience is necessary to produce freedom and intelligence. 23 A second misconception is the view held by some educators that we learn as much from Lenny Bruce as from Alfred North Whitehead. For Dewey the central problem of an education based on experience is to select the kind of present experiences that live fruitfully and creatively in subsequent experiences. 24 Micro thinking and action tends to obscure important questions. Innovative practice without adequate planning is a commonplace in education. All too frequently external forces and influences force innovative practices on professional educators. Macro thinking
advocated by Dewey and Parsons required laying an adequate theoretical base for educational change. Parsons viewed good theory, whichever problem it tackles most directly, as being equally applicable to problems of change and to those of process within a stabilized system. As Parsons noted, growth and planned change in reciprocal freedom, responsibility, and cooperation achieve a consensus point beyond narrow empiricism. Dewey and Parsons further would view the importance of interdisciplinary approaches to designs and theories for planned change. Parsons focuses on the role and function of constructing a cognitive map of situational factors and appraising them or evaluating them in terms of relevance to goals, interests, and existing standards. He further exposes these factors to the market place of ideas in a "Gedankenexperiment", testing the goodness of the fit. Gedankenexperiment asks what would be the consequences for the system under study of imagined deviation from established normative patterns.

Macro-structure and macro-process involve a broader view of educational issues and problems avoiding reductionism of converting large issues into narrow specialized ones, and recognizing that speculation and analysis are not antithetical to purposeful action. This structure and process seeks to relate quality of interaction of ends and means; content and process; input and output; to enhance decision-making. Dewey suggests the end result is growth of creative intelligence which treats events as moving, as fraught with possibilities, not as ended, final. He further notes, we do not use the present to control the future, but we use future foresight to refine and expand present activity. In this use of desire, deliberation and choice, freedom is actualized. Under social control the conservative function of educational systems
was explored. Macro-structure and process involve the tools with which risk functions of educational systems are delineated. These risk factors are involved in viewing educational systems as concerned with growth, with a moving and changing process, with transforming existing capacities and experiences, with recognition that what already exists is subordinate to possibilities. 30

**Human Engineering**

Social control may be defined as the conservative function of educational institutions designed to provide a structure of order within which personal competence, growth and development can reach fulfillment. It involves balance between rights and responsibilities, cognitive and affective domains, and freedom and authority. Macro-structure and process may be defined as form and method for risk function of educational institutions in which change, innovation and possibilities may be explored, analyzed and rejected or accepted. Human engineering provides a route for the consensus of reconciliation function of educational institutions. It involves an openness, receptivity and dedication to humanism in theory and practice. Hammarskjold clarified such an attitude:

The conflict between different approaches to the liberty of man and mind or between different views of human dignity and the right of the individual is continuous. The dividing line goes within ourselves, within our own peoples and also within other nations. It does not coincide with any political or geographical boundaries. The ultimate fight is one between the human and sub-human. We are on dangerous ground if we believe that any individual, any nation or any ideology has a monopoly on rightness, liberty, and human dignity. 31

Frankel 32 also noted that there is too much rationality and intelligence in the creation of techniques and instruments and too little rationality and humanity in the determination of our purposes and standards. Dewey 33 indicates the significance of morals and politics, of the arts both technical and fine, of religion and of science itself as inquiry
and discovery. All have had their source and meaning in the union in Nature of the settled and the unsettled, the stable and the hazardous. He suggests that apart from this union, there are no such things as "ends," either as consummations or as those ends-in-view we call purposes... There is no such thing as fulfillment where there is no risk of failure and no defeat where there is no promise of possible achievement. Human engineering involves rethinking our language to create a new sense of community, a community focusing on the interdependence of individuals, states, traditions, cultures, nations and regions. It involves rethinking people so as to develop a new imperative—we ought to honor people. Power, love and justice may be viewed as reciprocally conjoining and functioning within the meaning of responsibility and response. Compromise and reconciliation may be the inevitable and laudable technology for our century. Freedom can be rethought to include reconciliation between functioning within structure and the use of creative intelligence for constructing and reconstructing boundaries of human theory and practice.

Whether we use Talcott Parson's term "convergence" or Gardner Murphy's "isomorphism", it is essential that human engineering be developed to provide for individual and social growth. This growth occurs through adapting to human and physical environment, developing goals that are clear enough to ensure consensus and provisional agreement, integrating different concerns and interests within the educational system, as well as considering racial equality and elimination of poverty. If these are to result in more than mechanical compliance we must make use of personal controls and individual decisions.

Human engineering can expose myths, superstitions and false labeling as Parsons exposed "laudable pus." The myth of abject and complete failure of the educational system has led to overaction and overreaction detrimental to
the social control function of education. It has led to overemphasis on affective domain learnings and thus an imbalance with cognitive understandings. The results may be to inadequately provide for abilities and skills of reconstructing experience within the social system. On the other hand, the myth of glorification of the past has led to adherences of traditional methods which has limited the scope of pupils' learning experiences. This point may be illustrated by the father who saw his son throw a rock a great distance. He said "Son, you just couldn't have thrown it that far." The son replied, "I didn't know I couldn't". Our traditions and our teachers can limit students' potential when boundaries to learning are unknowingly erected.

Provisionality, possibility, and probability provide a key to developing a humanism that is responsive to changing individual and social needs. Freedom within structure, diversity within unity, and pluralism within democratic theory provide the challenge and opportunity for creative growth and response in individual and society.

**Decision-Making**

In responding to current critical and crucial issues on education such as competency-based instruction, selection of viable, responsible alternatives becomes of primary importance. When faced with several alternatives of action, responsible decision-making requires Aristotelean golden mean judgments. These judgments aid in defining decision-making in terms of choosing an action that achieves the best possible outcome from information available and for maximization of individual and collective strengths and talents. Specifically such a definition of decision-making is stressed by Jennings who clarifies desirable educational outcomes. He notes that public education can and must help to enable children to become citizens
who can see things as they are and how they must be changed. In addition these citizens must have the ability and courage to foment such changes with an abiding faith in their fellows and faith that these changes will add to the common good. Dewey might find this definition of decision-making in educative experiences. These experiences are defined as power and growth leading to informed conviction with sympathetic attitudes of understanding in learning how to face and meet new experiences with some sense of mastery and without fear or relying on routine. It is interesting to note that Dewey terms non-educative such experiences as excitement, lack of genuine insight, mechanical training or conditioning that incapacitates an individual when situations in life change and must be met by improvisations. With current emphasis on narrow empiricism in measuring educational outcomes, Dewey's decision-making stresses quality.

At all events, quality of activity and of consequence is more important for the teacher than any quantitative element...If he can organize his qualitative processes and results into some connected intellectual form, he is really advancing scientific method much more than if, ignoring what is actually most important, he devotes his energies to such unimportant by-products as may now be measured.

He goes on to note that even if everything which exists could be measured we are interested in growth processes which do not exist.

Whether we agree or disagree with Dewey, his contributions to creative decision-making are interesting inputs. For specifics of effective decision-making, educational systems need open communication where individuals can be given as much freedom as is consistent with efficient and prudent controls; humanism through democratic operation and decentralized channels for informational input; and continuous cooperative evaluation and redirection of policies on basis of this feedback.
Thus decision-making becomes a focal point of balanced reasoned conflict resolution. Within educational systems it ideally should focus on optimization of professional autonomy and professionalization of content, structure and process. Changes, innovations and redirection of educational aims, methods or values can only be effective when all concerned are involved in decision-making processes. Superimposition of external sources of control and authority will tend to deter rather than enhance the social service function of educational systems.

Although there has been criticism of Talcott Parsons systems theories on the basis they are too theoretical or too ambiguous, it seems appropriate to use his concept of pattern variables to illustrate a model or framework for decision-making. This model appears to integrate social control, macro-structure and process, and human engineering in an action system which most educational institutions seem to embrace. Prime ingredients of Figure 1 deal with adaptation and goal attainment at a preliminary level. They seem to elucidate components of Dewey's and Murphy's theories of instrumental intelligence. Figure 2 extends the decision-making process to social control and environmental engineering. There have been few attempts to bring together an action system in relation to its environment in a systematic fashion. The Parsonian frame of reference seems to serve this function and to pull divergent elements into a pattern of convergence. This action system seems to avoid the dilemmas of oversimplification and simple answers to complex questions. In responding to current issues in education, it serves to focus on the larger view of the individual in relation to society.
Another view of a theoretical framework for decision-making through Dewey's philosophy of education is attempted in Tables 1-6. This framework grew out of Dewey's Human Nature and Conduct and moves from basic to complex levels of theory and practice. The model is descriptive in its presentation of theories and systems of thought and prescriptive in its emphasis on the development of certain habits of mind which underlie what one may call democratic management.

Both frameworks are designed to specify how decision-making may be enhanced through balance between diverse interest groups and variables within individuals as well as being oriented toward enhancement of communication and enriching human existence. A central problem of our modern complex educational systems is to find balance between conformity to authority and freedom of the individual in terms of professional autonomy. These decision-making frameworks might well give the educator a cognitive map in which realistic decisions may be formulated and implemented. They will provide a framework to clarify conflicting claims and the assumptions underlying such claims. In the degree to which these tentative and provisional frameworks allow for creation of mutual respect and interdependence within our educational systems, can necessary responsibilities to the larger human and social needs exist.

Summary

Educational systems have many functions. The conservative, innovative, movement or risk and consensus functions are all important in achieving necessary balance of social control and human engineering. In difficult times of social change it is easy to over or underreact. Educational institutions and their personnel are always attacked during times of economic dislocation. Whatever the future holds, educational responsiveness
to individual and societal needs depends in large part on professional, balanced, and reasoned protection of the larger role of the school in civilization. Quality of growth together with critical and reflective thinking may well be far more important in the long run than fixed units of memorized content thrown back on measurable instruments. As Dewey noted:

A certain natural freedom is possessed by man. That is to say, in some respects harmony exists between a man's energies and his surroundings such that the latter support and execute his purposes. In so far he is free, without such a basic natural support, conscious contrivances of legislation, administration and deliberate human institution of social arrangements cannot take place. 37

Our decade is filled with new challenges which provide opportunities for creative response to enhancing the quality of educational change and stability required to preserve the school's role in democratic society. Raising questions designed to analyze and clarify educational practices is a debt due from present to future generations.
FIGURE 1

<table>
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<tr>
<th>External Instrumental</th>
<th>Performance of Objects</th>
<th>Modalities of Objects</th>
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<td>Neut (\downarrow)</td>
<td>Spec (\downarrow)</td>
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<td>Expressive Symbolization</td>
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<td>PARTICULARISTIC</td>
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<tr>
<td>Objects of Utility</td>
<td>Objects of Catehesis</td>
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<td>Qual (\rightarrow)</td>
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<td>Diff (\downarrow)</td>
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<tr>
<td>Existential Interpretation</td>
<td>Moral Evaluative Categorization</td>
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<td>Consummatory</td>
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<td>Affectivity</td>
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<tr>
<td>Interest in Instrumental Utilization</td>
<td>Consummatory Needs</td>
<td>Integrative Standards for Orientation</td>
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<td>Univ (\rightarrow)</td>
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### Table 1

**Realms of Inquiry**

- **Aims and Policies**
- **Teaching-Learning**
- **Curriculum**

### Table 2

- **Aims and Policies**
  - Discrimination
- **Teaching-Learning**
- **Critical Judgment**
- **Curriculum**
  - Selectivity

### Table 3

- **Aims and Policies**
  - Discrimination
  - Metaphysics
- **Teaching-Learning**
  - Metaphysics
  - Epistemology
  - Axiology
- **Curriculum**
  - Selectivity
  - Epistemology

### Table 4

- **Aims and Policies**
  - Discrimination
  - Efficiency
  - Metaphysics
- **Teaching-Learning**
  - Metaphysics
  - Epistemology
  - Axiology
- **Curriculum**
  - Selectivity
  - Capacity to Change
  - Epistemology

Other topics include Classroom Management, Plant of District Management, and Axiology.
Table 5

Aims and Policies
  Discrimination
  Efficiency
  Possibilities
  Metaphysics

Metaphysics
  Descriptive Role of Philosophy of Education

Curriculum
  Selectivity
  Capacity to change
  Carrying out possibilities
  Freedom in Choice

Epistemology
  Teaching-Learning
    Critical Judgment
    Classroom Management
    Plant or District Management
    Potential and Individual Freedom in Choice

Axiology

Table 6

Descriptive Role of Philosophy of Education

Metaphysics
  Teaching-Learning
    Critical Judgment
    Classroom Management
    Plant or District Management
    Potential and Individual Freedom in Choice

Epistemology
  Synthesis
    Provisional Reality
    Disciplined Inquiry

Axiology

Normative Role of Philosophy of Education
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4. Ibid., Gardner Murphy, p. 230.


8. Ibid., p. 261.


12. Ibid., p. 305.


20. Ibid., p. 384.


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