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USING A SYNTHESIS OF THE THOUGHT OF
HAROLD ALBERTY AND JEROME BRUNER.

The Ohio State University, Ph.D., 1967
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SECONDARY CURRICULUM MODEL BUILDING
USING A SYNTHESIS OF THE THOUGHT OF
HAROLD ALBERTY AND JEROME BRUNER

DISSERTATION
Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate
School of The Ohio State University

By
William Le\textsuperscript{e} Buttefield, A.B., B.D.

* * * * * *

The Ohio State University
1967

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CHAPTER I

THE NATURE OF THE STUDY—AN OVERVIEW

In an open society where new ideas and concepts are constantly being generated, and where technology also acts as a catalyst for change, any useful curriculum theory must be viable and comprehensive. Since World War I, two major theories of curriculum development have been in evidence in the United States. Charles Brauner refers to the first as experimentalism, evolving into progressivism; and the second he dubs the "current academic emphasis."1

Before the rise of progressivism, the secondary school curriculum was typically segmented into separate courses, with great emphasis on subject matter content. In fact, in its inception, the high school (secondary school) was conceived to have as its primary function the preparation of students for college; and the curriculum was ordered accordingly.

During the first half of the 20th century, the character of the high school changes a great deal. Many more students entered the school and stayed for a greater length of time. More importantly, they came with a variety of motives and capacities. The high school had become a popular institution. It was no longer for the elite and it

was no longer thought of as a college-preparatory institution. The high school had no alternative but to change. It could not have remained the kind of high school it had been at the beginning of the century and claimed any kind of popular support. These changes in the high school led to criticisms that the high school, in becoming more democratic, was losing its academic soul.2

Progressivism had, as its prime-mover, the educational philosophy of John Dewey. Dewey's ideas were implemented and put into practice in curriculum partly as a result of the work of William H. Kilpatrick and Harold Alberty. Concentrating on the latter, Alberty took the project method of Kilpatrick and worked it into a systematic method of teaching.3 Alberty was also involved in the Thirty Schools Study, or Eight Year Study, conducted under the auspices of the Progressive Education Association. In addition, he has continued to represent his interpretation of the ideas of progressive education to the present. His work on the core curriculum was a further implementation of the project method. Written within this decade, his most recent book on curriculum makes him a contemporary thinker.4 Thus it would appear that the work of Harold Alberty represents a sample of the most current thought in progressive education,


3Harold Alberty, A Study of the Project Method in Education (Columbus: The Ohio State University Press, 1927).

and yet is firmly imbued in the tradition of progressivism as well.

Progressive education never really became the dominant educational theory of the United States in terms of being fully practiced in the public schools.

. . . Outside a few schools . . . the activity movement [progressive education] in its genuine form found no home. Some of its aura and some of its devices did. The unit, the project, the whole child, the arousal of effort through interest, respect for the needs of the child, a revulsion against coercion in instruction—these became a part of the common vocabulary, and perhaps even part of the common attitude among professional school people.5

The period between 1946 and 1957 could well be described as a period of no dominant educational theory. Having faltered during World War II, progressivism never re-established itself educationally. In fact, progressivism had been under attack by the Essentialists all during the rise of the former. But the attack was largely negativistic, not really offering another alternative.

. . . Most of the Essentialists are gone . . . but not their criticism. Barely smouldering during the forties, it suddenly burst into flames when, to the national surprise, the Russians orbited the world's first satellite. . . . This was followed by a great wave of criticism . . . which . . . rolled over education.6


A number of statements and studies resulted. James B. Conant's *The American High School Today* called for larger high schools and for emphasis in the sciences, mathematics, and foreign languages for able students, about whom he was primarily concerned.\(^7\) Apparently these subjects stressed by Conant are required, in that a technocracy must have a large group of scientifically trained persons, aware of the world in which we live. This emphasis has been reinforced by stress on national goals as educational goals.\(^8\)

John W. Gardner in *National Goals for Education* spells out a newly emerging role for education and for governmental involvement to stimulate research building, teacher training and recruitment. Education is seen as the bulwark of national defense and therefore worthy of national (federal) support.\(^9\) Even prior to this report, The National Defense Education Act of 1958 projected federal aid into the realm of education.

*The Pursuit of Excellence*, a report financed by the Rockefeller Foundation, tried to have it both ways.

. . . One still hears arguments over quantity versus quality education. Behind such arguments is the assumption that a society can choose to educate a few people exceedingly well or to

---


educate a great number of people somewhat less well, but it cannot do both. But a modern society such as ours . . . has no choice but to do both.10

Yet academic excellence is the priority goal that the report lifts up for the educational system. The theme permeating the report is to learn the academic subject areas, especially mathematics, sciences, and languages, if the student is able to learn them.

The current academic emphasis, which has replaced progressivism as the vogue theory for curriculum design, is still very much in process today.

. . . Spurred by the work of Jerome Bruner, the structures of disciplines are receiving increased attention.

Professor Bruner's little book, The Process of Education, may eventually prove to be the most influential volume ever written about curriculum development. Bruner's emphasis upon structure . . . has become part of the working assumptions of most curriculum developers.11

So it would appear that the new emphasis on the academic discipline, coupled with the heuristics of thinking like a scholar working in whatever discipline the student is studying, is now the most frequently held curriculum theory.

In Exemplars of Teaching Methods, Broudy and Palmer make the interesting contention that curriculum theory has


been basically a conflict between Socratic and Sophist elements in teaching. The Socratic point of view has had great concern for the individual, for his needs from his own perceptual viewpoint. Opposed to this, the Sophist element would organize subject matter in a systematic form to be presented to students. And, Broudy and Palmer contend, this dichotomy exists down to the present time.

... As recently as 1961 the Educational Policies Commission of the N.E.A. reached back into past centuries to come up with the announcement that the central purpose of education is the cultivation of one's rational powers.\textsuperscript{12}

This seems like a definite swing away from the organismic psychology which has been basic to education, a swing back to the faculty psychology and subject-centered education against which progressivism reacted. So perhaps we are now swinging from the "Socratic" progressivism to a "Sophist" current academic emphasis.

In the sixties, under the stress of the Cold War and the high premium put upon science and mathematics by the demands of scientifically based technology, the emphasis on the social orientation of prospective teachers came under attack. It was charged that the educationists had sacrificed the knowledge of the subject to be taught for knowledge about the pupil and opinions about his cultural environment.

Yet even in ... subject matter schools the problems of the cultural impact on the learner cannot be swept under the rug. Culturally deprived children, children with adverse minority status, and the discrepancies between the ground

rules for success in the culture and the ideals professed by it cannot be made irrelevant to the teaching-learning transaction. Even when the schools cannot and will not do anything about such problems, a teacher ignorant of them is a daily victim of cultural naiveté and will never understand why his best efforts are so regularly frustrated.13

It would seem that a possible synthesis or rapprochement between the two theories, progressivism and the current academic emphasis, is in order. The Rockefeller Foundation report pointed out the need for both, but ended in seconding the current academic emphasis in tangible suggestions. Further, Broudy and Palmer also point to the need of accomplishing the task of integrating the person-centered and discipline-centered approaches.

Therefore, it is proposed in this study as a method of evolving a viable curriculum theory for the secondary school (since this is the major emphasis of both Alberty and Bruner), the bringing together of the concepts of Harold Alberty and Jerome Bruner in the development of a synthetic theory for curriculum development. Since Alberty represents the mainstream of progressivism, in addition to being one of its most current system-builders; and since Bruner represents, and is the foremost exponent of, the current academic emphasis; then a possible synthesis or relating of the two should be fruitful in the evolution of a theory which will attempt to capitalize on the advantages of each system. It

may well be that a curriculum theory can be evolved accepting the advantages of each of these two theories of curriculum. Perhaps the dichotomy between the two is unnecessary.

One method of curriculum building is to construct a model or framework showing the relationship between the components of a particular curriculum theory. Laurence Downey, Hilda Taba, John Goodlad, Virgil Herrick are among curriculists who have developed models. The point of the model is to clearly show "... the pattern of relationships which exist among the elements of curriculum as they are used to make one consistent set of decisions about the nature of the curriculum of the child."¹⁴

The approach in this study, then, is to construct a model using established constructs of curriculum models as guides. Further, the effort will be to discuss and structure the major curriculum concepts of Harold Alberty into a model. Following the same procedure, the major curriculum concepts of Jerome Bruner will be incorporated in the same type of model. Again using the same model, the concepts of Bruner and Alberty will be synthesized. Constructing the synthetic model, an attempt will be made to incorporate the "best" concepts of each. The criterion for judgment will be

based on an attempt to preserve the major value constructs of each; and will also be based on research findings and judgments of scholars in education. Ultimately, the effort will need to stand the test of any adequate theory—namely, does it adequately describe curriculum development phenomena, i.e., "what is," and does it lead to valid predictions.

Further, both Alberty and Bruner are amenable to the use of curriculum models in the development or structuring of curriculum. In considering a program for curriculum improvement, Alberty noted one of the prime considerations is "determining a comprehensive organizational structure for curriculum improvement." Likewise, Bruner also has noted need for a model or structure when dealing with a number of complex and interrelated ideas, which would certainly extend to that which curriculum entails. He comments, "One can cite a myriad of findings to indicate that any organization of information that reduces the aggregate complexity of material by imbedding it into a cognitive process a person has constructed for himself will make that material more accessible for retrieval."

Retrieval, of course, means use. And the point of curriculum building is to make methods and materials useful for students and teachers.

15 Alberty, op. cit., p. 482.

So far as the model is concerned, use of current models available in education is one approach that can be used. The point of a good model is to contain all the salient elements of the phenomena under consideration, in this case, curriculum; and then the model should attempt to show relationship between component points and accept the input of new information into the model. Moreover, it should provide for a reorganization by the generation of new information that can occur from within in terms of model organization, or in terms of outcomes derived from the use of the model.

There is obviously not one model that can be presumed to be correct and all others incorrect. A model, to be considered, must simply be comprehensive and useful. A perceptive statement about models is found in Margaret Luszki's book, Interdisciplinary Team Research, Methods and Problems. She states,

The value of a model is not in its correctness, but its ability to stimulate research. It is the heuristic value that is important. . . . It (the model) utilizes the facts within its scope, leads to further knowledge, and clarifies the relationships among an increasing number of events.17

However, a pulling together of concepts and structures of extant models in education should prove to be fruitful.

Postulates of the Study

The postulates of this study include the following:

1. Curriculum is in a need of continuous reorganization.

2. A curriculum should attempt to meet the needs of the individual in his perceptual field; and a curriculum should also lead toward a systematic understanding of subject areas.

3. The two most current theories of curriculum which move in the direction implied in postulate two are: progressive education, which emphasizes the individual in his perceptual field; and the current academic emphasis, which stresses systematic understanding of subject areas.

4. Harold Alberty, a prototype of progressive thought, and Jerome Bruner, prominent in the current academic emphasis, are representative of their respective philosophies of curriculum.

5. Synthesizing curriculum theories is one way to develop a method of curriculum organization or reorganization, and to generate new approaches in the field of curriculum development.

6. Use of the conceptual model is one way to organize a curriculum theory for study or use in curriculum organization.
Definitions

1. Curriculum is essentially all the known elements of a teaching-learning situation, herein related to the secondary school setting. The ingredients include teachers, students, resource materials (texts, audio-visuals, other information sources), and the use of same in learning.

2. Reorganization means to structure the teaching-learning situation in accord with new information or ideas about the student, the subject matter, the teacher, resources for teaching, or any factor which might affect the teaching-learning situation.

3. Needs would include what Maslow calls "self-actualization" (which includes being able to develop and use one's talents and interests, developing a positive self-image, finding possibilities of achievement), in addition, of course, to meeting social and physical requirements (in accord with self-perception and social demands). There are also cultural needs to acquire knowledge in subject areas.

4. Perceptual field refers to the way a student sees and feels, and understands, based on his own experiences and background. If a student is to be motivated to work, he does it best as he is able to see why, from his own point of view.

---

5. Subject area refers to any organized body of information presented either as a subject, such as sociology, e.g.: or social studies, a collection of subjects; or a core or problem solving approach regarding some particular topic.

6. Theory in education is an organized and related way of looking at the total teaching-learning process. Further, a theory tries not only to relate but to analyze the major facts and components in education, proposing outcomes, incorporating research data and evidence, predictive of general outcomes of the teaching-learning process in line with values and expectations incorporated in the systematic view, or theory, of education proposed.

7. Synthesis refers to the bringing together of divergent elements or concepts in an attempt to form a new whole based on the elements that are being brought together, from the original ideas, constructs, or theories.

8. Conceptual model, or framework, in curriculum is a diagram or series of statements about the relationship which exists among the components of the curriculum. The model can then be used to make consistent decisions about the nature and direction of the curriculum.

Hypotheses

1. Since both progressivism and the current academic emphasis have been fruitful as curriculum theories; and since progressivism stresses individual needs, while the current
academic emphasis stresses systematic understanding of the subject area; then a synthesis of the two theories should result in a more inclusive theory for curriculum reorganization.

2. The use of the curriculum model is one way in which the curriculist can organize a curriculum, in dealing with its component parts. Model use will be demonstrated to be one way in which curriculum can be organized for change.

**Procedures**

1. Survey the literature in the field and indicate the possibility of the study herein indicated.

2. Develop a conceptual model for use in analyzing the curriculum theories of Harold Alberty and Jerome Bruner, and for use in synthesizing the concepts of both. This model will be developed from those proposed by experts in the field.

3. The curriculum theories of Harold Alberty will be analyzed, and his major concepts placed in the conceptual model devised in chapter two.

4. The curriculum theories of Jerome Bruner will be analyzed and his major concepts placed in the conceptual model devised in chapter two.

5. Using the same conceptual model, a synthesis of the concepts of both Alberty and Bruner will be made. The concepts of Alberty and Bruner will be used as a corrective on each other. In addition, the present structure of the
secondary school will act as a realistic limitation on curriculum proposals. Also, results of studies and proposals of curriculum experts will be used. A new concept of curriculum should emerge as a result of this synthesis. (This chapter is the focal point of the dissertation)

6. The procedures listed above will also constitute chapter headings, with the addition of a sixth chapter dealing with a summary of results, limitations and need for further research.
CHAPTER II

THE DEVELOPMENT OF A CURRICULUM MODEL

BASED ON DOWNEY AND TABA

Any enterprise as complex as curriculum development requires some kind of theoretical or conceptual framework of thinking to guide it. To be sure, theoretical considerations are, and have been, applied in making decisions about curriculum, and possibly more theoretical ideas are available than have been applied in practice. What is lacking is a coherent and consistent conceptual framework.¹

In developing, and then contrasting and synthesizing the ideas of Alberty and Bruner, a structure (or model) which contains and relates the major curricular concepts of each is a necessity. Otherwise, the ideas of each could stand isolated and unrelated, within themselves and to each other.

For the purpose of this study, the model of a curriculist is more in order than any other. Both Alberty and Bruner, in dealing with curriculum, are generalists, moving toward an understanding of the total curriculum and the educational process. A model to deal with concepts of

this nature moves in the direction of being a model of education.

It is usual to say that curriculum is a matter of content, methods, and purpose. But little may be deduced from this. Much more follows from saying that curriculum is best seen as a combination of the models of a given discipline and the models of education.2

The model to be developed in this study, then, will be a model of education and not of a given discipline within education. Also, the model in question will refer only to the curriculum of the school itself. In short, it will not be involved with such matters as over-all administrative problems, political concerns, public relations, finance, building and such matters. Not that these are totally unrelated matters, it is just that at this point, the concern is to focus the theory building efforts at what might be called, for the purposes of this study, a "middle level."

"Middle" is used in the sense that this domain of conceptual effort lies between the individual classroom and research directly related thereto, and the total administrative operation of the school and research related thereto. The thrust is, therefore, between the two aforementioned.

In a search for models, consideration will be given to models developed by curriculists. Models have been developed in other areas, and application to curriculum is

2Marc Belth, Education as a Discipline (Boston: Allyn and Bacon, Inc., 1965), p. 264.
often possible. The work of Elizabeth Maccia is an example of this kind of theorizing. In fact, Belth notes mythic models, historical and ideological models. But, a number of models have been devised by curriculists, and these are especially appropriate. These models deal specifically with curriculum construction and design and are therefore the most appropriate models to consider for this study. In short, these models deal with what has been referred to as "middle level" theorizing. Selected as most representative of this mode of theorizing are Hilda Taba and Laurence Downey. Both are well-known as curriculists, having become system or model builders as well.

Downey's model is especially appropriate not only as a comprehensive model, but also as a model directed toward the secondary school. In the forward to Downey's *The Secondary Phase of Education*, John Goodlad, himself concerned with model building, comments:

> Professor Downey's comprehensive formulation enables theorist, researcher, or practitioner to relate his present and future concerns to the larger whole. It serves to remind us of our preoccupation with bits and pieces. . . . Of great importance, such a formulation helps us to sort the bits and pieces. . . .

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This, of course, is the function of an adequate model. Hilda Taba was a curriculist with national reputation. Taba relied on the curriculum model building of Virgil Herrick. "More recently, Hilda Taba modified the Herrick model to take into account her view of what is involved in curriculum development."\(^6\) Her research into the nature of cognitive processes in the classroom undoubtedly did much to bring about this modification.

Taba's model is comprehensive and could be used as a basis for curriculum organization or reorganization in either elementary or secondary education. Although it is more of a general model than Downey's, it has value as a base from which to assess and refine the Downey model. There are other models as well. Beauchamp, for one, has developed a model especially appropriate for the elementary school. It does not apply so readily to the secondary school, which is of special consideration in this study.\(^7\)

In the search for appropriate sources from which to develop a new synthesis in this study, the perspective taken by Herrick has been quite central. Models are an attempt at giving ". . . a statement of the pattern of relationships


which exist among the elements of curriculum as they are used to make one consistent set of decisions about the nature of the curriculum of the child."^8

Further, the sort of model sought here is one that will attempt to deal with secondary curriculum as a whole. For this reason, models from Taba and Downey seem to be appropriate. They are working models for the curriculists, applicable in their present form for use in the secondary school.

A model is a convenient conceptual tool with which to structure curriculum. But the immediate problem is whether or not the model relates reality factors in a meaningful cognitive structure; or whether reality is shaped into the author's conception of what reality should be. A model gives scope, content direction, sequence, integrative relationship. But by both the questions it asks and the questions it fails to ask, the model assists in shaping the curriculum.

In dealing with this problem in his effort to conceptualize some aspects of a science curriculum, Philip Gay identifies what he considers to be the advantages and disadvantages of a model. Under disadvantages he notes: (1) selection of concepts within the model (which is subjective); (2) the model is interdependent on the concepts;

(3) the model does not differentiate grade level material (nor does it differentiate between subjects); (4) the model does not differentiate between the amount of scope within a subject as opposed to quantity of depth learning experiences.\(^9\)

To counter the first two disadvantages, more than one model is to be investigated in this study.

The third and fourth objections are answered by the previous citation by Belth. A model for a curriculum must be compiled with a model for the subject area under study. Parker and Rubin underscore this position in their assertion:

> The predominant value of a subject lies not so much in its accumulated information or in its intellectual artifacts, but in its special way of looking at phenomena, in its methods of inquiry, its procedures for utilizing research, and its models for systematic thought.\(^10\)

In effect, each subject area, or discipline, must provide a further model for working out the implications of a curriculum model. Otherwise, the curriculum model is a theoretical construct of little real value to the total educational scene. In practice, this often happens. A model, or theory, is derived by a curriculist (as Alberty) or a psychologist (as Bruner), and the model or theories are not


fully related to the individual teacher or the classroom scene. As a result, curriculists can exist at the "middle level," often influencing neither the administrative level nor the classroom.

There is much evidence to support the fact that, in practice, these three levels often exist in isolation. Because of the power relationship which exists between the administrative level on the one hand, and the curricular and subject areas on the other, the administrative level has great influence on the latter two. The middle level often does not influence either of the other two. As a consequence, the individual teacher is often isolated with students in a particular subject matter area.

Of course, this isolation does not have to occur. In Decatur-Lakeview High School a synthesis appears to have taken place between these three levels, a synthesis which merged on the middle level. The administrators and teachers met in mutual concern about the curriculum. A curriculum design was evolved that had the support of both the administrative level, and the middle and individual discipline levels. A curriculum model such as that to be developed in this study could well be used in this sort of situation to consider all the salient aspects in the development of the curriculum of Lakeview High School. In reality,

this is what was done. The report prepared by Beggs, however, does not make explicit the nature of such a model.

The approach used by Decatur-Lakeview High School is not new. Frank Brown in *The Non-Graded High School* describes the same sort of experience. But, Brown, also, fails to make explicit the nature of the relationships that characterize middle level curriculum conceptualizing.

Harold Alberty at University School at the Ohio State University used a similar approach. The whole Eight Year Study moved in this direction, as the curriculum reports that developed out of the study demonstrate. Yet, by and large, they have been ineffective as guides to further curriculum development. As a consequence, the Eight-Year Study has not had the total impact on American education that it might otherwise have had.

The point, then, of a curriculum model is to give structure in bringing together the other two levels within the school—the administrators with the teachers and their disciplines, all for the purpose of providing a better teaching-learning situation. Clearly, the content of the model must necessarily vary; and even the model itself is not beyond revision. But having a model with which to begin

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is an important aspect of uniting the administrative and teaching-learning levels of the school into a functioning whole. Ralph W. Tyler emphasized this need for structure in the development of curriculum by asserting that structure (or a model as used in this study):

a) can help teachers unify their own experiences and give them confidence in meeting difficult classroom situations that arise. . . .
b) . . . does not have to be . . . rigid . . .
c) The freshness engendered by the use of unan-ticipated incidents is not lost in a structured program . . . incident becomes more significant because the teacher sees it as a part of the whole and thus may be able to convey its im-portance to the pupil.14

So the model is necessary for the classroom teacher. At this point, the model used by the teacher could be ob-tained by synthesizing the curriculum model with a model of the subject area taught by the teacher. Out of this could be derived the specifics with which a teacher must deal.

Tyler is not so concerned with the middle model as with the subject area and instruction of same. The organ-izing structure includes "... structural elements ... made up of (a) specific subjects ... or (b) broad fields ... or (c) a core curriculum ... or (d) a completely undifferentiated structure in which the total program is treated as a unit. . . ."15


Within the subject or field or core or unit, Tyler breaks planning down further to include sequence or courses. Then within the courses are units, topics, and lessons.\textsuperscript{16}

Beginning first with the curriculum model (or middle model), moving then to a model of the structural elements of the subject area, from thence to a particular course, within the course to units, topics, and lessons, this is the plan of curriculum building. Now there must also be communication back from the lower elements (lesson, topic, unit, course, subject area) to the curriculum model. If there is no two-way communication, then the curriculum model is not necessarily relevant to the task of curriculum building. To be viable, a model must articulate with the generalizations derived from all the specifics within the operational level of the curriculum of any given school or system. This is one of the points at which curriculum models have broken down in usefulness.

After having moved in one direction from the middle model (moving toward the teaching-learning situation which is the primary focus of education), movement must also take place toward the administrative model. "... In a sense the basic, operating area for the school administrator is that of curriculum development ... activities in which school

\textsuperscript{16} Ibid., pp. 64-65.
workers . . . engage to plan, carry forward, and evaluate an instructional program."  

In effect, the middle model forms a focal point and gives structure to a common meeting ground between administrator and teacher. The curriculist and his model facilitate the working out of the curriculum, which is the primary concern of both teacher and administrator.

The administrator, in addition to his curriculum development role, also has other responsibilities. These include: (1) School-community relationships; (2) Pupil personnel; (3) Staff personnel; (4) Physical facilities; (5) Finance and business management; (6) Organization and structure. Now all of these areas are endemic to the development of the curriculum of the school. Therefore, the development of the curriculum is in many ways dependent upon decisions which are made in these six areas. The implementation of the curriculum model, then, is dependent to large extent on decisions and possibilities within the six areas.

School-community relationships, and the type of power structure in a community, will provide a basis of support or non-support of innovation or controversy. The kind of pupils, their needs and expectations, and school policy,


18 Ibid., pp. 85 ff.
discipline, and expectations, will effect learning and the kinds of class offerings. The teaching staff, their abilities, interests, ways of working with each other, in large measure determine the success or failure of any curriculum innovation. The physical plant itself, either constructed or in the planning stage, helps determine the kind of curriculum possible. Money available limits staff size (and teacher-pupil ratio), equipment and materials available, salaries and such. The organization of the school helps allow for meaningful involvement and high morale, or else low involvement in decision-making or time consuming but trivial involvement. Either of the latter two are not conducive for high morale or enthusiasm. So all of these administrative factors must be taken into consideration as a local school attempts to utilize a curriculum model.

The foregoing discussion puts curriculum theory, or middle theory, into perspective. In summary, it's strengths are: (1) to see the curriculum as a whole and assist teachers and administrators to do the same; (2) to point up the issues that a local school must consider in curriculum development; (3) to provide a middle ground, a structure between administrator and teacher where the two can meet to plan curriculum.

However, the middle level theory domain has its boundaries or limitations. (1) It is dependent upon administrative decisions; (2) it is dependent upon teacher decisions; (3) it has greater possibility to influence curriculum as
administrative and subject matter models are worked out; (4) the model may have too limited and circumscribed, or too nebulous, view of reality.

On this latter ground Belth contends that: "We must get outside of models and consciously study them from the vantage points of other models." So doing, this lends perspective.

One last concern about the model centers on the fact that not only should a working model be comprehensive, it should also be comprehensible. Models can fail in one or the other of these criteria. Some models are not meant to be comprehensive. Interaction analysis as developed by Flanders is a case in point. Yet his work is useful in articulation with a more comprehensive model. Other theorizers see themselves as building theories for theory builders. Elizabeth Maccia is an example of this. Theorizing of this latter sort is necessary, too, for the eventual evolution of more comprehensive models.

But for the purposes of this study, the model needed is one that a curriculist can build for apprising the curriculum, a functional conceptual tool that can be employed

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19 Belth, Education . . ., p. 213.


21 Maccia, op. cit.
and understood by teachers in the actual process of organizing and reorganizing the secondary curriculum. The final validation of middle model building is its use in a real secondary school situation. Our effort, now, is to turn to a closer examination of Downey's and Taba's theories as possible sources for such a model.

**Downey and His Curriculum Model**

Laurence W. Downey has proposed a comprehensive model for the development of curriculum. His model is especially useful because it was designed for secondary education. In the assumptions on which his model is based, Downey points up the difference as he sees it between primary and secondary education. Thus his model is geared with more precision to the secondary school situation than a more general model might be.

In the development of his model, Downey made the following assumptions:

1. Education is a continuous and active process in the life of a student.
   a. Initial readiness to learn when the child first goes to school is a home responsibility (a realistic statement which may account for the kindergarten drop-outs from underprivileged homes especially).
   b. Primary education emphasized the skills, attitudes, and values necessary for continued inquiry.
c. Secondary education is for a general education and often for the mastery of skills as well.

2. The secondary school exposes students to major areas of organized knowledge and helps them master modes of inquiry.

3. The secondary school relates purposes and processes of learning to individual students, and their self-realization.22

On these assumptions, then, Downey builds his model. The following diagram may be helpful in illustrating the section which will follow.

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Figure 1. Downey's Curriculum Model.

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This is not a duplication but an adaptation of a model diagram in Downey's book.\textsuperscript{23} Added to Downey's model are the dotted arrows moving to the left from both Outcomes and The Process of Secondary Education. These arrows are in keeping with Downey's statement that "... the outcomes ... provide it (the model) with feedback."\textsuperscript{24} The dotted arrows are an indication of the possibilities of feedback.

In order to see Downey's model as clearly as possible, it seemed appropriate to go through his book, putting into outline form the basic content of his model. Unfortunately, the total model does not appear at any one place but must be pulled together throughout the book. The following is the Downey model for secondary education, structured in outline form.

I. Purposes

A. Ultimate ends (philosophical in origin)
   1. The nature and needs of society
   2. The nature of knowledge and acquisition of same
   3. The nature and rights of individuals

B. Immediate Tasks—transmission
   1. Skills to be learned
   2. Values (preserved or reconstructed)
   3. Knowledge (academic vs. vocational)

\textsuperscript{23}Ibid., p. 67.
\textsuperscript{24}Ibid., p. 67.
II. Clients (students) who are required or elect to go to school
   A. Interests—range of interests and career goals
   B. Aptitudes—range of aptitudes in defining general education
   C. Abilities—range of capabilities

III. Programs (pattern of learning experiences planned for groups and individual learners)
   A. Scope
   B. Depth
   C. Pace
   D. Procedures

IV. The process of secondary education
   A. The substantive dimension (what is to be taught)
      1. Content of fields of study
         a. Domains of knowledge—physical, biological, social, humanistic
         b. General modes of inquiry—analytical experimental, clinical taxonomic, empiric, subject affective
      2. Strategies of inquiry (general skills)
         a. Research design
         b. Numerical
         c. Linguistics: read, write, speak
         d. Necessary motor skills
         e. Etc.
B. Behavioral dimension

1. The individual (needs which result in behavior)
   a. Constitution (appearance and stamina—status accorded as a result)
   b. Potentialities and limitations
   c. Personality (need-disposition; expectation of success/failure; attitude toward others)
   d. Needs and values (student goals; career goals; goal conflicts; congruence between personal and school goals)

2. The Group (demands resulting in behavior)
   a. Institution (formal goals)
      (1) Roles
      (2) Expectations
   b. Informal groups (student groups in high school)
      (1) Climate
      (2) Norms
   c. Subculture (environment produces a subculture which works out their own mores and values)

3. The teacher (personal in addition to institutional dimension)
   a. Roles of teacher
      (1) Motivator (help provide success experiences)
(2) Evaluator (support motivation)
(3) Co-ordinate (process of education)
(4) Consultant (resource person)

b. Relationships with students

(1) Authority (position, charismatic, competence)
(2) Consultative
(3) Guidance

c. Leadership tasks

(1) Setting goals
(2) Co-ordinate procedures
(3) Creating conditions

C. Environmental Dimension

1. Organization

a. Relational structure (how decisions are made, lines of authority and communication)

b. Horizontal patterns (methods, grouping, flexibility)

c. Vertical patterns (differential or uniform student progress; organization consistent with philosophy)

2. Physical conditions (kind and type of space influences curriculum)

3. Technologies (use and availability of programmed texts, computers, teaching machines, language labs, library facilities, films, etc.)
V. Outcomes

A. Use of various skills, sensitivities
   1. Sensitive to total educative process, understand interrelationship
   2. Observation as evaluation (see behavior)
   3. Innovate to initiate change
   4. Use some precise instruments of evaluation
      (although they must fit the situation)

B. Immediate outcomes (effect on the total process of education)

C. Final outcomes (effect total content of educational model)

The Downey model purposely concentrates on process. The educative process is the core of the curriculum. This is composed of: (1) the disciplines and their modes of inquiry; (2) the persons involved in the teaching-learning situation—the individual student; the group climate in the class, in sub-groups of students within the school, and in the adolescent subculture; the teacher and his personal and leadership qualities; (3) the environment of education, including—the organization of the total school, physical conditions of the school, and equipment available.

While this is very comprehensive, the problem is to attempt to hold all these elements in perspective, and to consider them all in curriculum planning.

Downey did not spell out the specifics of all of these
areas, and that is both a strength and a possible weakness. It is good in that this allows for use of the model with other content, as with the concepts of Bruner and Alberty. As a good model does, it lends structure without content.

However, there is also need for process occasionally. How is a segment of the educative process approached in terms of methodology to derive content? This is not always spelled out, although direction is sometimes given. Perhaps even this should be determined by the model user.

A case in point where process is sorely needed is in the fifth major point in the model—outcomes. But Downey somewhat discerned this himself with the comment, "Even now, conceptions of the teaching-learning process continue to be quite vague; evaluating its efficiency, therefore, poses serious difficulties . . . Attention to process may prove to be the most fruitful."²⁵

So perhaps his section on outcomes is really consistent with his feeling about what is really eligible for evaluation at this stage of the development of education. In education, it is very difficult to isolate and evaluate a single factor in the educative process. So many other variables can intervene.

Another section considered usual outcomes to be evaluated in education. Four were listed: (1) facts; (2) social adjustment; (3) knowledge of mores and values of culture;

²⁵Ibid., p. 55.
(4) mastery of educational or vocational skills. Evaluation of facts is easy. The others can also be measured subjectively. But Downey questioned all of these. (1) Are facts needed in the midst of a knowledge explosion, or methods of inquiry, and making and applying generalizations? (2) Is social adjustment and conformity to institutional patterns desirable? The mature person is creative and self-directed, not conformist. (3) On what authority are existing values and mores based? Values are more genuine and functional if discovered through a process of inquiry. (4) A skilled technician is a needed person, but his general education should include more than this.

Since he questioned all of these, and this investigator agrees with the questions, it would be appropriate to think of evaluating outcomes in line with desired ends.

(1) Analyze methods of inquiry and generalization making and applying; (2) use and develop criteria for social sensitivity in case studies; individual studies, etc.; (3) discuss values in an open context, comparing alternatives and evaluate logic and branches of judgment; (4) a minimal general education that will cause students to think will be of interest.

Evaluation has not progressed very rapidly. If aims are changing toward process, then process type evaluation must be forthcoming. Downey implies this.

\[\text{Ibid.}, \text{ pp. 196-197.}\]
The Downey model speaks for itself. It is comprehensive, has adequate scope and integrative qualities. As a model, it fits the criteria of Goodlad, Belth and others in the field.

Taba and Her Curriculum Model

A broadly-based model is a necessity in the development of curriculum. In the past there has been "... too great a reliance on a particular principle in curriculum designs, as is illustrated by the juxtaposition of the child-centered and subject-centered basis for organizing curriculum."27

Currently, with an emphasis in curriculum to discern the structures of the disciplines, and methods of inquiry, these could become a new center for the curriculum. But in reality, very few students who take American history, for example, are ever going to be historians. So it is not entirely relevant for them to learn to think with the expertise and distinctions of the historian. There are more practical social uses whereby students can learn to USE history. Further, a good model will not allow the exclusive emphasis of one factor. General education must always be a consideration. One use of a model is to make the principles of curriculum development more diffuse, to prevent one factor from capturing the imagination and energies

27Taba, Curriculum Development . . ., p. 413.
of the curriculist. This is an additional point in the need for a model such as Taba develops.

In perusing the Taba model and related concepts in her book, the following seem to be the basic assumptions on which her model is based:

1. Education is a continuous process which must be organized and reorganized.

2. Diagnosis of needs is the starting point of evaluation
   a. Needs of the culture
   b. Needs of the student
   c. Knowledge of the subject matter

3. Democratic values should be fostered

4. More than one method of curriculum organization is possible. Education must be individualized by school and teacher.

Based on these assumptions, Taba's curriculum model is structured in outline form as follows:

I. Objectives to be achieved
   A. Determined by an analysis of needs
      1. Culture and its needs
      2. The learner and learning processes
      3. Areas of human knowledge (the disciplines)
      4. Democratic values
   B. Classification system
      1. Determine types of behavior desired
2. Content areas (disciplines) to be covered
3. Needs to be met

C. Levels of objectives
   1. General education
   2. School-wide objectives
   3. Specific instructional objectives

II. Selecting curriculum experiences
   A. Selection of curriculum experiences is determined by:
      1. Nature of knowledge
      2. Development of patterns and procedures of curriculum
      3. Learning process
      4. The nature and needs of the learner
   B. Selection of curriculum experiences includes the following dimensions of curriculum:
      1. Content
      2. Learning experiences
   C. Selection of curriculum experiences are affected by:
      1. Resources of the school
      2. Role of other educative agencies

III. Possible centers for organizing the curriculum
   A. Determined by requirements of:
      1. Continuity of learning
      2. Integration of learning
B. Several possible centers of organization:
   1. Subject areas
   2. Broad fields
   3. Areas of living
   4. Needs, experiences
   5. Activities of children
   6. Focusing or central ideas

C. Centers of curriculum organization are affected by:
   1. The school organizational structure
   2. Methods of using the staff
   3. Methods of evaluating learning

IV. The Scheme of Scope and Sequence

A. Scope and sequence are determined by:
   1. Requirements of scope of learning
   2. Requirements of continuity of learning

B. Dimensions of scope and sequence
   1. Content area, depth and coverage determined
   2. Mental operations desired to be employed

C. Center of curriculum organization also affects scope and sequence.28

Evaluation is listed as subpoint 3 under subpoint C in section III. But in the text, evaluation was given greater stress than this. To correlate evaluation with Downey's Outcomes, an expansion of this notion of evaluation is necessary.

28Ibid., p. 438.
Taba has placed great stress on evaluation, especially on unusual techniques. This could be expected inasmuch as she was on the evaluation staff of the Eight Year Study and served on the American Council's Intercultural Relations Project which had evaluation as one of its major functions. The keeping of diaries, autobiographies, planned observations of behaviors, open-ended themes, unfinished stories, interviews, etc., have been among the techniques she has employed as a departure from the usual paper and pencil tests which are limited in what can be tested.  

At any rate, almost as a major point V addendum to the Taba model, the following composes a comprehensive program of evaluation which is inherently a part of Taba's curriculum model.

1. Behaviors (by students and teachers) required to obtain objectives of the curriculum are determined.
2. Adequate opportunity for demonstration of this behavior is provided.
3. Criteria for evaluating these behaviors are developed.
4. Information on the background of the students and the nature of instruction is used to interpret results of the curriculum.

29Ibid., pp. 244 ff.
5. Evaluation findings are used to improve the curriculum and instruction.\textsuperscript{30}

The essence of Taba's idea is that significant curriculum development lends itself to a logical order which must be respected if confusion and wheel-spinning are to be avoided. The suggested order involves the following:

- Step 1: Diagnosis of needs
- Step 2: Formulation of objectives
- Step 3: Selection of content
- Step 4: Organization of content
- Step 5: Selection of learning experiences
- Step 6: Organization of learning experiences
- Step 7: Determination of what to evaluate and of the ways and means of doing it.\textsuperscript{31}

Comparing Downey with Taba one criticism is noted. "However, it seems probable that the four steps related to selection and organization of content and learning experiences (i.e., steps 3-6) should be perceived as interacting rather than sequential."\textsuperscript{32}

In the Downey model, the third section—The Process of Secondary Education—is the equivalent of the four steps (3-6) in Taba's suggested order. Further, Downey does integrate this section as Parker and Rubin suggest.

Step 2 in Taba corresponds with the section on Purposes, Clients and Programs in Downey. Step 7 in Taba relates to Outcomes in Downey.

In the outline for the Taba model, step 1 is implied but does not exist as such in the Downey model. The point

\textsuperscript{30}Ibid., p. 324.

\textsuperscript{31}Parker, \textit{Process as Content} . . ., p. 17.

\textsuperscript{32}Ibid.
of the Downey model, very dynamic in nature, is that of "... the organizational equilibrium concept. ... It identifies a series of procedures for changes in public schools along five dimensions: cultures, politico-economic environments, institutions, individuals, and informal groups."33

As a result, change in the content of the Downey model occurs when change takes place in any one of its component parts. Disequilibrium calls for a rebalancing of the content of the model.

The Taba model begins with step 1, Diagnosis of Need. In so doing, Taba

... called for a deliberate inversion of the common procedure of starting with a general design. Instead, she proposed that innovation start at the teaching level with the planning of specific teaching-learning units. ... This approach is calculated to infuse theory into the operations of the practitioner from the outset.34

The total model gives a structure for innovation that asks for consideration of many aspects in the development of curriculum.

In contrasting the Downey and Taba models at this point, the Downey model appears more flexible. Innovation in curriculum can occur at any level within the model.


34Ibid., p. 309.
Naturally the teacher must be involved, for the point of curriculum is to enhance the teaching-learning situation. And any innovation that does not include the teacher is liable to failure at the outset. As a teacher and curriculumist, Downey is well aware of this.

Turning to the assumptions on which the models are based, both Downey and Taba look at education as a process which is dynamic. Both are concerned with the student and his needs. Again, Downey relates education to the self-realization of students and Taba to democracy. No serious conflict needs to occur at this point because the two are really different ways of saying the same thing so far as the two authors are concerned. Both are concerned with subject matter content, Downey stressing inquiry as a specific and Taba noting need to understand the learning process. Taba is more inclusive as to possible ways curriculum can be organized than is Downey.

So far as the models themselves are concerned, both begin with a consideration of objectives. Downey concerns himself with defining: (1) the nature of society; (2) knowledge and processes of deriving knowledge; (3) the individual; (4) concepts and skills to be learned; and (5) values to be preserved. Taba is concerned about all of these same factors, only she stresses democratic values more. Basically, then, they are asking the same questions about objectives.

However, Taba notes the need for different levels of
objectives. Downey, however, works this same facet out in his "Process of Secondary Education" section.

The "Process of Secondary Education" section in Downey is the equivalent of the two sections in Taba, "Selecting Curriculum Experiences," and "Possible Centers for Organizing the Curriculum." Downey concerns himself with: (1) the content of subjects and the method of inquiry used; (2) strategies or skills needed in learning; (3) the individual and his behavior; (4) different kinds of group pressures on the student; (5) the teacher and his role in learning; (6) the organization of the school; (7) physical facilities; (8) technical equipment available.

Taba does not stress the teacher role in her model so much as Downey. But, in practice, the teacher is the prime innovator for Taba. Her more recent research efforts with cognitive development in the teaching of social studies and the critical role of the teacher as decision maker in the process support this fact. Group pressures are not so much a factor in the Taba model as in Downey, also. Otherwise, coverage is again comparable.

The section dealing with outcomes is developed by Downey to include: (1) sensitivity to total educative processes before evaluate; (2) observation of behavior; (3) innovation as an evaluative function; (4) use of precise instruments as possible; (5) effect change in education as
a result. This latter allows examination and change, of and within the model.

Taba places great stress on evaluation of student behavior. Education is to cause children to think! So these behaviors are allowed to occur and are evaluated using methods that are open to the behavior sought.

Evaluation is individualized according to student need/background/progress. And evaluation is used to improve instruction.

Again, no basic difference appears. Here two separate models of curriculists, one in secondary education and one for curriculum generally, confirm each other in the kinds of questions asked. Since these models were developed independently, this sort of verification lends credence to the kinds of questions that were asked. On the basis of these questions, then, a model as simple and yet as comprehensive as possible can be constructed to contain the basic structure of concepts proposed for the development of curriculum.

The Model for Use in This Study

Four major areas were developed by both Downey and Taba: Value assumptions; objectives; implementation of objectives in the process of education; and outcomes.

From their ideas, the major generalizations they developed can be listed as a basis for structuring the curricular concepts of Alberty and Bruner.
Under value assumptions, these items appeared:

2. Value judgment about the nature of the student.
3. Basic value orientation: (Self-realization and democracy as value base for Downey/Taba).
4. Nature of the subject matter (disciplines, or areas of concern).

So far as objectives are concerned, these items appear:

1. Understand society and relate education thereto.
2. Understand the adolescent and relate education to him.
3. Understand the learning process and use viable methods of instruction.
4. Note concepts/skills to be learned.
5. Note values to be preserved.

The third area is implementation of objectives in the school. These include:

1. Content of subjects and method of inquiry (including scope and sequence). (Relate to model of each discipline).
2. Strategies and skills needed in learning.
3. The individual and behavior expected.
4. Group pressures and the effect on students.
5. Teacher and his role.
6. Organization of the school (include scope/sequence/integration). (Related to administrative model)
7. Physical facilities needed.
8. Technical equipment available.

Finally, the fourth area in the model is outcomes and evaluation. This section includes:

1. Sensitivity to total educational process before assess outcomes.
2. Allow for behavior desired to be practiced and evaluate same with appropriate tools.
3. Allow evaluation feedback which might effect curricular reorganization.
4. Use evaluation of outcomes as a springboard for innovation.

It should be recalled that the model being sought is a middle level model—one between the administrative model and the model structured for each discipline. The middle model must relate to both, however. There clearly must be articulation as the administrative model impinges on students, teachers, and the facilities and tools used by student and teacher. The same articulation must characterize the relationship with the discipline. As the nature of the discipline and resulting instructional demands call for space utilization, scheduling, and facilities, then articulation between the middle model and the discipline is essential.

The content of the administrative model has already been identified. The content of each discipline is a matter of continuing concern among the scholars in each of the
disciplines. But certainly this continuing reformulation has great bearing on primary contents of the teaching-learning situation.

The following diagram shows the interactive quality of the proposed model. This interactive relationship derives from the investigator's analysis of the Downey and Taba efforts and serves as the base for his own conceptualization of an effective middle level theory.

Figure 2. Synthetic Model for Conceptualizing Middle-Level Theory.
In its inception, value assumptions (and the nature of man, society, the nature of learning, what should be learned, and such) determine the direction an educational program will take. On the basis of the values assumed, objectives for education are determined. Having established what are hopefully working, functioning objectives, these objectives govern the development of the actual process of education itself. Once the process is begun, there are outcomes.

Outcomes can call into question or validate any of the previous three: values; objectives; and/or the process of education.

As culture evolves, sometimes value assumptions must be questioned by outcomes. When this occurs, if the value assumption in question is invalidated, because of outcomes from the process of education, then changes take place in objectives and process as well.

Perhaps an objective is not congruent with a valid assumption. Outcomes may then cause objectives to be revised, and thence process also.

In addition, there can be interplay between the process of education and outcomes based on a faulty translation of legitimate objectives into practice.

In summary, this model lends the dynamic quality that was implied by both Downey and Taba, but was not translated into the structure of their models. Education is herein
noted to be an interrelated, interdependent structure.

The model here structured will be used to assimilate and compare the curriculum concepts of both Harold Alberty and Jerome Bruner, moving toward a synthesis of the Progressive School position in education represented by Alberty, and the current academic emphasis, with Bruner as the exponent.
CHAPTER III

CURRICULUM CONCEPTS OF HAROLD ALBERTY
PRESENTED IN A CURRICULUM MODEL

Harold Alberty presents excellent credentials as an exponent of the Progressive School of education. Completing his doctoral program with Boyd Bode at The Ohio State University, he early established a reputation developing and refining the project method of education. With the coming of the Eight Year Study, Alberty was again involved as director of the University School, one of the thirty schools included in this venture in Progressive Education.

Alberty is also known for his work in developing the resource unit. In addition he is probably the major popularizer of the core curriculum. Finally, he is a curriculum builder who has written a comprehensive curriculum design after the current academic emphasis began in earnest with the publication of Bruner's *The Process of Education*. His works in curriculum are both exhaustive and comprehensive.

So he has spanned the period of the beginning of Progressivism, its pinnacle in the Eight Year Study, and its declining days into the present.

In this chapter, the point of emphasis will be to use the curriculum concepts of Harold Alberty as the content of
the model for curriculum development evolved in the previous chapter. To this end, the headings used will be those of the curriculum model developed from the models of Laurence Downey and Hilda Taba.

I. Values on Which to Base Curriculum

A. The Nature and Purpose of Secondary Education

Alberty would like the school to be a re-creation of the truly democratic society. In a school of this sort, students would be endemically involved in structuring and implementing the learning process. The point of a school would be to consider the "... problems of present day living in a democratic society as they impinge on the life of the adolescent."¹

"What we strive to accomplish in education is to make our schools the finest possible exemplification of democratic living. ..."² So a definitely implied purpose is to understand, use, continue, and refine the democratic process and, therefore, to extend democracy into society itself.

Another purpose has to do with the meeting of needs of all students, a concept of general education. "General education is to meet the common needs, problems, and interests of students."³

²Ibid., p. 51.
³Ibid., p. 70.
A final point includes the way in which learning takes place. Alberty believes in the field theory of learning, the student existing as a participant in a field, or dynamic situation, with multiple inputs being presented to him from many sources. Now the individual learner is both unique and at the same time like his peer group, having needs in common. Learning is most successful when a current need or point of dissonance within the student is met. Therefore, learning is at an optimum level when real problems are being researched and analyzed, moving toward a tentative solution.

So, in summary, the nature and purpose of education includes:

1. Involving students and their needs in developing an educational program which is uniquely their own.
2. Belief in the democratic process in education.
3. Meeting needs of all students (the comprehensive high school with a general education component).
4. Learning is based on solving real problems.

B. Value Judgment About the Nature of the Student

In considering the entire teaching-learning situation, Alberty places the student as the focal point. The developing needs and interests of the student are predominant. "... The right to teach grows out of the right of the
student to learn."  

So there is great faith in the capacity and ability of the student to learn, especially when he is motivated by learning about his own concerns and needs in a classroom situation which involves him.

To allow the flexibility and freedom which Alberty suggests, great trust is placed in the individual. "We have faith in the intelligence of the common man . . .," is a theme reiterated throughout the writings of Alberty.

The needs of the student, his purposes, largely determine his behavior. So as the needs of the student are included in the educational process, then he will be involved, will be included, will be learning what matters to him. In this sort of learning situation, his behavior and participation will tend to be acceptable. For " . . . the goals of the individual in large measure determine his behavior."  

Trusting the student and his innate capabilities of performing co-operatively and with insight is the hallmark of Alberty's concept of the student. Misbehavior is essentially dissonance between the school expectations and the needs and experiences of the individual student. As the student is involved, as the student is respected, then respect can in turn be more easily exemplified by the student.

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5 Ibid., p. 52.

6 Ibid., p. 69.
In conclusion, then, value judgments about the nature of the student include:

1. Needs and purposes of students (both individually and as a group) must be understood and used as a focal point for curriculum building.

2. Co-operation and learning will take place when the needs and experiences of students are used as the central focus of the classroom.

3. Given the above situation, the student and the method of intelligence (reflective thinking) must be trusted to accrue a positive result.

C. Basic Value Orientation

This section will necessarily include some of the values mentioned in the previous two sections. A basic value orientation includes not only articulation with the nature of students and of education, but also the total society served by education. In effect, the nature of "the good life" must be considered. Regardless of the educational philosophy considered, education must relate to both the composite history of man (what man has learned) and to the social environment in which the student lives. Therefore, the necessity of this section is delineated.

A statement in Helping Teenagers Explore Values states rather succinctly the basic value orientation of Alberty:

... Human experience (is) the only basic reality, and this is a product of man's interaction with his environment. Reflective thinking
is but the process through which man creates and recreates his world. Reality is objective only in the sense that human experience is a product of interaction, and since the interaction changes both the individual and the environment, human experience is in a state of constant change.

Society is made up of man-made institutions which have been created for the purpose of furthering individual growth. These institutions must be continuously evaluated in light of their purpose, and modified or eliminated where they no longer contribute to the common good.

Values are to be found as man gains experience and continuously reconstructs it in the light of the conditions which make for optimal growth of the individual. Thus his concepts of the good life have as their point of reference the creation of a more humane society which is ever being refined in the direction of improving the quality of life for everyone. The humane society . . . must be continuously reevaluated in light of its effectiveness in contributing to individual growth. . . . The common man is capable of making decisions through reflective thinking. . . . Indoc trination is rejected as a basis for acquiring and changing values. 7

From this presentation the following principles can be derived:

1. Knowledge is based on human experience
2. Both society and individuals must be open to change.
3. Continued growth is the goal both of individuals and of society.
4. Reflective thinking is the method of growth, democratically applicable to individuals and to society as a whole.

7Harold B. Alberty, Helping Teenagers Explore Values (Columbus: The Ohio State University, 1956), pp. 7-8.
D. Nature of the Subject Matter

The nature of the subject matter is implicit because of the previous three sections. Basically the subject matter consists of "... common problems, needs, and interests of adolescents within a framework of problem areas."\(^8\) This is the essence of the content area of the teaching-learning situation. Even though this is the essence of content, the subject matter as a discipline existing in its own right is not denied. However, the disciplines are denied centrality as subject matter.

Writing of this latter matter, Alberty concludes:

No preconceived bodies of subject matter are set up to be "covered." If particular subject matter is needed to achieve the goals set up, it will come in--otherwise it is left out. From one-third to two-thirds of the school day is set aside for this part of the curriculum. The remaining time is devoted to instruction in specialized areas . . . elected by students. . . . In practice, mathematics and physical education are usually required of all students in addition to the two- or three-hour block of time devoted to broad comprehensive problems of living.\(^9\)

So the discipline as such is used if the need arises so far as the student is concerned. But otherwise, disciplines are not segmented but are instead used as content to assist in the reflection of problems basic to youth and society as they confront it.


\(^9\)Ibid., p. 217.
Often the traditionally conceived subject area is considered to act in the role of transmission of culture. Not so, according to Alberty. "The transmission of heritage is best accomplished by focusing upon present-day problems."\(^{10}\) The rationale for this point of view is that each generation faces a unique situation, as does each individual. While the past has a background of knowledge from which to draw, information from the past is not necessarily normative for the present. It must first be tested by the method of intelligence to discern whether or not it fits.

Finally, there is a role for both general and special education. General education is the acculturator, considering the basic problems of youth and society. Special education is an attempt to fill personal deficiencies and areas of need. "The special needs, problems, and interests of students provide the basis for specialized education—vocational and otherwise."\(^{11}\)

In conclusion, then, the following ideas can be discerned in Alberty regarding the nature of the subject matter:

1. The basic content of the teaching-learning situation should revolve around problems of adolescents, both personally and in and with society.
2. The disciplines should be used to find answers to these problems.

\(^{10}\)Ibid., p. 78.

\(^{11}\)Ibid., p. 70.
3. A single discipline can be taught if a student has a need to be more informed about it.

4. Both general and special education rise out of the needs of students.

II. Objectives

A. Understand Society and Relate Education Thereto

The role of society is to provide a democratic setting that allows for the optimum development of the individual. In the school setting, democratic methods and procedures are used so that the student might both be, and become, a more fully functioning person in society. But this is impinging on the next section, objectives for the adolescent.

There are conflicting values within any society. The resolution of these value conflicts allows the individual to become more fully operative, less guilt-ridden and inhibited as they are resolved. Alberty lists a number of these conflicts that need to be resolved:

1. Rejection of fixed moral standards with no substitution. (Morality must be appropriate to the evolving culture.)

2. Competition and co-operation are conflicting value motifs in our society. This needs to be resolved.

3. Tolerance is presented as a goal, yet many adults are not tolerant, minorities are discriminated against in almost every instance, governments
practice intolerance both domestically and in terms of international relations.

4. Democracy is often used for faulty purposes, such as: to support outworn values; for demagoguery; for selfish lobby groups.

5. Apathy toward citizenship is commonplace, in that a majority of citizens are not informed on issues, and even fail to vote. Fewer yet participate actively in social or political endeavors.

6. Each student needs to seek a future of his own, considering: education; vocation and economic independence; family; military claims and his feelings about this.¹²

These are the areas in society about which Alberty considers clarification to be essential.

B. Understand the Adolescent and Relate Education Thereto

The adolescent lives in a confused society that demands conformity. From adults, from school and peers, from the adolescent subculture come demands for conformity. In the midst of these demands and confusion, the adolescent needs to define himself. A sense of self identity, a positive self-image and sense of purposive direction are requisites for successful growth.

¹²Ibid., pp. 18 ff.
In the process of self-definition comes struggle with all of the authorities surrounding the adolescent. A needed struggle that must be won, the adolescent is moving toward independence of thought and action.

Goals of the adolescent are listed by Alberty to include the following:

1. Meet personal problems.
2. Achieve greater independence and responsibility at home.
3. Good peer relations.
5. Satisfactory school experiences.
6. Increased community participation.
7. Economic participation and security.
8. Understanding of other groups/cultures.
9. Develop a stable and growing system of values.\(^{13}\)

The objectives for the adolescent require the school to be a laboratory of life, the adolescent and his needs central, and all of the disciplines, resources, personnel and problem solving techniques used to come to grips with these adolescent problems and needs.

C. Understand the Learning Process and Methods of Instruction

The learning process is one of active involvement of students and the problems which confront them. Intimately

\(^{13}\text{Ibid.},\ p. \ 141.$
involved in the structuring of both the methodology and the content, the student is central in the learning process. In fact, Alberty contends that "... learning is most effective when the learner is motivated by goals which are intrinsic to the activity."\textsuperscript{14}

Since learning is related to the student and his environment, the learning situation either must recreate that environment or else provide a context of coming to grips with that same environment and the students who dwell within it.

The project method, centered around a problem area, seemed to be an appropriate device. The resource unit is a supplementary tool to assist in the development of the project. Reflective thinking is the type of learning desired, this latter meaning to approach a problem with suspended judgment, examining and evaluating data, guided by a hypothesis that can be accepted or rejected. Reflective thinking has both individual and group ramifications, group thinking preferred if a problem effecting the total group is under consideration.

Also, all the disciplines are brought together in use of the project approach. For, as Alberty states, "... skills, attitudes, appreciations, and understandings are most effectively developed as a unified whole rather than each in isolation."\textsuperscript{15} So an interdisciplinary approach is used by

\textsuperscript{14}Ibid., p. 103.
\textsuperscript{15}Ibid., p. 107.
Alberty, rather than focusing on the content of any one discipline.

Further, an interdisciplinary approach coupled with an adolescent problem as the focal point allows for recognition of relationships and especially for the formulation and testing of generalizations about the materials researched. Being able to form generalizations is very important for this skill makes knowledge very functional, and transfer of training is also possible as a result.

To summarize this section, then, the following principles are involved in learning:

1. Students should be involved in helping to structure learning experiences around their own needs and interests.
2. These needs and interests can be studied in projects, with resource units as suggestions for methods, materials, objectives, and possible hypotheses.
3. Students need to learn the skills of reflective thinking, especially the forming and testing of generalizations.
4. If the need occurs, a discipline can be studied in and of itself. But the use of the disciplines, synthesized around problem areas, is a more functional goal of education.

D. Note Concepts and Skills to be Learned

Consistent with the previous sections, Alberty primarily considers social and process skills and values to be
learned. The individual in a democratic society is, of course, the cornerstone of Alberty's curriculum. Students are expected to experience democracy, learning to appreciate and use it.

As cited before, reflective thinking is to be used and mastered as a technique of acquiring information and solving problems. This method of intelligence puts great stress on the individual and his worth as an operating citizen. The worth of the individual student to himself and in the class is imperative.

Co-operative planning and research are also very important. Many problems are group related, and in any case learning to live creatively in groups and to encounter democratic give and take in problem solving are very essential.

In essence, then, Alberty sees the following as basic skills and concepts to be learned:

1. The worth of the individual to himself and to society.
2. The value of democracy.
3. Skills of reflective thinking to use in the furthering of democracy.
4. Ability to plan, research, and solve problems in groups.

E. Values to be Preserved

Again, this section grows out of and fuses with the previous section. It can be treated very briefly as follows:
1. Faith must be maintained in the method of intelligence without resorting to use of authority.

2. Democracy is the best possible social system, but there must be an awareness of the responsibility to think and intelligently decide.

3. The school must create an atmosphere and attitude of democracy in order to teach it.

III. Implementation

A. Content of Subjects and Method of Inquiry

In Reorganizing the High School Curriculum, Alberty lists five types of core programs for general education. His own inclination, however, is directed more toward the number four core. He states, "... the Type Four Core is the most promising curriculum design for transforming general education in the high school into a program suited to the challenging times." Therefore, proposals related to this type core can be considered consistent with Alberty's design for curriculum.

So far as content is concerned, the disciplines can be used and studied as the need arises. Mathematics and physical education are even singled out as subjects usually separated from the problem area approach to learning. However, the disciplines are not central. And in fact, Alberty does not spell out with any precision what a discipline is.

16Ibid., p. 220.
The content of curriculum is flexible, being based on common problems, needs, and interests of adolescents within a framework of problem areas. Some time can be spent with individual disciplines, but the main thrust of this curriculum approach is with the problem areas. So far as scope is concerned, Alberty notes that, "The scope of the Type-Four Core is defined by problem areas based upon the immediate, felt, and predicated common problems, needs, and interests of students. The problem areas represent categories in which most adolescents have persistent problems and needs."17

Sequence would be very difficult to spell out. Possibly all that could be said would be to relate sequence to the individual school and teaching staff. There could be no sequence at all except as determined by teacher-pupil planning. There could be a range of topics acceptable in each grade according to teacher skill, previous units, and/or materials and resource units available. Possibly there might be an arranged sequence of problem areas predetermined that classes would undertake. Sequence is difficult to describe.

Specialized needs can also be met on an elective basis. Programs for vocational skills, gifted students, handicapped, and socially maladjusted could be added to the curriculum. As to what these would be, there is no mention made. But the problem area approach constitutes the basis of general education.

17Ibid., p. 217.
In the problem area, Alberty lists five steps for delineating adolescent needs and problems as a basis for determining scope and sequence:

1. Study literature about adolescent development.
2. Use test and inventories to illicit responses of adolescents in a particular class.
3. Organize problem areas on some rational basis (student choice; school plan).
4. Develop a resource unit to provide assistance to students in research/problem solving.
5. Develop a learning unit based on the resource unit.18

B. Strategies and Skills Needed in Learning

A basic principle of learning is stated succinctly by Alberty when he wrote,

... much has been discovered in recent years concerning the nature of learning and the conditions under which it takes place most effectively. It is now a commonly recognized principle that learning is most effective when the task is accepted by the learner as being worthwhile and when its accomplishment is accompanied by a feeling of genuine achievement. In other words, students work hard at tasks which have significance in their lives.19

So learning begins on the premise of involving the student and his needs, enlisting his interest and hence his possible motivation to achieve.

18Ibid., p. 288 ff.
19Ibid., p. 343.
The basic strategy was delineated in the previous sections: discerning adolescent needs; selecting a problem area; building a resource unit; developing a learning unit.

So far as skills are concerned, group process is important and the ability to participate in a group. Many basic decisions are made by the group about the problem area that is selected, materials that are available, etc. Reports are given and evaluated. Teams are found to do investigation. So it is a must to develop skills in group process. These skills include:

1. The ability to verbalize and share concerns in a group.
2. Share leadership and assist in leadership growth opportunities.
3. Try to move to group decisions, hearing and respecting minority rights.
4. Allow for participation of all students in the group.

In addition to group skills it is necessary to know how to seek and use sources of information. Assistance is given in group discussion and then in building and/or using the resource unit.

Also, the method of intelligence, or reflective thinking, is a strategy of learning which is used continually and, therefore, taught and reinforced. This approach to learning questions authority, moving to an analysis of the current situation in relation to developed hypotheses of the learners.
In summary, the basic skills and strategies needed are:

1. Ability to use group processes democratically.
2. Ability to research and present ideas.
3. Ability to employ reflective thinking.
4. Develop habits of persistence, self-discipline, and social responsibility.

C. The Individual and Behavior Expected

Effective participation in group and individual activities is the first expectation. To participate effectively, the student "... seeks to develop the ability to examine authorities critically and to give allegiance to policies and programs which further the social goals of our society." 20

So the student is expected to be involved as a researcher, hypothesizing and discovering new "truths" or verifying old ones.

A student is expected to be an active participant, expressing agreement as well as disagreement. He must learn that he has rights as to do other members of the group. As such, the student must adopt a code of fair play, and a willingness to be involved in a give-and-take situation.

In dealing with a multiplexity of problems, it is hoped that the student will learn both methods and resources of dealing with social and personal problems. In this way he can become more self reliant and able.

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20 Ibid., p. 341.
Developing better interpersonal relationships is also a goal. Group planning and activity has the possibility of improving communication skills and also forming better peer group and adult relationships, with the teacher involved in planning. Additionally, as subject matter is used in problem areas, students can grasp not only the nature of the subject but also how to use it.

Becoming more tolerant as differences are understood; becoming more self assured as skills are mastered and contributions are accepted; learning to use and appreciate democratic society; these are all behaviors sought in the method of education.

To encapsulate the results, then, the following are behaviors expected of the individual:

1. Participate in individual and group planning and research.
2. Learning to be tolerant of others.
3. Learning and using problem solving techniques and methods.
4. Improving interpersonal relationships.
5. Mastering knowledge of and abilities to use subject matter areas.
6. Understanding, appreciating, and using democratic methods and supporting democratic society.
D. Group Pressures and the Effect on Students

The affect of the group on the student is a very apparent reality. In regard to the demand for conformity, Alberty records a comment by H. H. Remmers, who wrote, "Only one-fourth (of a group of high school students surveyed) report they often disagree with the group's opinion. No more than 18% are willing to say that their tastes are quite different from those of their friends."\(^{21}\)

Demands for conformity are issued from parents (from whom adolescents must learn to become increasingly independent); from society as a whole (where values should be questioned, and then accepted, modified, or rejected at given points by students); from friends and adolescent subculture (where open discussion and evaluation can allow and even encourage individual differences).

Group pressures can cause an adolescent to conform, simply accepting the group strictures which are placed on him without his really questioning them. When this happens, he is not a fully functioning person, developing his own unique rationale for democratic living.

To counter group pressures from adults, society, and peer group, the following proposals are made in Alberty's educational scheme:

1. A questioning, student-contributing relationship is formed between teacher (adult) and student. This

\(^{21}\)Ibid., p. 138.
can set a tone for at least the possibility of other student-adult relationships.

2. Using the problem solving approach, the values of society are really questioned, moving to proof or disproof of numbers of student-originated hypotheses about society. This has a freeing effect.

3. Democratic discussions in class with shared leadership roles, and freedom of inquiry being stressed, allows for and makes intelligent dissonance a respectable attribute in the adolescent peer group. These three factors assist in countering group pressure on adolescents.

E. Teacher and His Role

The major roles for the teacher are those of initiator, co-ordinator, resource person, clarifier, and evaluator—these five.

As initiator, the teacher must set the ground rules for the class, based on school policy and his own abilities and limitations. With class acceptance and subsequent involvement, it is hoped that enforcement of policy would be minimal. Ultimately, however, after involving the group where possible, the teacher is responsible. The area open for class structuring and evolvement is then delineated, with possible approaches, problems, topics, discussed, and organization of the class begun.
Co-ordination is the attempt by the teacher to provide the continuity of scope, sequence, and integration to the learning activities. Learning is not random, but needs a sense of direction.

As resource person, the teacher can make available to the class ideas, sources of information, and methods to approach the solving of the selected problem of the class. This is an especially helpful function in the building of the resource unit. It is also helpful in developing student discussion, research and reporting skills.

Clarification is a function needed in both research and discussion. It is important especially as ideas are only partially presented or as differing points of view come into conflict. Clarification makes explicit points of similarity/dissimilarity and allows for subsequent rapprochement where possible, or mutual appreciation (or student understanding) where not possible.

Finally, the role of evaluator is to assist students to have some understanding of what is happening in the development of any given problem area. With understanding, if procedures are not in line with objectives, then changes can be made. If research is not producing results, if interpersonal problems are present, if needed personal skills are lacking, all these and others as well can be noted in evaluation. The teacher has a major role in asking evaluation questions and helping devise strategies for solution to
problems that are thereby laid bare. Evaluation is both for the group and for the individual. Evaluation is the ability of a teacher to assist both groups and individuals to assess their own functioning as a prelude to improvement.

In conclusion, then, the major teacher roles are those of:

1. Initiator
2. Co-ordinator
3. Resource person
4. Clarifier
5. Evaluator

Perhaps a sixth might be supporter, supporter of student initiative and effort.

F. Organization of the School

The functioning of a school is more efficient and objectives can more easily be realized when the organizational structure of the school is also consistent with those same objectives. In this instance, a democratic school administration is required.

Requirements for a democratic administration include the following:

1. Discussions leading to mutual understanding.
2. Respect of all staff members for each other.
3. Encouragement and provision for professional growth.
4. Staff acceptance of responsibility for program improvement.
5. Shared leadership rather than the pyramid structure of decisions from the top.

6. Team approach to decision making.

7. Adults working to gain co-operation of parents for curriculum improvement.

8. Mutual commitment to democratic administration. Adolescent needs and problems determine the scope and sequence, and specialized needs for curriculum. Scope is defined by the problem areas, based on student need and resources of students, school, teacher, and community. Sequence is determined by group faculty decision, again based on student needs and problems. The same is true of special education. As a result, the local school tends to be the center of the development of curriculum, classroom teachers meeting in conjunction with administration to determine local school curriculum.

Large blocks of time must be set up in the schedule for the problem-centered units, with allowance made for classes to reinforce needs for special education or in a particular discipline.

In conclusion, then, the following items summarize the basis of school organization:

1. Democratic administration allow total staff participation in basic decision-making.

\[\text{Ibid.}, \ p. \ 347.\]
2. Scope and sequence determined by faculty consideration in light of needs of students and practicalities of budget, facilities, equipment, community public relations.

3. Scheduling should allow for large blocks of time for problem centered units, with special interest classes and disciplines taught per individual need in shorter time blocks.

G. Physical Facilities Needed

The specifics of this area are not spelled out, but the implications of the curriculum make clear facilities that are needed.

Class size is not specified, but in practice this approach to education has had groups of twenty-five to thirty with a single core teacher who could call on other teachers as resource persons. The classroom, then, must accommodate this number of students. Seating should be flexible, permitting circular arrangement for discussion if desired. Also, there is a need for small group discussions. Work areas with large tables are desired.

Actually, two rooms would be useful, one for individual studies and one for group activities, conferences, and such. Of course, a good school library with study cubicles could easily suffice for individual studies. A good school library, with a cross-section of materials based on developing resource units, would be a very important adjunct.
A learning center with tapes, films, other audio-visual devices would also add to the curriculum.

In reality, this curriculum could call for the scaling up or down of facilities. It could, on a minimal basis, operate in a single flexible classroom with a resource center in the class. Several additional facilities necessary would be individual classrooms for disciplines taught separately, classroom for special skills, and a gymnasium.

Conclusion, then, the minimum needs are:
1. A flexible classroom with a resource center.
2. Some individual classrooms for teaching individual disciplines and special skills.
3. A gymnasium.

H. Technical Equipment Available

Again, this is flexible. However, some library resources are needed. Books and magazines with reference data to make use of same are a must. Audio-visuals and equipment for showing them enrich the class. The same would go for overhead projectors, opaque projectors and the like.

Resource units are an excellent synthesizer of materials and can be added to or subtracted from as they are used. Community resources should be catalogued with class access thereto.

In summary, then, the following are needed:
1. Multiple books and magazines.
2. Audio-visuals.
3. Community resources to use.
4. Resource units to draw from and to help synthesize the educational experience.

IV. Outcomes

A. Sensitivity to Total Educational Process
   
   The basic design of Alberty's comprehensive theory indicates knowledge of the total educational scene. There is scant emphasis placed on the knowledge of the disciplines, however, but the disciplines are not the focus of Alberty's curriculum.

   As the design constructed in this chapter will atest, there is every reason to believe that the totality of the curriculum can be taken into consideration in the Alberty design.

B. Allow for Behavior Desired to be Practiced and Evaluate Same with Appropriate Tasks
   
   To properly access this area, it is necessary to consider the information rendered in section II, The Individual and Behavior Expected. The summary of that section noted the following items:

   1. Participation in individual and group planning and research (this is the basis for setting up the problem area).

   2. Learning to be tolerant of others (the climate is set by the teacher, and as leadership is shared and ideas are
evaluated by reflective thinking, hopefully tolerance can result).

3. Learning and using problem solving techniques and methods (this approach to learning is taught in individual research, group discussion and in reports to the total group).

4. Improving interpersonal relations (this is one of the major factors in using problem solving approaches and group learning techniques, to improve communication and acceptance of dissonance).

5. Mastering knowledge of and abilities to use subject matter areas (subject areas are used for the solving of problems. Subjects are not necessarily mastered, however).

6. Understanding, appreciating, and using democratic methods and supporting democratic society (democratic methods are used in the classroom and should therefore be understood and used. Appreciation comes from successful results and acceptance of oneself and ideas in the process. Supporting democratic society comes from understanding of and successful participation in it).

It would seem that the behaviors expected, indeed, could be practiced in Alberty's curriculum design. So far as effective evaluation is concerned, that is more difficult. However, evaluation is discussed and techniques are suggested. However, the following analysis is possible:

1. Participation in individual and group planning
and research. (This could be evaluated by teacher observation, based on a rating scale and a knowledge of past level of student participation. Also, the individual could evaluate himself, and evaluate and be evaluated by the group. This evaluation could occur anytime during the unit—initiation, development, or culmination).

2. Learning to be tolerant of others. (Formal tests can be used. Perhaps the Check List for Determining Attitudes, by Herbert Bremen, et al., is a possibility. Developing a check list in the class is another possible approach.)

3. Learning and using problem solving techniques and methods. (A teacher-made test, such as using a case study and asking students to reply would be a possibility. This was not mentioned by Alberty but is consistent with his position. Also, discussion and analyzing reports in problem solving units is another way. Ask the student to spell out the steps of his problem solving method to determine its adequacy.)

4. Improving interpersonal relations. (A sociogram or the Ohio Social Acceptance Scale can discern some measure of like/dislike by others.)

5. Mastering knowledge of and abilities to use subject matter areas. (Very little is stated about this. Under paper and pencil tests are noted: ". . . essay, true-false, multiple choice, matching tests. . . ." 23 But what would be covered is not noted.)

23Ibid., p. 452.
6. Understanding, appreciating and using democratic methods and supporting democratic society. (Analysis of jobs undertaken and methods used could move toward this; a criterion could be developed by the class as to what constitutes democratic conduct and this could be applied by each student to himself and others.)

The result of this section implies that in most instances behavior desired is both practiced and evaluated.

C. Allow Evaluation Feedback Which Might Effect Curriculum Reorganization

The model being used to analyze Alberty's major ideas allows for feedback. In the preceding section, IV on practice and evaluation, interaction is taking place between the fourth section of the model, Outcomes, and the third section of the model, Implementation of Objectives (The Process of Education). That is, of course, where most of the interaction occurs. But in fact, outcomes can also effect Values (I) in the model, which in turn would effect Objectives (II), which would influence Implementation of Objectives (III), which would derive Outcomes (IV) which might or might not cause change at a lower level (I, II, or III) in the model.

The Alberty design allows for feedback within a problem area. Evaluation can occur at any level in the development of a unit—in the initiating, developing, or culminating phases. However, this evaluation is essential between levels III and IV in the model. He does not spell out evaluation
between Outcomes (IV) and Values (level I). This is difficult, to allow assumptions to be questioned, but radical innovation is impossible unless this is permitted. In fact, this is one of the reasons for the pendulum effect in curriculum development historically—impossibility to admit new values into a curriculum design.

D. Use Evaluation Outcomes as a Springboard for Innovation

Alberty's evaluation scheme allows for improvement and refinement of his existing approach to curriculum, but it does not allow for innovation. The open element for innovation does not exist.

In his basic text on curriculum, Chapter 13, *A Program for Improving the Curriculum*, Alberty spells out his approach to curriculum renovation. A comprehensive program for polishing the existing curriculum, it is not a program for innovation. As in the previous section, values are reinforced to the point that real innovation is impossible. Innovation is a distinct departure from the status quo, something new. Unless new values can be considered, unless the relationship between Outcomes (IV) and Values (I) in the model remain open, there is no possibility of real innovation.

This concludes the presentation of the curriculum concepts of Harold Alberty structured into the model for curriculum design. It will be referred to again in Chapter V of this study in a synthesis with the curricular concepts of
Jerome Bruner, who will be considered in the next chapter. Any evaluation of Alberty will be conducted in the process of synthesizing Alberty's concepts with those of Bruner.
CHAPTER IV

CURRICULUM CONCEPTS OF JEROME BRUNER
PRESENTED IN A CURRICULUM MODEL

Jerome Bruner comes to the educational scene firmly grounded in the study of psychology. Receiving his doctorate in psychology from Harvard University, his first full time employment after college was in the area of research analysis with the federal government, first analyzing the content of foreign broadcasts. He later moved to the Office of War Information, dealing with the presentation of world and military facts and information to the people of our country.

Perhaps this beginning is responsible for his concern about cognitive research, which occupied his interest at Harvard University and resulted in several publications in the field. His interest in cognition was soon to be related to the field of education.

In September, 1959, thirty-five scholars representing the fields of mathematics, psychology, history, education, cinematography, physics, biology, classics, and medicine met at Woods Hole, Massachusetts, "... to discuss how education in science might be improved in our primary and secondary
schools. As a result of the Woods Hole Conference, Jerome Bruner, the chairman of the meeting, wrote a book titled The Process of Education.

Commenting on that book, Edwin Fenton wrote, "Professor Bruner's little book The Process of Education may eventually prove to be the most influential volume ever written about curriculum development." The field of education has generally reacted to this book. Not merely a return to the traditional subject-centered curriculum, the approach advocated by Bruner is steeped in his own cognitive studies. In addition, he advocates combining psychologist, master teacher, and scholar in the discipline to be taught, to develop a viable curriculum.

Since writing The Process of Education, Professor Bruner has written two other volumes explicating his themes about curriculum, On Knowing and Toward a Theory of Instruction. The latter is essentially a collection of essays and articles he had written in journals.

Bruner is not a curriculist as Alberty and, therefore, his concepts are not as detailed. Yet he is articulate to the point that it is basic to the theory-building aspect of

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this study to fit Bruner's curriculum concepts into the model developed by a synthesis of Downey and Taba. The remainder of this chapter will therefore draw on the content from Bruner in such an undertaking.

I. Values on Which to Base Curriculum

A. The Nature and Purpose of Education

Bruner moves toward the concept that education is the teaching of subject matter in a way that incites interest on the part of students, allowing them to assimilate and use subject matter in the manner that scholars in any particular discipline are able to use it. In line with this way of thinking, in introducing The Process of Education, Bruner wrote, "The main objective of this work has been to present subject matter effectively--that is, with due regard not only for coverage but also for structure."³

Coverage and structure are determined by scholars in a discipline, psychologists, and master teachers. The scholars are responsible for the basic concepts to be presented, along with the determination of the structure of the discipline; the psychologists are concerned primarily with modes of cognition; and the master teacher is concerned with effective styles of presentation and involvement of students as he knows them. (The role of the curriculist is omitted in Bruner's planning, as is information about the nature and needs of the child except as his nature and needs affect

cognition. These omissions limit the scope of his presentation but do not diminish his contribution to the development of more adequate curriculum theory.)

Taking into consideration the ability of the child, his readiness to learn, is of prime importance. Bruner comments,

If one respects the ways of thought of the growing child, if one is courteous enough to translate material into his logical forms and challenging enough to tempt him to advance, then it is possible to introduce him at an early age to the ideas and styles that in later life make an educated man. 4

This value-laden statement lays precedent for the spiral curriculum theory, that each early step in learning, both in content and in process, must lay the foundation for the next.

The readiness idea is also changed, in that as a child's thought processes are better understood, materials of a complex nature can be given to him, albeit structured in a manner endemic to his thought patterns. Finally, the 'educated man' is one who has knowledge of the various disciplines, has learned the kinds of questions a discipline asks and the manner in which answers are derived. He is curious and intrigued with the prospect of growth in learning.

In summary, then, the nature and purpose of education according to Bruner are as follows:

1. Learn subject matter in such a way that the

4Ibid., p. 52.
generalizations of the discipline are clear and modes of inquiry into the discipline are known.

2. A discipline is learnable at any age, and can be presented to the learner in a form that is endemic to his intellectual processes.

3. Good education has a cumulative, spiral effect. Content and processes taught in early years can and should have a positive consequence on later learning.

4. Students are basically interested in inquiry, and this interest should be fostered.

B. Value Judgments and the Nature of the Student

The nature of the student is discussed by Bruner primarily in that the student is a potential learner and can be motivated and organized to learn better. Especially in line with the discovery method of teaching, Bruner makes the assumption that students are naturally inquisitive. Since the satisfaction of a natural desire brings pleasure, and since students like pleasure, then the discovery of answers is desired by students.

Also, borrowing from the French psychologist Piaget, the contention is made that the student has different modes of learning at different ages. These are as follows: (1) Preoperational (ages 0-5,6), simple, limited, non-reversible concepts, symbolized by events in and relationship to the external world; (2) Concrete Operations (ages 5,6-10,14),
objects can be manipulated with symbols and the student develops an internal criterion for measuring external events; (3) Formal Operation (ages 10, 14-adulthood), "... an ability to operate an hypothetical propositions, ... think of possible variables and even deduce potential relationships. ... ")

Being relatively easily habituated, students react favorably to sequential learning experiences, sequential especially in that the cognitive procedures learned build upon preceding cognitive procedures. In line with this, Bruner states that, "... rigorous and relevant early training has the effect of making later learning easier." 

Basically, these are Bruner's stated concepts about the nature of the student. Summarizing his remarks:

1. The student is naturally inquisitive and will be motivated to learn if inquiry about the discipline is encouraged.

2. Modes of inquiry should be used in relation to the age and development of the student.

C. Basic Value Orientation

Our technological society is becoming increasingly complex. There is also a threat to survival in that international competitors must be met and at least equaled--

\[5\text{Ibid.}, \text{p. 37.}\]
\[6\text{Ibid.}, \text{p. 47.}\]
militarily, economically, and sociologically. These demands call for an efficient and well-trained citizenry, largely as a product of the public school system.

The good life is one of competence, being informed and able to understand the nature of several disciplines and the methods of inquiry endemic to these disciplines. Competence is fundamental to a sense of worth. Since there is currently an explosion of knowledge, methods of inquiry and the ability to rapidly "intuit" ramifications of concepts are necessary and functional. It is also important to be able to group and classify ideas because of the plethora of information forthcoming. It is only in this way that mass data can be handled.

Finally, it is important to believe in democracy. This is necessary because students and citizens must be involved in order to function at their optimum capacity. Bruner states, "The garrison state, the totalitarian state, the coercive institution all have it in common that they forfeit enormous resources to the maintenance of control."  

In conclusion, the following statements reflect Bruner's conception of basic values:

1. Competence and skill are essential for individual existence in and for the continuance of the technological society.

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2. It is necessary to comprehend the nature of and modes of inquiry of the several disciplines.

3. Democracy allows for a greater freeing of ability than any more coercive system of organization.

D. Nature of the Subject Matter

Bruner expresses a number of ideas about the nature of subject matter without becoming too specific. For him, the specificity of a particular discipline is largely the responsibility of scholars within that discipline. Studies have been and are even now being undertaken to determine what these disciplines consist of. As could be expected, there is no unanimity of opinion on the part of the scholars. But at least systematic attempts at definition are and have been undertaken.

A number of propositions about the general nature of disciplines have been generated by Bruner. Bruner states, for example, that "Knowledge is a model we construct to give meaning and structure to regularities in experience." So a discipline is in essence a facet of knowledge, one area of experience, where regularities of design are noted and structured.

Then to gain a feeling for structure, Bruner states that "... to learn structure ... is to learn how things are related." Or perhaps to learn the "... pervading and

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8 Ibid., p. 120.
powerful ideas and attitudes relating to (a discipline) ... " is another way of looking at structure. Bruner operates on the principle that a discipline must have internal order, a hierarchy of values, directions, hypotheses, modes of inquiry. All these are intrinsically a part of the discipline. Further, this is what students must know in order to be able to think systematically and intelligently like scholars in any particular discipline. As students know a discipline in this way, then they will be able to generate new information, hypothesize, generalize, infer, intuit, and generally use the discipline as a functioning, viable tool.

In conclusion, then, the nature of the subject matter to Bruner consists essentially of the following:

1. Subject matter is basically contained in the various disciplines, which are the composite of mankind's experience in an ordered segment of knowledge.

2. A discipline has a basic structure (presuppositions, questions, concepts and ordering) and modes of inquiry which must be learned by the student.

3. The point of learning a discipline is to be able to use it— to hypothesize, intuit, relate, critique, using the discipline content and modes of inquiry as a source.

\[10\] Ibid., p. 18.
II. Objectives

A. Understand Society and Relate Education Thereto

Our society is marked with ambiguity in the social and political arenas; technology is the byword on the economic scene; and education must contend not only with these but also with a knowledge explosion the likes of which mankind has never before seen.

Now ambiguity needs not only facts for clarification but also requires methods of acquiring and using information. Different solutions to inquiry must be permitted and comparisons made to come forth with viable conclusions to issues.

Technical society demands competent and skilled citizens. As labor and professional demands increase, the skill and training of the citizenry must increase commensurate with these demands.

Democracy must be honored, but this is not a democracy of the laissez faire. Instead, democracy so viewed is constituted of competent persons, capable of using both intuition and more established modes of inquiry deriving concepts that will be heard and evaluated. So far as the school is concerned, "... if all students are helped to the full utilization of their intellectual powers, we will have a better chance of surviving as a democracy in an age of enormous technological and social complexity."\(^1\)

\(^1^\)Ibid., p. 10.
Since change is so much a part of our culture, then the educational endeavor must be marked with a stress on modes of inquiry more than on facts. Facts can change; and even if some facts do not change, the manner in which they are used changes. So therefore, education must emphasize modes of inquiry, generalization making, intuiting, evaluating, comparing, and all of these cognitive skills that allow for acquisition and use of knowledge.

Finally, still dealing with the idea of change, Bruner made the perceptive comment that,

Change is swifter in our times than ever before in human history and news of it is almost instantaneous. If we are serious in the belief that school must be life itself and not merely preparation for life, then school must reflect the changes through which we are living.\(^1^2\)

But schools tend often to teach yesterday's concepts and not today's. Therefore, the need for feedback into education from a changing society is imperative. Bruner proposed that the scholars in the several disciplines be responsible for feeding ideas back into the schools, to be partially responsible for the development of curriculum. This sort of feedback would help to keep students abreast of changes that are taking place.

To conclude, then, the following points can be made regarding understanding society and relating education thereto:

1. Technological society needs competent, skilled persons as products of an educational enterprise.

\(^{12}\text{Bruner, On Knowing . . . , p. 125.}\)
2. Democracy also requires competent leaders who are able to use methods of inquiry to derive information, generalize, compare, evaluate, etc., arriving at viable solutions.

3. Since knowledge and society are in a state of flux, and since knowledge should be useful, modes of inquiry are more important than facts.

4. Since change is evident in all realms of knowledge, there must be feedback into the schools if the disciplines taught are to be current.

B. Understand the Adolescent and Relate Education Thereto

The nature of the adolescent is essentially limited by Bruner to a treatment of the adolescent as a learner of a particular discipline. It is not that the adolescent has no other personality traits or needs other than those of a learner of a particular discipline; it is simply that this is the stated scope of Bruner's coverage of the subject.

Adolescents need to be stimulated to learn. Stimulation of learning involves three important facts: (1) recognizing the need for intrinsic rewards and motives, purposes that are the student's for engaging in and continuing the learning process; (2) excitement in learning, which comes especially with use of discovery techniques, serves to cause pleasure and exhilaration in learning; (3) motivation is enhanced by having a knowledge of the structure of a discipline and knowing how to use it.
Intrinsic rewards are necessary, for in this sort of situation, goals for learning are inherent within the student. He projects his own needs and purposes into the use of the classroom and of uses of whatever disciplines with which he is involved. It is the nature of the adolescent to persevere when he sees personally rewarding goals for his activities.

Excitement always lends interest. In discovery, where intuition and hypothesizing are encouraged, and not graded down if invalid, excitement is inherent. Also, discovery allows the student a diversity of approaches and products. Enhancing a democratic situation, discovery allows for self-structuring and individualization of the subject matter. The adolescent thrives in a context of freedom such as this provides.

A knowledge of the nature of the discipline and its modes of inquiry allows the student access to useable resources. It also sets meaningful limits on his inquiry. This sort of background allows for more meaningful research. The uses of the discipline are much more explicit, and the adolescent need to know and understand is more specifically met when the structure is delineated clearly.

Finally, competence is a trait greatly respected by adolescents. To become competent in subject matter areas, or disciplines, is a worthy goal of a school and of the students. Competence is a valued trait leading to self-respect.
In this regard, Bruner comments, "... There are two kinds of self-confidence— one a trait of personality, and another that comes from knowledge of a subject. It is no particular credit to the educator to help build the first without building the second. The objective of education is not the production of self-confident fools."\(^{13}\)

The building of competence and confidence should be synonymous.

In conclusion, then, Bruner finds the nature of the learning adolescent to be typified by:

1. The need to develop a system of intrinsic rewards for action (in this instance, learning).

2. Excitement and enthusiasm are important learning ingredients, hence the discovery method is appropos.

3. Knowledge of the discipline and modes of inquiry give guidelines and structure to learning, and is essential for purposive direction.

4. Competence is desired by adolescents.

C. Understand the Learning Process and Methods of Instruction

So far as the learning process is concerned, this one statement by Bruner acts as a brief summary: "The process and goal of education are one and the same thing. The goal of education is disciplined understanding; that is the

\(^{13}\)Bruner, **The Process**, . . . , p. 65.
process as well." The theory of instruction more closely
details by what procedures that disciplined understanding
is derived.

The learning process essential consists of beginning
with a discipline or subject area that is to be learned.
The modes of inquiry and generalizations of the discipline
should be well defined. The teacher enters the learning
process as catalyst, resource person, and organizer. Espe-
cially the basic rationale of the subject must be presented
and the students motivated and stimulated, especially through
the use of inquiry, to appropriate the discipline to purposes
of their own. Then using the cognitive structure of the
discipline, extrapolation, analysis, further generalizing
about the discipline are all possible.

So far as a theory of instruction is concerned, this
is not spelled out with great specificity. However, at one
point Bruner did spell out several steps that are essential
in a theory of instruction: first, specify those experiences
that most effectively allow learning; second, specify the
structure of knowledge in the subject; third, specify the
most effective sequence in which learning can take place;
fourth, rewards must be moved from immediate to deferred, and
from extrinsic to intrinsic. Although not listed in this
sequence, later in the same book, Bruner mentions that

14Bruner, On Knowing . . . , p. 122.
15Bruner, Toward a Theory . . . , p. 40 ff.
evaluation which contributes to a theory of instruction is useful. So this could be added as the fifth point in a theory of instruction.\textsuperscript{16}

Concluding this section on the learning process and methods of instruction, the following points are made in summary:

1. The organized discipline is the content for learning.

2. Students can be motivated to use the generalizations and modes of inquiry of a particular discipline, especially with the discovery method.

3. A theory of instruction begins with a particular discipline, notes the experiences, sequence and purposes for learning that discipline.

D. Note Concepts and Skills to Be Learned

This section will reemphasize the ideas previously considered. Briefly, students should be able to understand and use the various disciplines which exist as organized fields of knowledge and are presented to them in a school setting. Students can learn to think and approach problems and issues from the point of view of a scholar in a particular discipline. In order to do this, the student must be aware of the kinds of questions being asked by a discipline, the methods of inquiry available within the discipline, the

\textsuperscript{16}Ibid., p. 166.
kinds of generalizations that are drawn from a discipline, and some of the uses to which these generalizations are put.

The discovery method of inquiry is a basic skill to be learned. Beginning with discovery, students should then be encouraged to make new generalizations based on the discipline being studied. As a part of discovery, intuition should be encouraged—making guesses about conclusions based on knowledge of the structure of a discipline. Analytic techniques, synthesis, extrapolation from data given—all these are skills to be learned. The concepts learned are essentially derived from the discipline.

Several of what might be termed contributing concepts should be learned, however. These include being involved in a democratic setting so that individual talents and initiative can be released; and also so that support of democratic institutions and relationships will continue. Purposive personal planning—planning for the future, use of intrinsic motivation, are constructs or concepts to be understood and used.

In conclusion, the following are concepts and skills to be learned:

1. Concepts derived from a discipline being studied, its generalizations, and methods of inquiry should be learned.

2. Skills related to study that should be learned include: the discovery method; intuitive thinking; analysis; synthesis; extrapolation of data.
3. Contributing concepts to be learned include: use of and belief in democracy; use of intrinsic rewards; planning for the future and using studies to enhance the future.

E. Values to Be Preserved

Several important values are being preserved with objectives of this kind. Competence is a necessity both to a technological society and for the self-image and worthwhileness of the persons who live in a technological society. Therefore, the educational endeavor must encourage and provide for competence.

Students must be free to learn and to derive meaningful concepts and constructs from the various disciplines that they study. Democracy of this sort does not allow laissez faire departures in all directions. Rather, focusing on a particular discipline, students are encouraged to discover, to intuit, to generalize, synthesize, analyze, evaluate. Democracy of this sort also allows a student to appropriate his own purposes and goals into the educational process.

The various disciplines have intrinsic worth as fields of organized knowledge. As such, disciplines must be understood in such a way that not only facts within them can be organized and used, but also that new concepts and relationships can be projected from them.

In summary, values to be preserved include:

1. Competence as a result of the educational process.
2. Democracy allowed within the structure of the class.
3. The disciplines must be understood and used.

III. Implementation

A. Content and Methods of Inquiry

The content of the curriculum is concluded to be the content of the various disciplines. Since there were no proposals for change, then content would include such areas of study as science (with biology, physics, and chemistry), mathematics (with algebra, geometry, trigonometry, and other higher math as needed), social studies (including history, political science, geography, perhaps anthropology), English, foreign languages. Not denying the possibility of other skill areas, including physical education and technical courses, the content would rely primarily on the disciplines, or the subject matter areas.

Methods of inquiry would focus on beginning by using a discipline in order to discover more about it. Knowing a few facts or ideas, more can be discovered. Hopefully this discovery method will allow the student to be able to use the discipline for his own purposes. Continuing the study of a discipline, the basic questions that are asked and generalizations that have been formed within the discipline will be understood. Learning these basic questions and generalizations is part of the inquiry into the field.
Modes of inquiry that are used in a discipline should be understood and abilities at analyzing, synthesizing, contrasting, and evaluating should be learned.

To conclude, then:

1. Content is based on the various disciplines to be learned.

2. Methods of inquiry are based first on the discovery method, and later on learning the generalizations and modes of inquiry within a discipline.

3. Further methods of inquiry include analysis, synthesizing, contrasting, and evaluating.

B. Strategies and Skills Needed in Learning

This topic will be discussed in two sections. The first section will deal with over-all strategy, the second with strategy and skills in a unit of study.

First, so far as over-all strategy is concerned, the curriculum moves in a spiral from simple to increasingly complex, beginning by building on initial reactions. This strategy of learning begins with very few facts, uses speculation (hypothesizing and intuiting), and as a result generates information. The information so generated is, of course, subject to analysis by other known facts and generalizations within the discipline under consideration.

Second, obviously the discovery method is not the sole strategy for learning. The expository method of teacher
as a verbal or demonstrative form of learning, or of stu-
dents assuming the expository function, is one way of learn-
ing. There are information gaps that sometimes can be filled
in this way. But hypothetical methods achieve greater par-
ticipation and co-operation among students. "... It is
the underlying premise of laboratory exercises that doing
something helps one understand it."17

Third, the hypothetical methods encourage creativity.
But there must be comprehension as well. So the structure
of the discipline under consideration must be understood.
If the structure (or fundamentals), the basic generaliza-
tions, questions, and modes of inquiry are understood, then
they can be used and applied. A form or structure or theory
is basic to remembering, and is also essential to allow intel-
ligent transfer of learning. Further, understanding the
structure of a discipline in this way assists in narrowing
the gap between elementary and advanced knowledge. For if
the basic structure is understood to be the same in both
elementary and advanced levels of a particular discipline,
then it would be easier to build a sequential spiral curricu-
lum from elementary to advanced levels. Likewise, the feed-
back from new discoveries or innovations in the discipline
could more easily filter down to the elementary levels
through a cognitive structure that is known and understood.

Fourth, a strategy necessary for learning is the development of competence, success experiences in learning. A spiral curriculum that early gives students a feel for a discipline allows for developmental understanding. Then hypothetical methods whet the appetite for more learning, engender enthusiasm. Knowledge of the structure of a discipline gives a feeling of achievement and competence. As Bruner states, there "... seems to be an intrinsic pleasure or self-reward in gaining competence that feeds upon itself."\(^{18}\)

Fifth, this point is not fully developed in his publications, but Bruner makes the statement that it is important "... to devise materials that will challenge the superior student while not destroying the confidence and will-to-learn of those who are less fortunate."\(^{19}\) This principle is a part of the conventional wisdom of curricular materials development. Equally widespread is the recognition that this calls for individualizing instruction in a manner that is seldom done.

The second part of this topic, strategy and skills within a unit of study, warrants examination at this point. In Toward a Theory of Instruction, Bruner identifies the strategy for a unit of study in the social studies.\(^{20}\) In

\(^{18}\)Bruner, On Knowing ..., p. 144.

\(^{19}\)Bruner, The Process ..., p. 70.

\(^{20}\)Bruner, Toward a Theory ..., pp. 73-101, passim.
planning a unit, the following items and issues must be taken into consideration:

1. The nature of the unit and how it affects curiosity.
2. Great articles for source information, dissonance if possible.
3. Understanding of nomenclature and its value judgments and relationships.
4. Setting up situations with pictures, films, reading, diagrams, a talk that asks questions or shows divergence and, therefore, cause students to think on their own.
5. Model exercises or games can help students work out strategies and better intellectual habits.
6. Documentaries of other students at work in similar situations are good. (Films are suggested, but types, role playing and sociodrama could be substitutes where films do not exist.)
7. Goals for unit achievement.
   a. Success and therefore confidence in own abilities.
   b. Value ability to think, using such techniques as: contrasting; hypothesis making; game participation; extrapolation; note and use different strategies of thought; categorization; use language and see its limitations.
8. Integrating units are useful, but it is not specified how these could function.

In summary, strategies and skills needed in learning include:

1. Overall curriculum strategy and skills.
   a. Spiral curriculum, sequential and from simple to complex in each discipline.
   b. Both hypothetical and expository teaching methods can be used.
      1) Though emphasis should be on the former.
   c. The structure of the discipline should be learned.
   d. Competence (achievement and mastery) is necessary in learning.
   e. Instructional expectations should be the same for all students.

2. Strategy and skills within a unit.
   a. Stir student curiosity.
   b. Provide resource material with differing viewpoints.
   c. Understand nomenclature of discipline.
   d. Ask questions; use gaming situations.
   e. Allow students to see similar learning experiences to those he is learning.
   f. Students develop confidence in themselves and use of multiple heuristic tools.
C. The Individual and Behavior Expected

The individual is discussed only as a learner. Essentially the behavior expected is co-operation with the schema of learning which has been developed to this point. It is anticipated that the curriculum and methodology herein rendered are sufficiently stimulating to encompass the needs and concerns of students. Therefore, expected behavior is to learn disciplines and modes of inquiry that are presented.

First, students are and should be interested in learning. The hypothesis at this point is that if material is presented in a tentative, curiosity-arousing manner, then the innate interest of the student can be stimulated to learn about most any topic within a discipline and eventually about the discipline itself.

Second, students can become so interested in a topic that they are completely absorbed by it. In fact, absorption in learning is to be expected and is a criterion of the effectiveness of learning. Bruner comments that, "Students should know what it feels like to be completely absorbed in a problem.... Given enough absorption in class, some students may be able to carry over the feeling to work done on their own."21

Third, student initiative is expected. For in student initiative comes the appropriation of intrinsic motivation and personal involvement in the determination of goals

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of the educational process. The discovery method of learn-
ing is intrinsically a part of the expectation of student
initiative. For discovery is a personal discovery, involv-
ing the student who individually is encouraged to find answers.

A number of behaviors are expected within the dis-
covery method. Students are expected to learn the heuristics
of discovery. The use of logic and statistics are to be com-
prehended. They need to learn to avoid edge effects, moving
instead into main ideas. They need to be able to build an
effective model or structure around an old idea or new con-
cept. Finally, a student needs to "... practice ... (and)
generalize what one has learned into a style of problem solv-
ing or inquiry that serves for any kind of task encountered--
or almost any kind."22 This structure is also useful for
transfer and retrieval, which are behaviors expected of stu-
dents.

As can be seen, behavior expected is congruous with
the theory of learning presented by Bruner. It is equally
clear that this is the only kind of student behavior for
which his theoretical constructs provide.

In summary, behaviors expected include:

1. Students should be interested in learning and the
curriculum should arouse their interest.

2. Students should experience being absorbed by prob-
lems in learning.

22Bruner, On Knowing ..., p. 94.
3. Student initiative is expected and springs from intrinsic motivation where allowed.

4. Students enjoy discovery and the ability to generalize and structure as a result of beginning learning on a discovery motif.

D. Group Pressures

There is almost no recognition of the fact of group pressures on adolescents. Of course, this was not the intent of Bruner's theorizing to deal with such contingencies. However, it can also be argued that group pressures are a factor which enters in to a school learning situation. Several extensive research studies document this fact.

Bruner does note that the "... American high school (has) ... emphasis on the 'peer' culture ..." and that in many schools marked stress is placed on "... the central role of social life and 'the sociables'." Of this he does not approve and does not relate any effect from peer culture on learning. He merely sees this as a fault of the school.

Learning from other students is an accepted and approved form of learning to Bruner. He proposes making documentary films of classes using the heuristics of discovery so that the classes can pick up skills. In addition, skills can be learned within a class as one student observes or works with another. This rather brief treatment of the matter is the extent of Bruner's comments on this topic.

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In conclusion:

1. Group pressures as such are not considered.

2. It is noted that students learn from each other as a major source of learning.

E. Teacher and His Role

The teacher is the principle agent of instruction. It is the teacher who sets the tone and the direction of the class. Since discovery is the major source of inquiry, the freedom allowed by the teacher is crucial, freedom to inquire even to the point of an occasional failure. This tone set by the teacher is essential to the discovery method.

Another function of the teacher is to foster reflection, evaluation, and generalization. A further adjunct of the discovery method, students must be assisted in learning the hypothesis building that accrues from reflection; the ability to evaluate results of hypotheses and intuiting; the skill to form generalizations, tying together, as they do, smaller bits of information. Teaching these skills is the role of the teacher.

A third responsibility of the teacher is that of developing units of study to develop as fully as possible the learning potential of students. A teacher must, in the words of Bruner,

... tailor material to the capacities and needs of students by manipulating learning episodes in several ways; by shortening or lengthening the episode, by piling on extrinsic rewards in the form of praise
and gold stars, or by dramatizing the shock of recognition of what material means when fully understood.24

Finally, the teacher should be a model for the students. "... The teacher must be ... an effective competence model ...," handling the discipline and modes of inquiry with skill and comprehension. "... The teacher can become a part of the student's internal dialogue ...," as the teacher helps the student to ask the right kinds of questions.25 Also the teacher should be a stable personal model, typifying good communication, interest, openness, good interpersonal relationships.

In summary of this section, the role of the teacher is typified by:

1. Setting the tone for freedom of inquiry.
2. Aiding the students in their ability to reflect, evaluate, and generalize.
3. Developing units of study with pace, scope, sequence and integration that allows maximum learning.
4. Being a model in competence— in knowledge, skills, and personal traits.

F. Organization of the School

Bruner does not deal with this subject in detail. Obviously, the disciplines that are being taught are important. The organizational structure of the school, as a

24 Ibid., p. 49.
25 Bruner, Toward a Theory ..., p. 124.
consequence, would naturally revolve around expediting learning in the classes.

Subject-matter within the class organization would naturally follow. No provision is made for interdisciplinary studies, so each discipline would be used to find reality, in isolation, in its own way.

However, a non-graded school organization is implied. Bruner advocates "... abolition of the system of grade levels in some subjects ...," especially those of cumulative nature. Enrichment and special handling are preferred.

Testing and grades are also brought under question. Exams should emphasize generalizations and broad principles of learning, not small facts. Grades, themselves, are brought under serious questioning. "When grades are used as a substitute for the reward of understanding, it may well be that learning will cease as soon as grades are no longer given--at graduation."27

In conclusion, then:

1. Classroom teaching is the most important element in the school, and organization should facilitate this.

2. Classes are organized on a subject-matter basis.

3. Grade level classes should be abolished in many subject in favor of developing competence.


27Ibid., p. 51.
4. Grading student performance is an extrinsic form of motivation and should be eliminated.

G. Physical Facilities Needed

This section must be handled by indirection since it was not presented directly. A number of facility needs can be extrapolated from Bruner's discussion of the development of a unit of study. Resources for learning included multiple written materials, films and filmstrips, gaming, individual and group research (labs for some of this latter). At a minimum, this would call for a large classroom with a library center and audio-visual equipment. Better, a good library with individual study facilities, an audio-visual room, a classroom with additional seminar or small group facilities would be ideal. Also, appropriate laboratories would be in order.

In brief outline form, the following physical facilities can be recommended:

1. A large, flexible classroom.
2. A library with individual study facilities.
3. Audio-visual facilities.
4. Small seminar rooms for discussion, and laboratories for the appropriate disciplines; some could undoubtedly be shared.
H. Technical Equipment Available

Technical equipment desired is listed under three headings: devices for vicarious experiences; devices to illucidate structure; and automatizing devices.

Devices for vicarious experiences include films, television, microphotographic film, filmstrips, sound recordings, multiple and conflicting articles, and books. The textbook is not the center of the learning experience. All these devices are used to feed in a complexity and diversity of information.

Structure must be understood, as Bruner says, "... to sense the genotype behind the phenotype." In order to accomplish this, laboratories for demonstrations should be provided, the labs containing models, charts, dramatizing devices, and equipment for other kinds of demonstration—experimentation.

Finally, automatizing devices, in this instance teaching machines, are recommended. The teaching machine breaks learning into small, sequential units. This frees the teacher for other work and provides students with immediate response to learning of basic knowledge or nomenclature in a discipline.

In summary of this section, technical equipment desired includes:

\[28\textit{Ibid.}, \ p. \ 81.\]
1. Devices for vicarious experiences: films; TV; articles and books; recordings.

2. Devices to understand structure: models; charts; equipment for dramatizing, demonstrating, and experimenting.

3. A device for automatizing--the teaching machine.

IV. Outcomes

A. Sensitivity to Total Educational Process

It is not apparent that Bruner is sensitive to the total educational process. Certainly, the whole matter of evaluation is considered only in passing and then in the most general terms, lacking in any specificity. In fairness, however, it must be said that Bruner does not purport to deal with evaluation. Evaluation is mentioned, but only in sketchy terms. As a result, the whole division of Outcomes is not thoroughly handled in Bruner's writings.

He also omits consideration of the nature of the student as anything but a learner; and as a result, the teacher role is also limited in kind. Again, it is clear that Bruner did not intend to deal with the student or the teacher in this broader curriculum context. However, in considering the final development of a curriculum, all of these factors (evaluation, student, teacher) must at some point be included.

Bruner is sensitive to the educational process that he developed. This attitude comes through in Bruner's
discussion about a theory of instruction, which to Bruner, is central to the educational process. He writes,

... a theory of instruction seeks to take into account the fact that a curriculum reflects not only the nature of knowledge itself but also the nature of the knower and of the knowledge-getting process. ... We teach a subject ... to get a student to ... take part in the process of knowledge getting. 29

B. Allow for Behavior Desired to be Practiced and Evaluate Same with Appropriate Tasks

In the second section of this chapter under the heading The Individual and Behavior Expected, the following behaviors were listed as expected:

1. Students should be interested in learning and the curriculum should arouse their interest.

2. Students should experience being absorbed by problems in learning.

3. Student initiative is expected, and springs from intrinsic motivation where allowed.

4. Students enjoy discovery and the ability to generalize and structure as a result of beginning learning on a discovery motif.

Bruner makes an effort to allow for the behavior he desires to be practiced in learning. In planning a unit, the possibility of its being of interest to students is a prime consideration. By use of the discovery method, it is

29 Bruner, Toward a Theory . . ., p. 72.
hoped that students will be able to find a problem of interest and, as a result, be intrinsically motivated to be absorbed in learning. One of the factors in a good learning situation calls for both the generation of knowledge (intuiting to generalizations on the basis of limited information) and generalizing inductively on the basis of multiple facts. Structuring comes about by learning the questions that are asked and generalizations made by a discipline. Bruner would also encourage this. Many of the specifics necessary to produce these behaviors are omitted, but the behaviors sought are, indeed, commensurate with the behaviors expected.

So far as evaluation is concerned, statements are made implying that evaluation is necessary and should be related to the learning behaviors expected. Bruner comments, "Evaluation, to be effective, must at some point be combined with an effort to teach so that the child's response to a particular process of teaching can be evaluated." Since the behaviors sought are related to the learning process, then Bruner is concerned with evaluation of learning experiences provided.

So far as evaluation with appropriate tools is concerned, this is treated theoretically but not in a form that is functional for the secondary school. Some of the ideas are interesting, however.

30Ibid., p. 164.
The basic form of evaluation would be the instructional interview.

The instructional interview is a tutorial in which materials and pedagogy are tested by an interviewer-teacher conversant not only with the substantive materials but also with the cognitive processes of children. The same children are interviewed repeatedly over varying numbers of sessions; to them it is a form of instruction. What is particularly valuable is that it permits a working colleguey to develop between teacher, scholar, and evaluator—with the evaluator then enabled to go back to the children to find out what the scholar or teacher needs to know for his next step.31

In the instructional interview such skills as critical reading (ability to relate and make premises of sentences), making use of documents, making inferences on minimal information, being responsible for conclusions drawn, and use of language and verbal symbols are all discussed. In this way each student's group of cognitive skills is ascertained and suggestions can be given by the evaluator to the scholar and teacher as to possible new approaches to teach these skills more effectively.

In reality, the content of these skills and possible approaches to either teaching or evaluating are not detailed. To be operative at the middle-theory level, additional operational aspects of these theories must evolve. As a result, this treatment of evaluation must be seen as speculation.

31Ibid., p. 168.
C. Allow Evaluation Feedback Which Might Effect Curricular Reorganization

This is a basic theoretical principle of Bruner, that evaluation be used to effect curricular reorganization. In fact, he levels this as a judgment against education, in that, . . . educational experiment, in the main has been conducted and is being conducted in the dark—without feedback in useable form. The substitute for light (or useable feedback) is evaluation after the job has been completed. . . . It would seem much more sensible to put evaluation into the picture before and during curriculum construction.  

Especially Bruner notes that evaluation should affect the kind and quality of teaching in the schools. "Curricular evaluation must, to be effective, contribute to a theory of instruction." 

Again, these are theoretical propositions that are not implemented in practice. However, it is well established by Bruner that evaluation feedback should be used to effect curricular organization and reorganization.

D. Use Evaluation Outcomes as a Springboard for Innovation

The use of evaluation in the initiation of change is a major point Bruner makes with respect to evaluation. As noted in the previous section, Bruner states that the use of effective curriculum evaluation assists in evolving the theory of instruction.

32Ibid., p. 30.
33Ibid., p. 166.
Evaluation, in the sense of the use of the instructional interview, is designed to allow the evaluator to determine what skills have been learned and how well. Then this data is given back to the scholar and teacher who can plan instruction accordingly.

Innovation is thought of, however, as refinement of skills, techniques, and materials already adjudged to be valid within the process of education conceived by Bruner. Innovation does not appear to be the examination of approaches not endemic to the process of education espoused theoretically by Bruner.

This concludes the presentation of the curriculum concepts of Jerome Bruner as developed within the model for curriculum design. In the next chapter, using the same model, a synthesis will be created using certain of these concepts and those of Alberty analyzed in the preceding chapter.
CHAPTER V

A SYNTHESIS OF THE CONCEPTS OF HAROLD ALBERTY AND JEROME BRUNER IN A CURRICULUM MODEL FOR ORGANIZATION OF SECONDARY EDUCATION

Bringing together the concepts of Alberty and Bruner is one way of trying to merge the student centered approach to teaching with the subject matter or discipline centered concept of teaching, these two orientations having existed together throughout the history of education. Alberty is a prime exponent of the Progressive School, being involved in the initial phases of the Progressive movement and writing even to the present day. Bruner is the prime mover of what Brauner has called "the current academic emphasis," or the re-emphasis of subject matter. Albeit a re-emphasis with some modification, the academic discipline is still the focal point of Bruner's curriculum.

A synthesis of this sort, to be fruitful, must take into consideration the present condition of the secondary schools. It is not sufficient merely to theorize. Theory must be applicable to real situations. A major criterion in the synthesis of the concepts of Alberty and Bruner will be the thought of attempting to make the model, implemented with the concepts of Alberty and Bruner, applicable to a
broad cross-section of American secondary schools, staffed with the kinds of teachers one finds in a majority of our schools. As a result, the model will not be ideal but hopefully will be useful.

Personal needs of adolescents and of our society will also have to be taken into consideration; needs as determined by competent authorities on these subjects. Other educators must be perused for comment. But primarily, Bruner and Alberty must act as critics of each other. This latter is really central to the synthesis herein proposed.

A middle model of the sort considered here will hopefully be a viable tool, working with an administrative model and a model of the discipline or subject area conceived for learning, for the organization and/or reorganization of the secondary school.

In the subsequent sections of this chapter, the concepts of Alberty and Bruner will be compared using the model that was developed in Chapter II, with content from Alberty and Bruner as conceived in the previous two chapters, respectively. The manner of treatment will be to develop the first section of the model, Values on Which to Base Curriculum, and use it as a guide for the development of the next section, Objectives. These two can be used in the development of the third section of the model, Implementation. The fourth section of the model, Outcomes, is employed to validate, invalidate, or modify previously considered assumptions.
and practice. Then, in addition, point by point, each of the summary statements of Alberty in each section of the model will be compared to the summary statements of Bruner. In this way, their points of similarity and difference can be readily noted. Then, additionally, some synthesis or compromise can be reached on the points of difference to conclude each section of the model with a new statement of content.

I. Values on Which to Base Curriculum

A. The Nature and Purpose of Secondary Education

Alberty's first point is involving students and their needs in developing an educational program which is uniquely their own. This is, of course, the major emphasis of the Type Four Core which Alberty advocates. It is not that Alberty shuns teaching of any academic discipline as such; it is just that the major focus of education, in his way of thinking, revolves around common problems, needs, and interests of adolescents developed in a framework of problem areas.

Bruner disagrees markedly. He contends that subject matter can be learned in such a way that the generalizations of the disciplines are clear and modes of inquiry into the discipline known. Couple this with Bruner's idea that students are basically interested in inquiry, and this interest in inquiry should be fostered. So Bruner's counter proposal is to base the curriculum around the various disciplines,
learning the generalizations and modes of inquiry of each
discipline, and especially allowing for inquiry on the part
of students.

These two points of view are obviously incompatible. But both have a definite place in the secondary curriculum. The Alberty approach is an interdisciplinary effort, calling for the use of many disciplines based on a problem-solving motif. On the other hand, Bruner allows for stimulation of interest in a discovery approach that develops a systematic understanding of the subject area under question. Students learn how to use and how to inquire within a discipline, using, for example, an historical approach rather than dwelling on historical minutae. The two can actually be complementary to a secondary student's learning experience.

A single discipline can be learned, used, and remembered more efficiently if it is approached from the point of view of some sort of meaningful structure. Inquiry within a discipline obviously can be more fruitful when it is disciplined inquiry. This kind of disciplined learning is necessary if students are to be able to continue to learn, to structure, relate, and validate new facts, incidents, and concepts as they occur. Also, learning of this type, within a structure, is more easily transferred.

Based on his concepts of the nature of the student as more than a learner within a particular discipline, Alberty sees the involvement of students in an interdisciplinary
approach based on adolescent needs, concerns, and problems. But, as Luszki observes, "To be ready for interdisciplinary research, the disciplines must have arrived at a stage of sophistication."¹ Alberty fails to take this latter into consideration adequately. Likewise, Bruner fails to adequately consider the nature of the student as other than a learner. He also does not act on the interdisciplinary approach, which would allow disciplines to interact on problem issues, different disciplines acting as correctives on each other.

To allow for both in a curriculum would seem to meet more fully the broader needs of students and the disciplines. Each obviously has a place in the school curriculum.

Alberty's second point is belief in the democratic process in education. Bruner also believes in democracy. But the two define democracy quite differently. A major point Alberty used to define his philosophy of education is stated as follows:

The major issue concerning goals of education involves the problem of whether the school should be concerned primarily with intellectual development, interpreted largely as mastery of the academic disciplines, or with the problems of present-day living in a democratic society as they impinge on the life of the adolescent.²


Alberty sides with the latter view. A democratic school using the Type-Four Core may have units of work or resource units already devised for use. But the units should have been constructed with student concerns in mind; and they should be evaluated (for continuance, modification, or future deletion) as each subsequent group uses them. Also, students help structure the unit. In addition, "Teachers are free to depart from the structure if problems arise of such significance that the teacher and students feel that they should be dealt with at once."\textsuperscript{3} Democracy, to Alberty, is involvement in needs of students with students not only involved but able to help determine the class them, or problem area, and the disciplines that will be used to attempt a solution to the problem.

Bruner builds a different case for democracy. While Alberty would allow flexibility even in building a unit of work, Bruner allows for flexibility within a discipline. To be sure, the structure of the discipline must be learned, but he states that

\ldots they (individual differences) exist in massive degree—in the extent to which children have problem-solving predispositions, in the degree of their interest, in the skills that they bring to any concrete task\ldots . The fact of individual differences argues for pluralism \ldots of instruction. \ldots If a curriculum is to be effective in the classroom, it must contain different ways of activating children. \ldots. A

\textsuperscript{3}Ibid., p. 218.
curriculum, in short, must contain many tracks leading to the same general goal.\(^4\)

So Bruner sees the need for flexibility. He also allows for use of such a heuristic tool as intuiting, which permits the student to make his own departure within the structure of the discipline; gaming, which allows participation and trial-and-error, generalizing, which permits the individual student to consolidate information. Bruner sees freedom within a much tighter framework, the discipline.

Further, in his spiral concept of the curriculum, Bruner makes teaching the discipline applicable to the entire school system. The learner is presented with concepts appropriate to his age and development. In this way, he learns a structure and generalization on which he can continue to build throughout his life. Nothing is needed to be unlearned.

These two concepts of democracy are compatible with the positions that both Alberty and Bruner take in respect to the nature of the student. For Alberty, democracy means reflectively considering adolescent problems in an inter-disciplinary manner. For Bruner, the discipline is essential and flexibility is permissible only within it.

The spiral concept of curriculum, while needing to be implemented, is certainly sound insofar as presentation of disciplinary materials is concerned. This approach allows the student to waste a minimum of learning time, structuring

concepts and generalizations as he goes for a maximum use of knowledge and a minimum of relearning.

Alberty's third point is meeting the needs of all students in a comprehensive high school with a general educational component. In accordance with this point of view, Alberty states that the purpose of general education is . . . to meet the common needs, problems, and interests of students; that is, to the education needed by all for intelligent citizenship. Only in the process of living and working together can we understand and recreate our world, since personality does not develop in a vacuum. The high school should thus be concerned with the improvement of the common life; with the conditions for healthful living; the extension of common interests; the sharing of experience; the problems of everyday living in the home and the immediate and wider community; and the personal problems of growing up.5

The comprehensiveness of the Alberty point of view is unmistakeable. The scope is such that programs could be adopted for the extremes of high I.Q., high creative students on the one hand, to culturally deprived and special education students on the other. In Handbook for Social Studies Teaching the assertion is made that students with a low intellectual level or from a low socio-economic situation respond better to teaching built around the core, life-adjustment, or current problems approach. Students of this type have language difficulties, often a negative attitude

5op. cit., p. 70.
toward education, emotional problems, and basic alowness in use of academic skills. 6

Frank Riessman seconds the more flexible approach to general education. "Among the culturally deprived there is practically no interest in knowledge for its own sake." 7 Further, there is a lack of educational tradition in the home and often a lack of community in their neighborhoods. So the school becomes the substitute for these omissions in the life of the student. A general education of this sort meets the needs of students who are being neglected by a middle-class oriented educational system.

So far as meeting the needs of the superior students is concerned, the evaluation of the Eight Year Study was favorable to the core as a flexible approach to the teaching-learning situation, as opposed to the traditional education of that time. "It is quite obvious from these data that the Thirty Schools graduates, as a group, have done a somewhat better job than the comparison group whether success if judged by college standards, by the students contemporaries, or by the individual students." 8

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It would seem that Alberty has a design that meets the needs for a general education.

Bruner uses the approach that schools are to teach the various disciplines in such a way that the structure and function of the discipline is learned. Further, students either are or can be motivated to be interested in inquiry in a particular subject area. The basic rationale for this approach is spelled out by Paul Woodring.

Progressive education for more than half a century stressed the school's responsibility for the "whole child." They held that the child's adjustment to his social environment, and his ability to satisfy his felt needs, were educational goals no less important than the acquisition of scholarly knowledge. This broad view was bitterly attacked by other educators who ascribed a more limited responsibility to the schools and urged teachers to give their major attention to intelligent development, while leaving other responsibilities to the parents. . . .

In recent years a growing number of leaders of American thought have become convinced that we must shift our emphasis from personal to national goals. . . . They insist that the leadership, and the scientific and technological talent, essential to our survival can be produced only by a greatly improved educational system that stresses rigor and selectivity. . . .

Thus the rationale for Bruner's point of view emerges.

Again, it would appear that both Alberty and Bruner have a place in the current educational scene. Stressing Alberty only, special education and the culturally deprived (who may constitute up to 35% of the school student

population) would be met with a program viable for their needs.\textsuperscript{10} Certainly other students would also gain a valuable social-involvement experience. In addition, they would use disciplines to solve real problems. But it could well be that the discipline would not be studied as such, its structure, function, modes of inquiry, intuiting, generalizing, and discovering within a discipline. When the Eight Year Study was made, and in probably a great majority of the secondary schools today, subject-matter was often taught with an emphasis on facts and not the structure and function of the discipline as such. This latter approach is more exciting, and transfer of learning is more plausible.

So again it is suggested that a general education can consist of both the core and the disciplines existing together. Disciplines can be studied and brought together in problem areas in the core, in an interdisciplinary manner. The amount of each (discipline versus core) could be determined in relation to the skills and motivation of the student. In secondary schools, the disciplines would tend to receive emphasis and the core area serve a synthetic function. This would be true because of the current structure of the majority of the high schools, the skills of teachers, and the multiple teacher time involved in interdisciplinary studies.

Alberty's fourth point notes that learning is based on solving real problems. Bruner contends that, "The goal of education is disciplined understanding. That is the process as well."\(^{11}\)

Again, the curriculum can be devised to include both, in line with previous comments in this section.

Values on which to base a curriculum include:

1. Schools should teach the disciplines and help relate this knowledge to the students. Subject matter areas can be remembered in an ordered manner, so that structure and modes of inquiry of the discipline are clear. Secondary students should also be involved in at least one interdisciplinary study annually, based on their own concerns and problems, since these can be blocks to learning and are important to resolve.

2. Secondary education should attempt to allow for individual differences in the classroom. For individuals do not all have the same needs or capacities. The student is one of the major foci of education.

3. The disciplines are the second major focus of education and should be understood and used.

4. A spiral curriculum should be evolved for the disciplines, so that at whatever level they are taught, the teaching will be pertinent to the student, developmental, and honest to the discipline.

5. Curriculum must be flexible enough to meet special student needs. This would allow for students with handicaps, problems of cultural deprivation, or personal problems, all of whom could relate to classes that are less formally structured.

B. Value Judgments About the Nature of the Student

In considering the nature of the student, Alberty contends that the needs and purposes of students (both individually and as a group) must be understood and used as a focal point for curriculum building. He further contends that co-operation and learning will take place when the needs and experiences of students are used as the central focus of the classroom. Misbehavior is essentially disagreement between the student and his goals, and the school and its expectations of the student.

Bruner counters with the statement, "It is sentimentalism to assume that the teaching of life can always be fitted to the child's interests, just as it is empty formalism to force the child to parrot the formulas of adult society. Interests can be created and stimulated." Of course, there is always place for concern as to what kinds of interests are created, by whom, for what purpose, and on what authority. The Alberty approach is of humanist-democratic orientation, while Bruner's approach is that of a scholar

12Ibid., p. 43.
concerned about how students can best understand and learn to use a given discipline. To Bruner, the student is a learner of a discipline, a naturally inquisitive person who will be motivated to learn if inquiry about the discipline is encouraged.

The nature of the adolescent is delimited in Bruner only to that of a learner. Bruner is, of course, concerned with such factors as moving from extrinsic to intrinsic motivation. In reality, that is often much more difficult than presenting interesting material in a class. Cognition as a process to be conceived theoretically is not the same as a method or approach universalized for the secondary schools. Alberty deals with and tries to use such concepts as: blocks to active participation; confusions in the culture; the demand for conformity; the adolescent needs concept; the developmental task concept; problem areas as self-understanding; and others.\footnote{Alberty, Reorganizing . . ., pp. 118-146.} Knowledge of the nature of the adolescent as a part of a group and as a learner are both necessary.

So far as the student as a learner is concerned, Alberty places less emphasis in this area than Bruner. Alberty certainly deals with the matter. But he does not deal with the various disciplines; his approach is more that of the reflective method, organizing units of study based on multiple resources.
Obviously, the adolescent as both a person and as a learner is important in the educational process. To omit his nature as a person in building a theory of instruction is to limit the total effectiveness of the theory as applied to a secondary school. To omit consideration of the adolescent as a learner of disciplines is also an error. For this is how knowledge is organized, into disciplines. To be able to comprehend the structure of disciplines and to use disciplines for one's own purposes is obviously of educational merit.

The second point Alberty makes is that the student and the reflective method must be trusted to accrue positive results in a teaching situation. This is Alberty's faith in democratic humanism. But Bruner places trust in the modes of inquiry of each of the disciplines. However, he also trusts the reflective method used within each discipline, although he calls it discovery. Alberty comments, "... students should be led to discover these ideas, principles, or generalizations by a process of intuitive and analytical thinking which boils down to the process of reflective thinking."\textsuperscript{14}

If emphasis is placed on the disciplines, obviously the modes of inquiry within the discipline are important and should be taught to children. Since it is the structure of most secondary schools to teach in this way, then the methods

\textsuperscript{14}Ibid., p. 191.
of inquiry within the discipline are important. The reflective method is also valid and has general application in the lives of students.

In conclusion:

1. The adolescent is both a learner and a person whose needs, problems and purposes should be considered since they markedly effect the teaching-learning situation.

2. The adolescent should learn the reflective method as a general method of problem-solving and the nature of inquiry of the various disciplines.

C. Basic Value Orientation

Alberty's first premise is the fact that knowledge is based on human experience. Bruner would not disagree with this, for after all, the disciplines are segments of human knowledge, structured by men. Both are interested in the use of the reflective method, Alberty in relation to adolescent needs, Bruner in relation to problems within a discipline.

The second basic value of Alberty's relates to the individual and society. Both must be open to change, and continued growth is the goal of both individuals and society. Bruner would not disagree that change is part of a technical society. And accommodation to change is essential. Competence and skill are necessary for individual existence in and for the continuance of the technological society. This is a further refinement of change, related to the learning of
more specific knowledge. Alberty's growth concept is humanistic, personal growth as an individual. Bruner, as an advocate of study of the disciplines, thinks of growth in more specific terms.

Bruner adds that he believes in democracy in that democracy allows for a greater freeing of ability than any more coercive system of organization. Alberty also believes in democracy primarily for the same reason.

Finally, Alberty notes that reflective thinking is the method of growth and democratically applicable to individuals and to society as a whole. While accepting reflective thinking, Bruner adds that the disciplines are man's attempt to structure knowledge. Awareness of this structure will also help bring information to bear in problem situations. It is, therefore, a combination of the two as previously established.

Recapitulating briefly:

1. Knowledge is based on human experience, both in relation to adolescent needs and to the disciplines.

2. The individual and society must be open to change. Change also demands new knowledge and expertise.

3. Reflective thinking and use of modes of inquiry in the disciplines are ways of acquiring knowledge and solving problems.
D. Nature of the Subject Matter

For Alberty, the basic content of the teaching-learning situation should revolve around problems of the adolescent, both personally, and in and with society. The various disciplines are one source to find answers to these problems. But the focal point of the subject matter is the adolescent problem. A single discipline can be taught if there is need for same. In actuality, mathematics is recommended to be taught as a separate subject, and the sciences can be as well; if this fulfills the needs of the student. In fact, any separate subject can be taught on the basis of need. Need is fundamental to all education, both general and special.

Bruner contends that subject matter is basically contained in the various disciplines, each of which is the composite of mankind's experience in an ordered segment of knowledge. A discipline has a basic structure (presuppositions, questions, concepts, ordering) and modes of inquiry which must be learned by the student. The point of learning a discipline is to be able to use it—to hypothesize, intuit, relate, critique, using the content of a discipline and its modes of inquiry as a source for further learning.

Bruner obviously disagrees markedly with Alberty. Discussing the Progressive point of view, Bruner commented,

To attempt a justification of subject matter . . . in terms of its relation to the child's social activities is to misunderstand what knowledge is and how it may be mastered. . . .
Progress toward abstraction requires precisely that there be a weaning away from the obviousness of superficial experience.15

Abstraction is necessary in all the disciplines, but particularly in mathematics, science, and in much of their use.

So far as the disciplines are concerned, Bruner notes that,

One cannot "cover" any subject in full . . . Subject matter presented so as to emphasize its structure will perforce be of that generative kind that permits reconstruction of the details or, at very least, prepares a place where details, when encountered, can be fitted.16

Finally, what shall be taught . . . ?

Knowledge of the natural world, knowledge of the human condition, knowledge of the nature and dynamics of society, knowledge of the past . . ., knowledge of the products of our artistic heritage . . ., (and) a (second) natural language and mathematics.17

Alberty counters these assertions directly.

Do not great issues transcend the boundaries of specific disciplines? For an example, take the burning issue, "Should Red China be admitted to the United Nations?" This issue involves ethics or morality, geography, sociology, anthropology, technology, and mathematics, as well as broad cultural considerations. Are the various aspects to be compartmentalized in terms of structured disciplines?18

Perhaps Mauritz Johnson has a thought that can assist in bringing about a rapprochment between the two positions.

16Ibid.
17Ibid., pp. 46-47.
18Alberty, Reorganizing . . ., p. 192.
Writing about the life adjustment approach, which is a facet of Progressivism, Johnson noted,

It arose . . . because process and application were being ignored in academic programs. . . . Yet the life adjustment program fell because in attempting to correct the situation it neglected the content without which the process cannot be applied. Later he asserts, "The academic approach makes for better life adjustment, but only if sufficient attention is given to the bearing knowledge has upon life problems and the process of bringing it to bear upon them." 19

On this account, both Alberty and Bruner appear deficient. Alberty stresses the use of the disciplines in relation to student needs, but not the acquisition of ordered knowledge. Bruner stresses the gaining of the structure of the discipline. Within gaining knowledge of the structure of the discipline, discovery is encouraged. In this process, gaming, intuiting, hypothesizing, some adolescent issues could be handled. But this is definitely peripheral. In addition, as stated by Alberty, the problem approach allows for discussion of great issues in an interdisciplinary manner. So there needs to be preservation of both content and process. There needs to be allowance for the disciplines and for application of the disciplines, singly and together, to real problems of adolescents.

Harold Taylor makes a good statement in this regard. The educator must therefore have an image of the child in the reality of his school and his society, at a particular stage in the child's life, and in relation to all the parts of that life. Once endowed with this empathy, the educator must then be a scholar who is deeply educated in a field of knowledge he has mastered.

Subject matter is obviously collected in the disciplines. Of Bruner's own work, Parker and Rubin stated that "... while every subject may have a central structure, the structure is not easily found; moreover, it tends to vary according to the particular orientation of the specialist who is defining it." Also, they noted that there are different structures in a subject, such as cognitive, taxonomic, and interpretive. Granted that these difficulties exist, many useful materials are now being written which are based on use of a structure of the discipline. Edwin Fenton's Teaching the New Social Studies; Stanley Elam's Education and the Structure of Knowledge; John Michaelis' The Social Sciences; Arthur King and John Braunell's The Curriculum and the Disciplines of Knowledge; these are just a few books written from this point of view. A number of projects have been financed as well, such as Max Beberman's University of


Illinois Committee on School Mathematics; the Commission on the English Language of the National Council of Teachers of English; and the National Council for the Social Studies' Project on Social Studies. So the point is that structures for a discipline can be devised. There will not be total agreement on any one structure, but Bruner's contention, that knowledge can be learned, remembered, used and transferred more easily when related to a structure, is valid. Further, he states, "Knowledge is a model we construct to give meaning and structure to regularities in experience. The organizing ideas of any body of knowledge are inventions for rendering experience economical and connected." 22 So there is firm evidence for teaching the structures of the various disciplines.

But Bruner omits the idea espoused by Harold Taylor that the scholar understand the nature of the child and his developmental needs and concerns. More than the discipline and discovery in the discipline should be taught. Bruner believes in utilizing the interest of the child, but the student could well profit by relating concepts from the discipline to issues and concerns of life today. From this vantage point, there could be an easy departure to problems that face the student personally. Even if this latter did not take place in the class, the student would be in a better

position to do so as he understood not only the structure but the relevance and immediacy of the discipline for current problems and concerns.

Finally, Alberty's comment about teaching great issues that are interdisciplinary in nature, and being concerned about the needs and problems of students is important. Edgar Friedenberg states,

The record of the school as a contributor to the clarification of the meaning of the adolescent life is, in the balance, poor. Its specific consequences seem to me usually negative. Good is done, too; but almost because things are not working quite right. The system falters: and scholarly teachers, warmly understanding and professionally oriented counselors, appear and sustain themselves on the satisfactions of their work till their colleagues catch them at it. Pockets of privacy develop, in informal groups and minor clubs and organizations, and deeply felt relations between persons develop in them. High standards of competence are set in certain areas like sports or stagecraft, or in courses dealing with deep concerns of adolescents, because the youngsters will settle for nothing else.23

This latter quality of education is largely ignored by Bruner.

The training of the secondary teachers and organization of the secondary schools must also be taken into consideration in defining the subject matter. Current training is usually for qualification to teach in a particular subject matter area. Schools are, of course, largely organized for teaching in this way. So a major factor in consideration of

any reorganization, if this be thought appropriate, would be the realistic handling of the massive system of contemporary secondary education. However, a workable solution can be proposed from the material presented in this section that will not call for massive change.

The disciplines are central to education. Teaching the structure and modes of inquiry of the disciplines is a great improvement over fact oriented teaching. This newer emphasis gives students a basis for further inquiry, a framework into which new ideas and experiences can be related. But the subject matter must be more than the disciplines. Students are also part of the subject matter. The concerns which face them should be considered in the classroom. So teachers must be aware of developmental needs of students and, hopefully, learn to be at least somewhat sensitive to personal needs as well. In each class, the disciplines where possible should be related to current issues, needs, and problems. These definitely affect the student.

Also, the subject matter should include great issues of our time which are of an interdisciplinary nature. The disciplines, while useful, can compartmentalize knowledge too greatly. Life is not segmented as are the disciplines. So an experience allowing interplay among the disciplines would be valuable for students. Since the student and his concerns are not central in the total curriculum, it is
appropriate in interdisciplinary studies to center on this aspect. In an interdisciplinary class in the secondary school, all the appropriate disciplines could be brought to bear on great issues (which affect adolescents) and problems and concerns of adolescents. Feedback from the classes (as teachers of the discipline learn to participate meaningfully) could revitalize and humanize the whole curriculum.

The final proposals of this section are as follows:

1. Subject matter includes the various disciplines, which are taught in separate classes emphasizing the structure and methods of inquiry of each discipline. Teachers should also be aware of the nature of students, individually and as a group, and should relate concepts to present issues whenever possible.

2. Each secondary student should be involved in at least one (and possibly one annually) interdisciplinary study (class) that emphasizes great issues that relate to students and especially focus on problems of adolescents. Problems of adolescents are very really part of the subject matter.

II. Objectives

A. Understand Society and Relate Education Thereto

There are several values which relate to understanding society and relating same to education. So far as a general use of knowledge is concerned, point I (A, 3) states that the
disciplines should be understood and discovery techniques learned and used. Also, interdisciplinary seminars can focus on broad problem-solving techniques. To gain a knowledge of society, the problems of society can be perused in an interdisciplinary fashion; and can also be seen from the point of view of the individual disciplines as they relate to society.

Point I (A, 2) allows for individual differences. In some classes, this means freedom within a structure (as in the disciplines). In other classes, it means freedom to help structure. All this implies a realistic democratic framework in the school, meeting the needs of a democratic society and being given some of the benefits of individual freedom.

Alberty sees society as a flexible, dynamic interrelationship of individuals, singly and in groups and institutions. Operating within society are many conflicting elements, and Alberty conceives of the school as the primary agency to help clarify these conflicts. These conflicts are contributing factors to the problems of adolescents.

Moral standards and arbitrary rules are imposed on youth, who are allowed no recourse. The mores of a society and community must be open to question so that the relevance of a particular code or rule can either be validated, or it can be modified or deleted.

Competition and co-operating are two conflicting elements within our culture. As society becomes more urbanized,
complex and interrelated, co-operation is a necessity. Yet the legacy of competition is still espoused in some sectors of our society. In fact, the grading system does this even within the secondary school.

Tolerance is considered to be an important goal in our society. Yet intolerance is practiced constantly. Witness the alienation of whole groups of people in deprived ghetto existences, intolerance based most often on race, lack of acculturation, lack of economic standing, and political non-organization. Tolerance is often extended only to majorities, and not to minorities.

Democracy is cherished verbally but is frequently misused. Demogoguery can be used to appeal to selfish, particularistic interests. Outworn values that fulfilled a specific historic function are sometimes supported as being in the best democratic tradition. Understanding and use of democracy is an important undertaking in the secondary school.

In a democracy, citizens must be informed on issues and participate actively in social and political endeavors. Yet the example of many adults is such that this quality of learning and participation is not evident.

Finally, each student must be allowed to seek a future of his own, relating education to his own social needs and purposes. These particular needs include: achievement in basic groups (family/school/peers); selecting a vocation;
community participation; understanding the social order and values therein.

The composite of all of these issues notes the conflicts in society that affect the adolescent, and the adolescents need to understand and be able to operate effectively in society as a person.

Alberty approaches society from the point of view of how it presently affects the individual. If the individual adolescent is able to understand the operations and ambiguities of present day society, and meet his present needs and developmental tasks, then he will be ready to go on to the next level of performance successfully. But Bruner is not so optimistic. Society has specific needs. And the adolescent must be prepared to meet the demands of a complex, technological society.

Bruner contends that a technological society needs competent, skilled persons as products of the educational system. In addition, the sustenance of democracy requires competent leaders who have mastered the skills of inquiry, thereby being able to consider differing points of view, arriving at viable solutions. Agreeing with Alberty about society being in a constant state of flux, mastery of the modes of inquiry are, therefore, a necessity. For all facts are subject to possible change. Having mastery of the structure of disciplines and modes of inquiry allows the student, who is so learned, to utilize facts according to the appropriate situation.
Since society is constantly changing, and since change occurs in all the disciplines as well, there must be constant feedback into the secondary schools from scholars in the various disciplines. Otherwise the content of the secondary school courses would be obsolete since both society and the disciplines are changing. Therefore, with proper feedback, the school will be able to change as well.

It seems that Bruner and Alberty are looking at society from two different perspectives. Bruner sees the competent individual contributing to a complex and changing society; Alberty sees individuals having their own needs met before they can contribute. Bruner sees the disciplines clarifying society for individuals; Alberty sees personal clarification coming as the basic conflicts in society are understood by students. Bruner ignores the individual needs of students as persons, trusting that they can be motivated to learn and become competent because of their basic interest in inquiry; Alberty believes that if current needs and developmental tasks are met that the next level of needs and achievements, such as competence, will almost automatically follow.

Both of these points of view about society have credence. Conflicts in society must be recognized and resolved so far as students are concerned. And schools must meet society's need for competent thinkers, craftsmen, technicians, and executives. It would appear that both Bruner
and Alberty want the same ends, but they approach them from different directions.

Henry M. Wriston writes in *Goals for Americans* about this topic.

. . . There is a perpetual tension between the particular and the general, between individual whims and social necessities. Indeed, that is characteristic of life itself. Centuries ago Aristotle observed that man is a social animal. Each person has both particular and general interests, individual wants and social needs. When the general interest is overaccentuated, freedom declines and may disappear. . . . On the other hand, if individual interest utterly neglects social needs, anarchy is the end result. The consequence of either extreme is loss of liberty.24

So the two must be held in tension; society and the individuals need to clarify it (Alberty); society and the individuals need to contribute to it.

A meaningful synthesis could include the following:

1. Society can be better understood by students if in classroom experience they have opportunity to deal with conflicting social issues and resolve them. This could be done especially in interdisciplinary seminars, in the social studies areas, and in English.

2. The social needs of students are important and unless met can be blocks to further learning. Therefore, interdisciplinary seminars especially can deal with these issues, and classroom teachers can be aware of students'

problems in this area. Students also learn skills of social problem-solving.

3. There are great demands for competent persons in a technical society, so disciplines should be taught, emphasizing the structure and modes of inquiry of the discipline.

4. Our society is democratic, making some demands for its sustenance, and allowing for individual freedom of choice at points as well. The school should also operate in this manner.

B. Understand the Adolescent and Relate Education Thereto

Two important value judgments are noted regarding the nature of the student. In point I (B, 1), the adolescent is noted as both a learner of disciplines and as a person with needs, problems, and purposes which need to be considered since these latter do effect the student's ability to learn.

A second point is similar to the first. So far as skills of inquiry are concerned, students need to learn both the modes of inquiry of the disciplines and the method of reflective thinking. The disciplines are obviously essential for competence in a technical society. Adolescents need to be competent in this regard. But there are also personal and social issues that must be resolved using more than one discipline. As Luszki notes, "Research into many problems requires the use of concepts, and possibly of methods,
transcending any one field." 

Personal and social problems often transcend a single discipline.

Alberty sees the adolescent in the total perspective of his needs and environment. If education is to have maximum meaning in the life of the adolescent, it must move toward the meeting of his personal needs. Goals of the adolescent include such topics as: meeting personal problems; achieving greater independence and responsibility at home; good peer relations; better relations with adults; satisfactory school experiences; increased community participation; economic participation and security; understanding of other groups and cultures; and the development of a stable and growing system of values. These are the areas of real interest to the student and are necessary for his growth and development. The disciplines are employed in the consideration of these problems. But the school is, in essence, a laboratory of life, focused on the adolescent and his needs, employing the reflective method to answer these basic questions.

Bruner sees the adolescent more in relation to a formal learning situation. The adolescent is viewed as a learner, and many of his needs will be met in the secondary school. An adolescent has a need for competence, to succeed. Knowledge of the disciplines and their modes of inquiry give structure to learning and assist in the development of

25 Luszki, Interdisciplinary Team . . ., p. 10.
competence. Students are inquisitive, and the discovery method heightens curiosity, lending excitement and enthusiasm to learning. All these are important factors in adolescents to be exploited in education. Adolescents function more effectively if intrinsically motivated. So by use of discovery, interesting gaming, and other devices, students can establish their own priorities for learning, and can be rewarded in the process as they achieve goals they themselves have set. Students can, of course, learn to appropriate knowledge of the disciplines to their own personal concerns as they learn the structure and function of disciplines that might be appropriate thereto.

The value judgments about the nature of the adolescent noted at the beginning of this section act to synthesize the differences that have been noted. The adolescent is what both Alberty and Bruner contend. Adolescents are both learners and persons with developmental needs, problems, and purposes of their own. There are diverse needs to be met: needs of the individual and needs of the society. There are skills to be learned: mastering the disciplines and becoming a self-reliant person. Obviously the students should be interested in learning. One way is to begin with their interests; another is to interest them in a discipline or series of disciplines which society deems essential for its own survival. Both of these themes must be a part of the secondary school system.
To summarize this section, the following points can be noted:

1. Interest and intrinsic motivation must be developed in learning. The concerns of students should be the focal point of some educational experiences; and an interest must be developed in the academic disciplines.

2. Disciplines and their structure must be understood for purposive direction in learning; and the discipline should be applied to needs of adolescents, reflectively.

3. Adolescents desire both to be competent in the disciplines, and to become self-reliant individuals.

C. Understand the Learning Process and Methods of Instruction

Several of the Values on Which to Base Curriculum relate to the learning process and methods of instruction. Point I (A, 1), notes that subject areas are learned and remembered if organized in an ordered manner so that structure and modes of inquiry of the particular discipline are made clear. But it also notes that students need to be involved in some interdisciplinary studies based on their own needs and concerns. Additionally, student needs and concerns could be a consideration in the discipline itself. It is not necessary to have only one emphasis in a classroom.

A second point (I, A, 2), considers allowing for individual differences in secondary education. Students are one of the central concerns in education, and not all students are able to fit into the same preconceived pattern.
The third point (I, A, 3) is a corollary to the previous item. In addition to a consideration of the student, there must be a consideration of subject matter content other than the student and his immediate concerns.

Fourth, point I (A, 4), notes that the learning process is sequential, that one level of learning builds on the other. As disciplines are better organized, this may be possible. But also there must be agreement as to what constitutes a discipline. At any rate, all teaching should be honest to the basic concepts of a discipline so that nothing will have to be retaught or un-taught later.

Finally, point I (A, 5), indicates that there is need for special education to meet requirements of students who cannot adjust to the "normal" school curriculum. Those with physical handicaps, low intelligence, adjustment problems, culturally deprived. . . . If a student is not able to relate to the curriculum, he might be compelled to drop out. As Havighurst noted, "It was shown that the majority of delinquents drop out of school as soon as possible, and therefore the schools would have to change their programs if they were to be effective in decreasing delinquency."26

The same can be said of other adolescents with special problems. An educational program must be specially geared

to specialized need. Obviously this would be a good principle to apply to ALL students. But the seriousness of those with severe special need dictates more immediate action.

Alberty, with his concern on the student as central in the learning process, believes that the secondary phase of education should involve students co-operating with the teacher in structuring learning experiences around student needs and interests. The objective is to provide learning experiences that allow for self-clarification and clarification of the social order in which students live, using reflective thinking. The disciplines are used in this process of self-clarification.

That self-clarification is necessary is without question. The sources for this are abundant. Ruth Strang states that, "He (the adolescent) strives to find a common ground of agreement between his description of himself and descriptions made by other people. If he fails to integrate the diverse values in his life, he may develop inner conflicts. . . . A unified and harmonious self-concept is an achievement."27

Robert Nixon confirms the same idea. He notes that the search for ego identity is primary in the life of the adolescent.28


If this is the case, and since there seems to be no other social agency other than the school to whom all adolescents are affiliated, then this could well be one of the major goals of instruction.

Bruner emphasizes the subject matter content of learning centered in the disciplines. The organized discipline is the content for learning. Motivation occurs in studying the discipline by encouraging use of discovery techniques and relying on the innate inquisitiveness of students to seek new understandings. Also endemic to studying a discipline is to learn its structure and method of inquiry. In addition, the proper developmental sequence of presentation of concepts in the discipline is important.

There is ample confirmation for dealing with disciplines in terms of dealing with the structure of, or a model of the structure of a discipline. Belth states that

... in education the study of models can lead to the development of methodological excellence in the various disciplines. This can occur when we have become so efficient in making and using models that from their base we are able to invent methods to cope with situations as we encounter them.29

Bruner's own studies, previously cited, refer to improved ability to remember, to transfer, and to generalize on the basis of having a structure or model as a framework into which ideas can be related and thereby made more meaningful.

Finally, the two points of view, student dealing with himself and social problems; and student dealing with a discipline, are complementary. As Arno Bellack has noted,

Giving students an opportunity to grapple with broad social problems was basically a promising innovation. But at the same time, one is forced to recognize that problem-solving on such a broad base cannot be pursued successfully without growing understanding of the fields of knowledge on which the problem-solver must draw. 30

So it would appear that both stresses could be used: an emphasis on the discipline as a source of systematic knowledge and information-deriving inquiry; and the uses of the disciplines both singly and severally to relate to the individual in personal and social problem-solving.

To finalize this section, the following statements can be made about learning process and methods of instruction.

1. There are two sources of the content: the disciplines and the students with their needs and problems.

2. The disciplines should be learned individually in class situations with emphasis on structure, and modes of inquiry intrinsic to the discipline, and use of discovery techniques. This allows for easier assimilation of facts and concepts, remembering, and general usefulness of the discipline.

3. Student needs and problems should also be considered in the disciplines. In addition, students should be able to use all the disciplines in interdisciplinary studies to deal with social issues and adolescent needs. The reflective method is useful in this kind of learning.

4. Instruction should be so planned that, in the disciplines, concepts are sequential, being built within a given model of the discipline. Also, developmental and individual needs of students should be considered both in classes in the disciplines, and in interdisciplinary studies.

5. Special instruction must be considered if students do not fit into a given program.

D. Note Concepts and Skills to be Learned

Beginning with the Values on Which to Base Curriculum, four of these contribute a basis for this section. Point I (A, 2) notes the need to allow for individual differences, placing the individual as a central part of the secondary school teaching-learning situation. In (I, A, 1), it is stated that the student and his needs are central in teaching. All this implies that persons are valued as being of intrinsic worth, and that an individual should be involved in shaping the experience of which he is a part. This is a basic concept to be learned.

Concepts are a part of the disciplines, all of which contribute to mankind's fund of knowledge Point I (D, 1)
states that the concepts basic to the disciplines should also be learned.

So far as skills are concerned, expression of needs by students is implied. Point I (C, 3) considers the ability to handle reflective thinking as a problem-solving tool, with all the organizational, research, reporting, and evaluation skills that go into the reflective method as used in a school situation. In using the disciplines, the methods of inquiry that are used in each discipline must be understood and used. Discovery is the general method of inquiry recommended in teaching, with generalizing and intuiting also being considered important skills to learn.

In the treatment of Bruner and Alberty on this topic, there is really only one other concept that they add. And it is implied in the above statements. Both promote democracy. Alberty means regard for the individual, the method of intelligence, focusing on individual and social problems, and using the method of intelligence. By democracy, Bruner means freedom within the structure of the discipline. This is use of discovery, encouragement to intuit, use of gaming devices and such. The need to value learning use inquisitiveness to gain new facts, to consider the future and the student's role in the future—all this is involved in democracy as Bruner defines it.

These concepts are consistent with the value motif of each and have been worked in to The Values on Which to Base Curriculum.
In conclusion, concepts and skills to be learned include:

1. The intrinsic worth of the individual is an important concept to learn. The individual's needs, purposes and problems are necessary to consider in shaping his experiences. This implies a democratic framework of operation.

2. Concepts in the disciplines should be learned, understood, and used.

3. Skills to be learned include reflective thinking and related skills for personal and social problem-solving; and methods of inquiry within the disciplines (especially learning to use the discovery method) are important to learn.

E. Values to Be Preserved

In this section, a further comparison of Alberty and Bruner will lend no additional information to that which has already been gleaned in the synthesis between them in Values on Which to Base Curriculum earlier in this chapter. Several major value motifs are recurrent and should be considered.

First, points (I, C, 2) and (I, C, 3) note that we live in a social content where change is the dominant theme, therefore not giving students absolutes for a sense of purpose. It is, therefore, necessary to use the structures of the disciplines to organize old and general new knowledge. It is also imperative to be able to use the reflective method for personal and social problem-solving.
Second (I, A, 2), comments on allowance for individual differences in the class. (I, A, 3) makes mention of the disciplines as important in the learning process. So together, students and the disciplines that can be used by students are the important foci of education.

Third, the value of democracy is implied in many of the value statements. (I, B, 1) considers the use of adolescent needs, problems, and purposes in shaping the classroom curriculum. (I, A, 5) notes how special needs of students must be met. (I, D, 2) calls for use of all the disciplines to deal with problems that adolescents have. So an interplay between student and class is desired. (I, D, 2) states that the disciplines should themselves be made finally to relate to student need. This is not a laissez faire sort of democracy that is implied, but one asking for responsible participation leading to self-discovery, discovery of use of the disciplines, and personal competence.

Fourth, knowledge that can be structured is easier to learn, use, and remember. (I, D, 1) considers this idea as does (I, A, 4), which states the need for a developmental curriculum.

In summary, the values to be preserved are:

1. The reflective method, and the disciplines and their modes of inquiry, are the basic content and tools for evaluation and generation of knowledge.
2. The student, and the disciplines and their use by students, are to be valued.

3. Democracy must be practiced and preserved.

4. Knowledge that is structured is easier to learn and use.

III. Implementation

The section on implementation will not employ a further comparison between Alberty and Bruner, but will instead draw essentially on the Objectives section of the model. This section did rely very heavily on contrasting the two curriculum theorists (in both the value and objectives sections of the model), and as such laid the basis for implementing the synthesis of the Values and Objectives of Alberty and Bruner. Certainly material from both Alberty and Bruner that is appropriate will be used in the implementation.

A. Content and Methods of Inquiry

In the Objectives section, point (II, C, 1) notes that there are two sources of content: the disciplines and the students with their needs and problems. It is important not to over-emphasize either of these two perspectives. If the student is the center of the curriculum, content can be neglected. While if the discipline is central, then the student and his needs as a developing person can be ignored.
Competence is a goal both in knowledge of disciplines and as a confident individual, contributing to the social order.

So far as methods of inquiry are concerned, point (II, D, 2) states that concepts in the disciplines should be learned, understood, and used. In studying the disciplines, it is especially appropriate that discovery be used as a method of inquiry. In (II, D, 3) methods of inquiry include reflective thinking for personal and social problem-solving, in addition to strategies of inquiry which are used by scholars in their respective disciplines.

The reflective method (or a classic version thereof) is well stated by John Dewey. He lists five basic steps in reflective thinking, after beginning with an issue to be resolved.

(1) suggestions, in which the mind leaps forward to a possible solution; (2) an intellectualization of the difficulty . . . into a problem to be solved, a question for which the answer must be sought; (3) the use of one suggestion after another as a leading idea, or hypothesis, to initiate and guide observation and other operations in collection of factual materials; (4) the mental elaboration of the idea . . . ; and (5) testing the hypothesis by overt or imaginative action. 31

Reflective thinking is not at all foreign to discovery; in fact, the reflective method can well be used as a discovery process. The first step calls for the use of intuition, guessing at a possible solution or series of solutions. The second step calls for defining the problem as

specifically as possible, forming a base from which to seek specific information. In the third step, hypotheses are formed from intuiting and using whatever information is at hand. These hypotheses are then able to be researched. Fourth, the ramifications or conclusions of the hypothesis are verbalized. And fifth, the verbalization is validated, modified or invalidated in relation to its proximity to reality, respectively.

Reflective thinking is the intellectual process involved in dealing with personal and social problem solving. Reflective thinking can be used with single issues as they arise within a given discipline. The issue can arise naturally as a part of class investigation. Or it can be a contrived problem, as is a planned game or model exercise, within a unit as Bruner discusses in Toward a Theory of Instruction. Or another approach is that of Oliver and Shaver in devising selected case studies of important issues for class discussion and research.

The use of a core-class or interdisciplinary seminar could also provide an excellent method of inquiry and addition to the curriculum. Such a class could serve to allow students to see the interplay of disciplines on problems and


acting as correctives on each other. Further, students could be more involved in helping to structure the class around social issues important to them and their own personal problems. This approach is also in line with objective (II, D, 1) which notes the intrinsic worth of the individual, his needs, purposes, and problems. These latter need also be involved in the learning experience and this sort of course gives great value to the individual and his needs and abilities.

In this kind of course, the Albery method of organization is valid. This would involve being aware of adolescent development and needs; eliciting adolescent response in class; organizing problem areas; developing a resource unit; and using the resource unit as a basis for the learning unit.

So far as study of the disciplines is concerned, the methods of inquiry would vary with modes of learning in the discipline.

Suppose history be taken as an example. Ralph W. Haskins has a concise definition of his interpretation of the modes of learning in history. To study history, he lists the following as essential elements in the discipline of history.

1. Develop a useable definition of history.
2. Divide history into areas of study (as Western; United States; racial; special problem, etc.)
3. Determine a basic goal in studying history, as
"to interpret the present through a study of the past." Also more specific subheads must be developed.

4. Use of data sources must be comprehended.

5. Limitations of history should be accepted and known.

6. See major ideas in history and their development.

7. Different uses of history should be understood. Especially the historical method must be appropriated. The historical method herein consists of the following steps:
   a) Hypothesis building.
   b) Accumulating data.
   c) Criticism of facts.
   d) Drawing conclusions.
   e) Presenting results.
   (This is very similar to the reflective method.)

8. Note different organizational patterns of history, as chronological, topical, institutional, ideological, economic, etc.

9. Be aware of and able to use the process of historical investigation.
   a) Question unproved statements.

b) Hypothesize to build structure/process to see events.

c) Gather and interpret information
   1) Test statements.
   2) Obtain diverse information and note source.
   3) Check reliability of source.
   4) Use information that has a bearing on the present.
   5) Use interpreters own background, those of scholars, and perspective of the present to generalize.

10. Note problems in the historical method, especially seeing total background, conflicting elements in that period of history, and seeking persons involved, and possible causations of events.

11. Several viewpoints in philosophy of history should be known.

12. See contributions of other fields to history.

13. Finally, in teaching a high school history class, be sure that students:
   a) Understand coverage and organization.
   b) Use multiple resources, especially biography, economics, political science, sociology, psychology, geography.
   c) Are critical, using methods noted.
   d) Go beyond facts to ideas.
e) Develop concepts from ideas.
f) Generalize on the basis of interaction of ideas.
g) Engage in controversy for excitement, challenge, idea clarification.35

This is an example of one style of developing a structure in a discipline and implementing it. Final implementation would be much more specific in terms of units, projects, or daily class or individual studies in the teaching-learning situation.

The final consideration of this section on Content and Methods of Inquiry is in relation to scope and sequence. Scope is inherent in a great many of the objectives of this study. Scope should include (II, A, 1) understanding society; (II, A, 2) personal and social needs of students; (II, A, 3) competence in the disciplines; (II, C, 2) the disciplines learned individually; (II, C, 3) interdisciplinary studies in the curriculum relating to adolescent needs; (II, E, 3) democracy being practiced; (II, C, 5) special studies for those who cannot relate to regular curriculum. This is a great many items to reconcile.

Competence in the disciplines (II, A, 3) and learning disciplines individually (II, C, 2) are reconciled at once. Understanding society, (II, A, 1) possibly indicates disciplines that deal with social studies or relating disciplines

to social issues. Meeting personal and social needs of students (II, A, 2) could also be done to some extent in the context of a discipline as the need of the student and the content of the discipline met. But this is straining considerably to keep scope limited to disciplines. With the inclusion of interdisciplinary studies related to adolescent needs (II, C, 3), there comes into focus the idea of a curriculum with disciplines taught as individual subjects, sometimes possibly fusing in relation to personal and social needs and a class centered on personal and social needs using all the disciplines to deal with the needs. The disciplines would be taught for competence in dealing with structure, content and inquiry. Personal and contemporary issues would also be central in the disciplines. Point (II, C, 5) states further that special studies be provided for those who cannot adjust, for special reasons (as physical handicap, emotional problem, lack of acculturation, lack of ability) to the regular program. In this instance, then, scope would include classes in the disciplines, interdisciplinary problem centered classes, and special education.

So far as the disciplines to be studied are concerned, this is another matter. Most of these are already determined in the high schools. James B. Conant in *The Comprehensive High School* lists a possible program. For the talented, he proposes four years of English, three years of social studies (which includes two years of history, one of
which should be American, and a year of American Problems),
three years of science, four years of mathematics, and four
years of the same foreign language. For all students, four
years of English and three years of social studies would be
required. Within the comprehensive high school, programs for
business, industry, trades, building, home economics,
mechanics, etc., should be provided.36

It would be unreasonable to spell out the scope of
any given high school's curriculum without seeing the local
situation. But the subject areas Conant has listed are cur­
rently basic in American education. Add the arts, physical
education, and special activities to round out the scope of
the curriculum.

Sequence is determined by objectives (II, C, 4) which
calls for a spiral curriculum in the disciplines, building
within the structure of a discipline sequentially, each
section and each year in a discipline laying the foundation
for the next.

Scope, then, would include a cross-section of disci­
plines, taught as separate subjects, as sequential and
developing facets of the discipline, in grades or non-graded,
in individual studies or in groups. An attempt would be
made to relate the disciplines to the present, and to the
needs of students. In addition, interdisciplinary studies

36James B. Conant, The Comprehensive High School (New
would bring all the disciplines together to focus on adolescent and social needs. Special education would be provided for those who would profit from a less traditional academic program.

Sequence is based on sequential and supporting evaluation within a discipline. Social and individual need is also a determining factor.

To summarize this section, the following items can be listed:

1. Content is based on knowledge of the disciplines, their structures, modes of inquiry, and use of same; and knowledge of the student, his needs, problems, and purposes and his successful understanding of same.

2. The reflective method is used in personal and social problem solving. Problem solving of this sort can be done within a discipline. Also, it is recommended that an interdisciplinary approach be employed to integrate disciplines and to focus on student needs as central.

3. When a discipline is studied, knowledge of its organization, purpose, data sources, limitations, uses, methods of research, and relation to other disciplines should be understood and made useable. Also, a discovery method should be used in teaching.

4. Scope is determined by the disciplines studied, interdisciplinary personal-social centered study, and special education for those who cannot relate to the regular
academic program. Sequence is based on the evolutionary development of a discipline in teaching, and on personal (student's) needs and needs of society.

B. **Skills Needed in Learning**

The basic content noted in the previous section centers on the structure of the disciplines and the needs of the student. The basic methods of inquiry are those used by scholars in the disciplines, and the reflective method (which is also a method of discovery). The various methods spelled out in the previous sections are viable only if they can be broken down in terms of the more specific individual skills needed in learning. As a result, this section will need to relate closely to the previous one.

Reflective thinking requires the following skills:

(1) the ability and willingness to intuit with little information; (2) the ability to articulate an incongruity or problem into a question that can be researched; (3) the knowledge of various sources of information; (4) the ability to take logical and useful notes; (5) the ability to see the relationship between research and the problem-question; (6) the ability and desire to seek multiple causation in problem situations; (7) the ability to state a clear hypothesis as a result of information gathering (this is also a check on intuiting); (8) validation, modification, and invalidation of hypothesis as a result of testing the hypothesis logically, or in an action situation.
In the use of the reflective method in a personal or social problem situation, Alberty added these skills: (1) the ability to verbalize and share concerns in a group; (2) the ability to share leadership and assist in leadership growth opportunities; (3) the willingness to move to group decisions respecting minority rights. But these will be discussed more fully in the next session.

So far as skills within a discipline are concerned, these would vary to some degree with the discipline. The skills of reflective thinking can be generally useful. But each discipline or class of disciplines has its own structure, nomenclature, and generative possibilities. These would necessarily be spelled out in the model of each individual discipline. Specific skills would obviously vary. Bruner did mention several general skills, however, that could be included here. This would be an example of his discovery method. These include: (1) defining an issue or problem; (2) intuit in two directions: how did it happen and how can it be improved; (3) have multiple information sources, both group and individual; (4) research (and have the skill and resources to research) the forces that caused the issue (note strategies of thought, explanations, categorizations, language use and limitations; (5) contrast various possibilities of causation, moving to an hypothesis (this is a check on intuiting; (6) test the hypothesis by using it in a real or contrived (gaming or case study) situation. (This would tend to validate or invalidate the
hypothesis and would also allow practice with the hypothesis and information gathered.) All of this is strikingly similar to the reflective method. But Bruner devises further use of the information, so he encourages extension of the reflective method, i.e., the verified hypothesis being used to create further knowledge. This is, however, endemic to the reflective method in that the reflective method can be repeated continually; (7) extrapolate, go beyond the information given once again to explore the possibilities of the tested hypothesis (further intuing. Note clues, implications and formulate hypotheses on this basis).

Bruner's method of discovery and Dewey's model in reflective thinking that is used by Alberty seem very similar. The skills inherent within them are basic to scholarship.

In conclusion, general skills needed in learning (excluding specific skills in the given disciplines) include:

1. The ability to see and define a problem or incongruity.

2. Willingness and ability to intuit about a problem with little information (intuating as to both causal factors and solutions).

3. Have knowledge of various sources of information.

4. Be able to delimit a problem into a question that can be researched.
5. Develop research skills, as note taking, outlining, interviewing, analyzing, synthesizing and projecting.

6. Be able to contrast various possibilities of causation and possible future affect, moving to hypothesis.

7. Be able to test the hypothesis by using it in a real or contrived situation.

8. With valid hypothesis, extrapolate to again go beyond the information given.

C. The Individual and Behavior

Expected

This section shades into the previous section as skills. For skills are a form of behavior, albeit academic behavior. So the behavior delineated in this section will deal more nearly with personal as contrasted to academic behavior, behavior related to developing the attitudes that are important to acquire in order that learning might take place. Academic skills do not exist in isolation but are achieved as the student is interested and motivated. Objective (II, A, 2) notes that personal and social needs of students can be blocks to further learning if not resolved. Point (II, A, 3) notes the need for competence in our society and implies student need for competence. Point (II, A, 4) indicates value of democracy and allowing student choices. In (II, B, 1) interest and intrinsic motivation are important, as are concerns of students. Point (II, C, 5) allows for special
education. All these objective relate to the attitudes and abilities of students.

Both Alberty and Bruner contributed many ideas that are mutually compatible in relation to these objectives. Personal needs must be considered if motivation is to be possible. Meaningful participation is one way, so, as noted earlier, Bruner advocates use of the discovery method and Alberty of reflective thinking. Bruner also thinks it important for a student to be able to understand the relationship between the present and the future so far as studies are concerned. Alberty desires for participation in both individual and group planning, with development of the social skills necessary for group planning.

In (II, A, 3), the need for competence, Bruner contends that students desire and respect competence. The problem solving motif of Alberty moves in the same direction, allowing mastery of materials related to a problem area.

Point (II, A, 4) notes need for student involvement, allowing choices. Bruner permits choices in use of the discovery method and interaction in gaming. This also is a major theme with Alberty, pointing as he does to student need for understanding, using and appreciating democratic methods and supporting democratic society via participation in a democratic classroom. Participation also improves interpersonal relations, improving the climate of learning.
Finally, point (II, C, 5) suggests acceptance and tolerance of those who are different, allowing for a meeting of needs.

In summary, the following types of behaviors are noted:

1. Interest is stimulated by student participation and planning.
2. Students need to have their own purposes for learning, partly related to the future.
3. Students should experience being absorbed in learning (discovery and reflective methods encourage this).
4. Student initiative is expected and springs from intrinsic motivation.
5. Group interaction allows improvement of interpersonal relations.
6. Democratic methods should be understood, used and supported.
7. Democratic methods allow tolerance and open-mindedness, a good prerequisite for research.
8. Learning and using the academic skills of the disciplines, discovery, and reflective thinking are necessary behaviors to learn.

D. Group Pressures

In the section on objectives, it is noted in (II, B, 2) that the concerns of students should be the focal point of some educational experiences. It is well-documented that
having satisfactory peer-group relations is a necessity with adolescents. The adolescent sub-culture is a powerful factor in the lives of students. Schools diminish their own effectiveness if they fail to take this into account.

If students are involved in structuring their classes, if student needs are met in the class, if learning is an absorbing and interesting experience, then group pressure will militate toward approval and support of classroom learning. The previous three units in this section on Implementation all move in this direction. Content revolves around students and disciplines, with emphasis on structure, discovery, and reflection as methods of learning. Skills of each are specified and general attitudes for success considered. In short, students are brought into the learning situation to utilize their individual and group enthusiasms in learning.

In each school situation, group climate, attitudes, values, pressures would need to be evaluated. Properly understood, they can be used to make learning more effective. And if some group attributes exist wherein students are being negatively affected, then these issues could become a part of an interdisciplinary problem-centered class for consideration. In this manner, a two-way relationship is established between class and group, each contributing to the other.
Considering the group and its relationship to the
class and the individual, the following conclusions can be
drawn:

1. Students learn from each other as a major source
   of learning.

2. A questioning, student-contributing teacher rela-
tionship as in discovery or reflection can set the tone for
   meaningful individual-group participation.

3. Questioning of strictures and authority has a
   freeing effect on students, allowing enthusiasm and personal
   involvement.

4. The group can contribute to the class if under-
   stood and used; and the class can help clarify group prob-
   lems when the need is apparent.

E. Teacher and His Role

The role of the teacher is largely determined by the
implementation of the previous four units in this section
of the model. The teacher must possess knowledge of at
least one of the disciplines. Actually, since discussion
was had of disciplines acting as correctives on each other,
it would be wise that at least two disciplines be understood.

Being involved with a discipline and its structure,
the teacher can acquaint students with the structure of a
field of study and methods of inquiry related to it. Use of
the discovery and reflective approaches to learning will
also permit student involvement and participation. Obviously
the teacher is responsible for initiating the unit of study. It can be a problem within a discipline, a personal or social problem that can be related to a discipline, or a personal or social problem with which several disciplines can be used in order to attempt a solution.

Especially in using the reflective and discovery approaches, skills have to be learned. The teacher is of assistance here. Also, as previously noted, a class climate that is not too rigid or judgmental must be developed to allow such risks as intuiting and extrapolating. The teacher can set the tone that will permit this. Also, student motivation and interests must be cultivated. Needs of students should be understood to help them develop not only the skills but the attitudes necessary for success in learning. In use of the discovery-reflective approaches, clarification and assistance with resources must come from the teacher.

Finally, co-ordination of the class is an important role in this kind of teaching situation.

In developing units of study, the teacher must take into consideration the students— their needs, skills, attitudes and abilities and try to establish a pace, sequence, scope and integration that allows for maximum learning. The teacher himself should be a model of competence in knowledge, skills and personal traits.

Finally, the teacher must assist students in evaluating results of study.
In conclusion, the role of the teacher includes the following:

1. Scholar in at least two disciplines.
2. Understanding of needs and nature of students.
3. Understand the process and skills in discovery—reflection.
4. Set the tone for freedom of inquiry.
5. Initiate units of study with proper pacing, sequence, scope, and integration.
6. Co-ordinate study as it progresses, and help clarify issues.
7. Act as resource person.
8. Assist students in evaluation.

F. Organization of the School

This unit relates to organization as it affects the teaching-learning situation. The total organization of school would need to be considered in an administrative model such as was previously discussed.

The organization of the school must be so constructed as to allow and support the teacher in functioning as noted in the previous unit. Classes are flexible and both Bruner and Alberty would be amiable to a non-graded high school. Grades for evaluation could also go. The point of teaching is to assist students in the development of competence by allowing them the opportunity in an interesting, non-threatening environment, to practice what they are learning.
Grades are too rigid, and grading too threatening and too imprecise to be validated. In addition, it is an extrinsic form of motivation, not endemic to the intrinsic needs of the individual student.

The school would be organized so that the central focus of the curriculum would be the disciplines and interdisciplinary studies focused on personal and social needs or issues. In the disciplines, stress would be placed on structure of the discipline, methods of inquiry, and applying results to student and contemporary social situations where possible. The point would be to become thoroughly acquainted with the disciplines in the curriculum, understand their structure and appropriate methods of inquiry, and be able to use them personally and socially—where possible.

In addition, interdisciplinary studies would focus on the needs of students and social issues. With the need or issue central, the disciplines and the reflective method could be used. A combination of an interdisciplinary study, and classes studying the disciplines constitutes fulfillment of section (II, D, 1-3), Concepts and Skills to be Learned.

The disciplines would be taught in individual class situations, although a team-teaching situation would be very appropriate if in intuiting, hypothesizing, or extrapolating further information was needed. Flexibility of this sort should be built in to a school structure. If values (II, E, 3), practicing of democracy, are to be taken seriously, responsible interrelated planning is a necessity.
Considering interdisciplinary studies, they could be taught in a number of ways: (1) there could be individual studies, using multiple materials and reporting to a single teacher, a group of teachers representing several disciplines, or a teacher and a group of students; (2) team teaching could accomplish this approach with several disciplines focusing on the same problem; (3) a large group presentation of an interdisciplinary issue by a speaker with breakdown into small groups; (4) use of core or problem-solving approach used by Alberty. There are others as well that could be used.

Provided that the proper teachers could be found, the core approach as another class with the disciplines seems the most viable venture. As a regular class, it allows use of the other disciplines but also encourages students to participate in structuring their own learning experiences. This seems an excellent way to build many of the attitudes noted in (III, C), the Individual and Behavior Expected, and allows direct approach to dealing with (III, D), group pressures.

Also, point (II, D, 1) notes the intrinsic worth of the individual and the importance of including his needs, purposes, and problems in shaping his experiences. The core approach does just that. In discussing the teaching of the disciplines, it is stated that they should be related to student and social needs as possible. But in fact the disci-
pline is central, and the student is there to learn the discipline. So if the needs of students (which are interdisciplinary in nature) are to be considered very fully at all, it will not be in a class where a single discipline is central. Additionally, a discipline is a segment of life and students need a formal learning experience of putting the segments together and using them in a practical and interesting way to them—focusing on social issues and their own needs. Finally, since the school day would be organized into blocks of time with the disciplines being simply taught, a block of time could also be given to a class using a core approach. So far as real student need is concerned, they need a competent present as well as a competent future.

Summarizing ideas about school organization:

1. Teachers should be involved democratically with administrators in making basic curriculum decisions. A democratic administration could infuse the class with the same motif.

2. Obviously, scope, sequence, and basic curriculum decisions would be limited by realities such as time, budget, space, equipment and such "givens," although even some givens can be subject to change as needs are projected.

3. The school would be non-graded, with students learning given skills, concepts in disciplines and then progressing to another level in a planned sequence.
4. Students are not graded (evaluation) but are allowed to progress at their own pace.

5. The discipline will be taught in classes, and one class will be a core problem-centered class.

6. Multiple instructional plans can be used, as team teaching; large lecture-small discussion; seminar; individual studies; laboratory experiences. Discovery is the primary tool in the disciplines, reflection is the core.

G. **Physical Facilities Needed**

This could move in any number of directions depending on the sophistication of the curriculum and the technical equipment available. Considering instructional facilities needed for the kind of program commensurate with content and methods of inquiry suggested in (III, A), the following would be recommended:

1. A large, flexible classroom for each discipline and core class being taught.

2. A library with multiple facilities and equipment.

3. Laboratories available for the different disciplines.
   a) Language lab.
   b) Social studies gaming lab.
   c) Science labs (chemistry, physics, biology, geology, etc.).
   d) Audio-visual facilities.
4. Special facilities in the high school for secretarial studies, industrial technology, mechanics, distributive education and other special education as needed.

5. Large lecture room(s) and small seminar rooms.
These latter can be used for class project groups, individual conferences, small group discussion from large group presentation, etc.

6. Gymnasium(s), art studio, music room(s), and facilities for any other special activities.
Obviously the school could operate with less, but these would be desirable.

H. Technical Equipment Available

There is an increasing amount of equipment available. What is absolutely essential for teaching is problematical. But again in relation to section (III, A), Content of Subjects and Methods of Inquiry, the following equipment is recommended in the academic area (i.e., disciplines and core areas):

1. Multiple books, paperbacks, and magazines.
2. Programmed materials, especially for nomenclature, basics.
3. Filmstrips/films, especially as related to sequential program in discipline (as projectors and screens).
a) Films for controversial issues.
b) Biographical and art films.

c) Scientific projects in films, etc.

4. Tapes of good lectures, discussions, famous speeches (also tape recorder).

5. Overhead projectors and transparencies, opaque projectors.

6. Devices to teach structures: models; charts; equipment for dramatizing, demonstrating, and experimenting.

7. Teaching machines.

8. Public relations between school and community to make use of community resources.


10. Programmed teaching units for disciplines with teacher discretion regarding use.

IV. Outcomes

A. Sensitivity to Total Educational Process

The point of a model is to provide a framework wherein sensitivity to the total educational scene will be provided. In the development of this chapter, the first section on values was derived from a synthesis of the value constructs of Alberty and Bruner. Additional resources of other scholars in the field were also brought to bear.

In the second section of the model, on objectives, the first section was used very heavily along with a further
synthesis of objectives from the models of Alberty and Bruner, respectively. Again, the concepts of selected scholars were used. The third section of the model was for implementation of objectives and went through the same procedure.

Having used a model for curriculum development, sensitivity to the total educational process is insured. This is especially true since the major contributors to the content of the model, Alberty and Bruner, have an opposing basic orientation.

B. Allow for Behavior Desired to Be Practiced and Evaluate Same with Appropriate Tasks

Evaluation cannot take place unless the skills and other behaviors expected are carefully delineated. Once spelled out, these skills must be used in classes and other behaviors expected must have opportunity of expression. Evaluation can then best occur as a demonstration of competence in action.

In unit (II, B), Skills Needed in Learning, the basic academic skills required are spelled out. The first is the ability to see and define a problem or incongruity. To evaluate a student on this skill, it would first be necessary to allow him to have experience with a problem. This can be done in many ways. A disjunction can be posed. A controversial issue might be raised. A case study could be posed. Following the discovery approach, the student would
attempt to verbalize the incongruity into a problem statement that would have merit for research. This task could be repeated many times with other problem issues. Also, the student would have opportunity to see other students doing the same thing, and he could compare his work with theirs. Class discussion and teacher suggestion might also lend support and clarification to his effort. Evaluation, in this case, is constant. For the skill is continually being used and improved upon. This is an ideal kind of evaluative situation. The student simply has opportunity to repeat a task until he has mastered it. The time element is not the major factor. This sort of evaluation is completely consistent with the model developed in this chapter.

An approach similar to this is the kind of evaluation implied. The number of skills, attitudes, and general behaviors expected must obviously be limited. With experience more understanding can be gleaned as to how instruction facilitates or deters the mastery of the skills and behaviors desired.

As skills, behaviors, and attitudes expected are spelled out, the kinds of product expected must be fairly well defined. Opportunity to develop these skills, practice them, see others doing the same, must be frequent. Support should be given for completion or mastery. Especially in the disciplines where a sequential approach is used, failure to master basic skills, for example, could be disastrous to the student.
Evaluation of this sort is very possible in this model because of acceptance of the non-graded high school approach. Also, formal grades would not be given in a curriculum based on this model.

If skills are to be learned, they must be practiced.

C. Allow Evaluation Feedback Which Might Effect Curricular Reorganization

Most of the evaluation feedback does not move from Outcomes to Values, or from Outcomes to Objectives. Instead there seems to be set up a relationship between Outcomes and Implementation. In the previous section (III, B), evaluation is of behavior desired. Desired behavior is a point related to implementation. It seems very difficult to have feedback that will effect the values and objectives of the total model. Now reorganization can occur within implementation. But to reorganize curriculum in the larger sense of values and objectives, it is necessary to evaluate on a broader plane than unit III, B) allows. The preceding unit allows reorganization of one kind—within the model. Behavior expected is congruent with the values and objectives of the model and therefore, not an agent of change in the total model. Implementation is the recipient of interaction with outcomes.

This criticism of feedback, failing to effect a complete reorganization of curriculum, could be leveled against
both Alberty and Bruner. Theirs, too, is a situation of allowing feedback to effect implementation only.

Very really, though, this may not be a criticism so much as recognition of a reality factor. In almost any institution the values are rather inflexible. It is only when evaluation comes from the outside, from another point of view, that feedback can effect the entire structure. This model became more viable through a forced fusion of two partially opposing points of view, those of Harold Alberty and Jermone Bruner. The synthesis generated possibilities that would not have been apparent by each alone. This synthesis is viable only in the process of its creation. And now that it is completed, feedback within the model effects only implementation. Perhaps this is what many curriculists consider reorganization to be, changes within a given framework. The framework itself becomes inflexible.

But within the school itself are possible sources of more vast curricular changes. And these sources can well be used for this purpose. Teachers are present in the school system representing all the basic disciplines, and also the interdisciplinary problem-centered core classes. Each of the disciplines (and the core approach) has a view of reality which could be used to consider the total direction of the secondary school curriculum.

So the model as diagrammed on page 50 is operative only as all levels of the model are discussed. The relationship between outcomes and implementation is constant. For
behaviors in classes are occurring daily, and must be evaluated daily. For this daily evaluation to be most useful, skill and behavioral accomplishment should be discussed periodically by the teachers in each discipline to gain full benefit of approaches, successes and problems. The teacher can also use these discussions as a source of self-evaluation, which is so often a neglected aspect of the evaluation process. This is, of course, supplementary to the primary evaluative function which exists between teacher and student.

The final and broader evaluative function would be much less frequent, no more often than annually. In this approach, teachers in each discipline could make suggestions to sharpen up, modify, or completely change aspects of the Values and Objectives sections of the model for secondary education. A viable approach would have teachers in each discipline (and core area) to meet separately to consider the entire curriculum. Then one or two teachers representing each of the areas could meet together and bring their collective disciplines to bear on reconsideration of the curriculum.

Using these three levels of evaluation, there could very well be feedback sufficient to effect curriculum reorganization.
D. Use Evaluation Outcomes As a Springboard for Innovation

This unit shades into the preceding unit. Reorganization, the motif of the previous unit, implies innovation. If evaluation cannot be used as a springboard for innovation, then it has little use.

The three levels of evaluation noted in the previous unit auger well for innovation. The first level, evaluation of student behavior, can cause innovation in the immediate teaching-learning situation. For example, a teacher can evaluate individual students progressing in the learning of a skill. As multiple approaches to learning are observed, the teacher can sort out those that are more efficient and use them in teaching.

The second level of evaluation occurs when all the teachers of a discipline come together to evaluate not only individual incidents in teaching, but specific items of content within and the whole strategem of teaching their particular discipline. Evaluation of this type can cause the teacher to examine himself more closely (as all evaluation should). It can also be used to seek new equipment and facilities in reorganization of the procedures of teaching the discipline.

Finally, the third level of evaluation involves interdisciplinary perusal of the entire school. If a massive reorganization of a school or school system is to be had, it must be done beginning at this level. In Frank Brown's
The Non Graded High School or David Beggs' Decatur-Lakeview High School, some massive structural and ideological changes effecting the whole school system were considered. This is the ultimate level of change, when the very values of a school or school system are called into question for the possibility of change.

Involving teachers in innovation at these three levels is to infuse the teaching and the particular school system with great vitality. Initially those who are acclimated to the status quo resist. But once the procedures are established, with true democratic involvement and administrative support, possibilities in education both for teacher and student increase immeasurably. Evaluation of the kind here represented and the allowance of democratic staff involvement in policy would ultimately predicate innovation.

This concludes the development of the curriculum model based on a synthesis of Alberty and Bruner. The final chapter will indicate some of the results of the synthesis, note limitations of the study, and suggest areas of possible further research.
CHAPTER VI

SUMMARY OF RESULTS, LIMITATIONS, AND RECOMMENDATIONS FOR FURTHER STUDY

The immediate concern of a study such as this is the validation of the hypotheses. In the first hypothesis, the contention is that Progressivism (as represented by Alberty) and the current academic emphasis (as espoused by Bruner) can be synthesized. Further, it is contended that the resulting theory will be more inclusive than those of either Alberty or Bruner would be separately. In short, the historic conflict between subject-centered and student centered teaching would be resolved into a dual-focused curriculum with emphasis on both.

To attempt this synthesis, a model was developed, based on models already existing in the field of secondary education. This model was then used to develop and demonstrate the internal relationships of the curricular concepts of both Alberty and Bruner, separately. Then in the key chapter of the dissertation, Chapter V, the thought of each of these two curriculum theorists was brought together in a synthesis, still using the same model. A standard for judgment was developed using Alberty and Bruner as a corrective on each other, the current practice in the secondary school
and competencies of average secondary teachers, and concepts of authorities in the field of secondary education and related fields.

The Brunerian approach to curriculum is not the same as the subject-centered education against which Dewey reacted, beginning the late nineteenth century. As a psychologist dealing with cognition, Bruner has refined many of the methods of teaching to the point that there are numerous points of concurrence, as well as disagreement, in a comparison of Alberty and Bruner. The points of similarity as well as the points of difference appear in the synthesis between the two curriculists.

The following will constitute a summary of the more salient points in the model where areas of agreement and disagreement were brought together in evolving a series of suggestions for the development of a curriculum based on a synthesis of Alberty and Bruner.

So far as similarities are concerned, the following are the major points of agreement that appeared between Alberty and Bruner as compared in the model:

1. Intrinsic motivation is the source for learning. Students must be involved in learning, interested, be able to initiate and interact. (Alberty, however, desires that students participate in the basic structuring of the unit of study, while Bruner desires participation once the basic structure is established. This latter is a major point of difference.)
2. The major method of inquiry used by Alberty is reflection, or the method of intelligence. Bruner advocates primary use of the discovery method. Essentially, these two methods are the same.

3. Both agree that knowledge is based on human experience and understanding.

4. Change in individuals, society, and the disciplines is endemic to life.

5. So far as organization of the school is concerned, both stress a non-graded (no grade-level placement of students) high school, and they also favor no grades for evaluation since this represents extrinsic motivation. (Alberty also sees this as a form of competition and favors cooperation.) Both also see massive involvement of teachers in determining the curriculum of the school. (Alberty prefers teachers, curriculists or their products, and resource units concerned with student needs, while Bruner emphasizes teachers, scholars, and psychologists meeting together.)

6. Both are concerned with outcomes and both are interested in allowing behaviors that are expected to be practiced and evaluated in the classroom.

However, as the section in Outcomes in the previous chapter noted, both are also caught up in the shortcoming of not allowing feedback from outcomes to affect anything but the implementation of previously approved values and objectives.
The similarities can all be fitted into the same curriculum structure, except, of course, for the mutual shortcoming just noted which could be remedied in accordance with the suggestions noted in Chapter V.

Points of difference are where reconciliation or rapproachement are needed; and these are the focal point of the evolvement of a curriculum which attempts to capitalize on the advantages and minimize the disadvantages of both the discipline-centered and student-centered curriculums. Major points of difference and resolution of same include:

1. Alberty focuses on the needs of the study as the center for organizing curriculum in the secondary school, while Bruner is more concerned with the disciplines, their structure and methods of inquiry. Obviously both of these emphases must be included in the curriculum: real needs of students and their development as persons; and the disciplines as areas of knowledge to be understood and used to develop competence. To neglect either would provide for miseducation of adolescents.

2. Alberty and Bruner differ in regard to the nature of the student. Alberty sees the student striving primarily for a self-identity. Further observations of the adolescent note his developmental needs, his need for participation in society and in his family, peer group pressures, needs to develop skills and competencies. Bruner, on the other hand, views the student as a learner. The student seen as being
naturally inquisitive and capable of having his interest aroused. The more limited scope of Bruner's concept of the student obviously limits the scope of education as well.

Again, both views have merit. The school must provide the student with systematic learning and skills of inquiry. Bruner points in this direction. Alberty is more lax about learning of this kind. But Alberty does see the student in relation to all of the needs which must be met for maturation to occur. The school is the only social agency in existence which deals intimately with the total adolescent population. Both Alberty and Bruner desire a competent adolescent. Competence must involve both knowledge and use of the disciplines, and successful handling of the individual student's developmental needs and problems. A competent person is knowledgeable; and he is also personally, socially and emotionally able.

3. Alberty and Bruner differ as to the nature of the subject matter. For Alberty, the subject matter centers on the student and his needs. Bruner desires student interest, but places the disciplines, their structure, and modes of inquiry, as the subject matter in teaching. Again, both are required. When teaching the disciplines some emphasis can be placed on needs. When dealing with needs, the disciplines can be used to lend insight on them. Both can be taught in the same curriculum, but only a very skillful teacher could systematically deal with student needs and also deal with
the structure and modes of inquiry of one or several disciplines. This is the major weakness of the core. Focusing on the discipline as central, the total nature of the student and his needs can be forgotten. In addition, one discipline does not contain adequate data to deal with complex problems. And this is the major weakness of Bruner.

4. Both Alberty and Bruner state a belief in democracy. Alberty sees democracy as meaning encouragement of students to assist in structure the nature of their learning experience and then further shaping and structuring the learning experience within the structure they have helped evolve. But Bruner sees the basic structure as a given—the disciplines. Structuring by students is permitted within the framework of the discipline, however. Again, students need both kinds of experiences. To be involved in initiating basic structure is to be permitted to program basic needs. But some structures and disciplined thinking/learning are necessary. Flexibility within the structure still allows freedom, and individual purposes can be programmed into a course.

5. Sequence in Alberty is individualistic, and must be patterned in each local school. For Bruner, bases of sequence are more universal as programmed materials can be developed to aid in teaching in a spiral curriculum. Again, both are valid. Total individualization of sequence allows for meeting of student needs as they arise. And programming
allows for meaningful developmental sequences of knowledge and easier learning and transfer.

6. Scope is broader in Alberty, allowing inclusion of any material. Scope is narrower in Bruner, with results better defined.

7. Alberty, being more centered, brings all the disciplines together (albeit possibly loosely) in an interdisciplinary perusal of great issues and personal needs. Bruner is single discipline centered, concerned with learning the discipline more thoroughly, but failing to bring the various disciplines into an encounter, to act as correctives on each other or to deal with issues that transcend a single discipline.

In the light of these similarities and differences, a curriculum based on a synthesis of Alberty and Bruner would be characterized by the following:

1. The teaching of the disciplines are a central focus of the curriculum. Needs of students should be a matter of concern in the disciplines, although teaching of the disciplines and their modes of inquiry are primary. Classes would be taught as separate subjects.

2. A core class should be included, preferably in each academic year in the secondary school, to act as an interdisciplinary seminar; to deal with student needs and great issues; and to allow students the opportunity of democratic involvement in structuring their total learning experience.
3. Democratic involvement and participation within each class should be encouraged as an aid to intrinsic motivation to learn. Also, personal uses can be made of knowledge and inquiry in this way.

4. Discovery or reflective methods of learning are recommended as being most compatible with use of democratic principles and intrinsic motivation of students. Knowledge is based on experience and is constantly changing. That is why discovery and reflection should be used; and structure of disciplines should be emphasized rather than facts.

5. Scope would now include student needs and interdisciplinary issues in core; and the well defined disciplines could be understood and used both within each discipline and in the core.

6. Sequence is definitive and spiral oriented in the disciplines, but is less defined and more responsive to need and total student interest in core.

7. Organization of the school encourages involvement of teachers (representing both core and disciplines), cognitive and adolescent psychologists, scholars, and curriculumists in planning the curriculum. The non-graded high school is advocated. Evaluation of students is in terms of mastery of skills and concepts in the disciplines (and allowing time and stimulating experiences to encourage learning). Mastery at an individualized pace is acceptable; grades are a hinderance to learning. In the core, evaluation should be
done by the student in relation to his purposes, and with
the teacher in regard to whether the purposes are adequate,
use of reflective thinking, mastery of personal needs, and
use of disciplines. Again, a grade is irrelevant. Demo­
cratic involvement allows teacher participation in intra­
school decision-making. In intraclass decision-making,
student participation is desired.

8. Outcomes are based first on evaluation of student
behavior in line with expected behaviors. This is daily
evaluation. But a need is apparent to expand the kinds of
outcomes that are possible.

A second level of outcomes involves a need for
evaluation within a discipline and within the core (and be­
tween core and the disciplines since core has an interdis­
ciplinary function). Evaluation of this sort causes up­
grading of the discipline or core, and sharing by teachers
of successes and failures. From this vantage point, teachers
can evaluate themselves and upgrade both content and methods.
Evaluation of this type could occur as needed, but a monthly
minimum could be suggested.

The third level of evaluation is in terms of the
total curriculum model. The values and objectives must be
reconsidered as well as simply allowing interaction between
implementation and outcomes. This latter kind of evaluation
would be annual. Representatives of all of the builders of
the curriculum would again be present: teachers in all the
disciplines and core; scholars; cognitive and adolescent psychologists; and curriculists. Each of these persons would be asked to bring to bear the basic values of his particular orientation on the value assumptions of the curriculum and the resulting objectives. This latter procedure would not permit a static curriculum model to exist, either in structure or in content.

This summary validates both of the hypotheses of this study. The first (or major) hypothesis indicates that a synthesis between Alberty (representing the student-centered approach to curriculum) and Bruner (representing the subject-centered approach to curriculum) is possible. Further, the hypothesis contends that the resulting theory should be more fruitful than either is separately. The contention is that this has been demonstrated.

The second hypothesis contends that use of a model is a valid way to organize a curriculum for change, and that the use of a model can be demonstrated. This is endemic to the development of the dissertation: the building of the model in Chapter II; the use of the model in Chapter III to organize and relate Alberty's conception of curriculum; the use of the model again in Chapter IV to organize and relate Bruner's conception of curriculum; and the synthesis of both Alberty and Bruner in Chapter V also used the model for purposes of structuring. The model has served to synthesize the thought
of these two curriculists. And the synthesis, as summarized in this chapter is, indeed, a method of curriculum change.

Limitations

Six limitations in this study should be noted.

1. In comparing subject-centered with student-centered curriculum, only one representative of each was selected for study. Each is validated as being representative of his particular orientation. But obviously other viewpoints exist. The selection was made to delimit the scope of the study.

2. Only one model was used in the study. A model both organizes and generates, and also limits, the production of new knowledge. A different model could very well accrue a different product.

3. The model is a "middle model" and needs to be correlated with models of the various disciplines, and with an administrative model, as well, to form the basis for a fully operative curriculum. These latter two models were described in this study, but were not fully articulated.

4. There is some imprecision in a model, one part literally shading into another. There is also a problem of lack of precision in some of the language. Consequently, results tend to be general rather than precise.

5. This study is theoretical and consequences of this sort of thinking must ultimately be validated in practice.
6. While the same model can be used to organize education K-12, elementary education must have an emphasis on acculturation and socialization of children that is more far reaching than secondary education. The school must very really supplement and, in cases, redefine the learnings of home and community. The approach of the disciplines is psychologically (from the point of view of student needs) more applicable to secondary students who have been acculturated than to elementary students who may have needs to the point of being kindergarten drop-outs.

Research Needed

The ultimate value of a study such as this is validated or invalidated in its use in the field of education. Theory can generate further theory. But at some point, theory must relate to practice. In fact, the criterion used in the synthesis of Albery and Bruner was the desire to relate the new theory to the present secondary school situation. If departures are not too great, perhaps innovation will be attempted. Institutions are not known for frequent, especially massive, innovation. However, the reason for evolution of new theory is to affect practice. The implication of and final validation of this study would rest on its use in a secondary school.

The following indicates research needed:

1. Validation of the model and synthesis in use.
a. Set up a curriculum based on the model and its content.
b. Determine the possible articulation and effect of core and discipline-centered classes in the same curriculum.
c. Expand the outcomes section of the model to the three levels of evaluation suggested and evaluate results as opposed to more conventional evaluation. Especially note whether the model itself or the value section are open to change.

2. Research is needed on what (and how) students need to learn to become self-reliant, competent persons inasmuch as self-actualization plays such a significant role in the model proposed in this study.

3. Adequate criteria need to be developed to evaluate the results of learning in an educational system based on:
   a. Discipline-centered teaching.
   b. Core-centered teaching.
   c. A synthetic curriculum such as proposed in this study.
   d. Any other viable curriculum design.

Hopefully this study will lend support to both theoretical and practical innovations in the building of more adequate curricula.
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