

*SYSTEMATIC INTENSIFICATION AND EXTENSIFICATION
OF THE SCHOOL CURRICULUM*

by

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This paper and the enterprise it describes are predicated upon the beliefs that an adequate theory of differential education for the gifted has not been developed, and that as a consequence of this fact the movement is characterized by several significant deficiencies. The elements from which a satisfactory theory can be built will be identified, the general nature of such a theory suggested, and initial attempts at the application of this theory described. In the consistent application of an explicit theory of differential education is comprised the idea of "systematization," which contrasts with the irregular patchwork of diverse and sporadic present efforts to enrich the experience of gifted youth.

Absence of Theory in Special Education for the Gifted

It is a happy thing, to be sure, that popular concern for a more adequate education for those youth variously designated as gifted or talented appears to be increasing. We share the gratification caused by this trend in American education. Yet it is clear to those who study the movement critically that there are inadequacies both in conception and in practice which have emerged in schools across the nation.

We suggest in general form and without elaboration, so as to leave time for the ensuing positive considerations, that three such deficiencies are:

- 1. That special educational provisions for the gifted most often are rooted in the curriculum as it has been developed, essentially to parallel the needs of youth within the middle ranks of ability, rather than being derived from the prevailing characteristics which serve to distinguish the gifted as a group. Neither the objectives of the special endeavors, nor the curricular content consistently relate uniquely to the relatively rarified mental processes and to the typical social roles which gifted persons tend to attain as adults. Rather, certain of these attempted adaptations merely amount to "more of the same," as is frequently remarked, or to a simple improvement in instruction within the accustomed framework of objectives and course content.*

- 2. That special educational efforts tend to be piecemeal in character, single excursions into potentially sound differential practices, as distinct from an appropriately adapted whole array of educational experiences. Thus in any given school the observer is likely to note that the "program" of education for the gifted is comprised either of single practices such as acceleration or enrichment, but not both; of single subjects, e.g., advanced placement in either mathematics or English, but not in all subjects; of single grade levels, e.g., seminars for sixth graders, but not for fifth graders or ninth graders; or for single schools within a system, pilot studies one or more years in duration, often involving processes already well established as generally feasible, while the*

gifted in other schools remain in neglect. All these single and piecemeal efforts contrast markedly with an ideal state in which there would be an organic compounding of all such features into a whole plan and sequence of experiences that properly relate to the abilities and needs of the superior student.

3. That "enrichment" for the able student is more often than not ad hoc in nature, based upon chance observations of the student's interest or potential, and upon incidental discovery of experiences which appear to be appropriate. On the other hand, the enduring characteristics displayed by gifted persons in a variety of settings, and experiences which have been demonstrated to be effective in the development of these potentials could have been viewed cumulatively, summarized, and synthesized into a body of principles which would allow for the deliberate derivation of appropriate activities and studies in every significant aspect of the educative process.

Thus we submit that contemporary efforts toward a more proper education for the gifted, emerging as they have in a theoretical void, fail to attain a comprehensive, balanced, organically conceived plane and sequence of experiences that parallel the intellectual and behavioral potential, and the anticipated social roles, of the designated group.

Theory Building and the Intellectually Superior

The development of theory in any area of human interest occurs by a series of transactions alternating between predominantly empirical activities such as observation and measurement, and predominantly rational activities through which the human mind arrives at some kind and degree of order for an otherwise chaotic object world. Now we contend that all the essential elements for such transactions exist in the problem of special education for the gifted, albeit unrealized and underdeveloped.

At the empirical level, for instance, we have Terman's unparalleled inquiry toward the distinguishing characteristics of intellectually superior persons, which has supplied us with a fairly reliable body of fact concerning their learning capacity, concomitant aspects of personality and character, and typical adult attainment. Hollingworth and other earlier students, on another empirical front, have supplied us with a welter of rich observations upon the forms and processes which these enduring properties of mind assume in school learning when freedom of opportunity exists.

Now these two bodies of empirically wrought fact have been evolving for a matter of decades. Yet interest has been lacking in turning these accomplishments toward the next essential step

in theory construction, a logical synthesis into a body of generalizations to guide practical endeavors toward chosen objectives.

This kind of intermediate theory, or body of principles, has been a concern of the writer for some time. His express efforts may be noted in full elsewhere.¹ By way of suggestion at this point it will suffice to note only a few concepts. One principle that deals with administrative arrangements, stated in proposition form, is: "That administrative adaptations of the regular school program, though perhaps incidental to a unique program, shall not comprise the uniqueness in themselves." Thus, we derive from a study of the characteristics and needs of the gifted person the idea that mere rearrangements of standard educational fare will not satisfy. By explicitly declaring this point of logic, subsequent practice on the part of those who are aware of the theory, and who accept it, will avoid certain of the deficiencies which we have claimed to exist. Programs that stop with mere acceleration do not suffice, for this device involves no new qualities of experience; and schools which practice ability grouping without parallel attention to the qualifications of the teacher and the nature of the curriculum content do not arrive at the degree of uniqueness required by this theory.

Another principle enjoining against the pitifully narrow range of knowledge included in standard curricula, suggests that in view of the extraordinary learning capacity, and the motivational patterns which tend to accompany it, the school may aim for acquaintance with all major branches of knowledge. Thus, a given school "program" which compacts graded sequences within the area of natural science, for instance, so that an additional year of a science already pursued can be undertaken violates this principle. It is improper that a talented student in natural science spend his adolescent years in a ragged pursuit of selected sciences at varying lengths and to the exclusion of whole areas within this field. Rather, he should pursue the natural sciences generically, both as to methods and content, allowing his mind to grow with concepts from astronomy and geology, as well as the more usual biology and chemistry and physics.

A final principle for these illustrations states: "That instruction in methods of inquiry shall be included in the education of the intellectually superior child and youth." This principle is a tribute to the enduring nature of modes of inquiry through which the ever changing panorama of knowledge is achieved, as distinct from the transitory nature of almost any

¹In a forthcoming book, Principles of Education for the Superior Student, scheduled for publication in 1961, by Charles E. Merrill Books, Inc. An earlier treatment may be found in the writer's unpublished doctoral dissertation with a similar title, University of North Carolina, 1952.

given body of present facts concerning things here and now. It explicitly recognizes the intellectually superior person as a life-long learner, capable of relatively independent pursuit of first-level fact and principle, once a perspective upon the nature of all branches of knowledge has been established. The principal envisions the educative process as fundamental preparation for such learning as the idiosyncratic life career renders desirable, as distance from the accomplishment of an accumulated store of knowledge frequently obsolescent before needed.

Special Education Theory and the Gifted

Following upon the logical derivation of a theory which attempts to resolve into general principles the various levels of fact and idea specifically pertinent to the differential education of this group of differentially endowed persons, the task remains to apply the theory. Initial efforts have been begun in this direction at the University of Virginia. We present here the organization of certain units of study that have been experimentally devised by graduate students in education, under the direction of the writer, and within the framework and title, "Independent Studies: A Systematic Series of Educational Experiences for Superior Students."

This attempt to devise enrichment for the superior learner involves the idea of independent learning, a foundation part of the underlying theory, yet nothing but a raw consideration of the capacity for individual pursuit which is so richly manifest among able and motivated youngsters. (The recognition of this behavioral potential appears to be steadily increasing, especially at the level of college, in honors courses and the like.) The Studies are in the form of direct address to the bright student, both to carry further the idea of independence, and to minimize the involvement of teachers already under a reasonably full burden. It should be frankly admitted, as well, that few teachers possess the ready perception of high-order abstractions and of complex ideational involvements in varying subject fields which some of our ablest students possess.

The Studies are simply organized, the usual form being an introductory paragraph of two explaining the nature and significance of the learning product which is expected to result from the intervening procedures. The activities through which learning is accomplished take the form of guided reading, writing, discussion, or other activity, in an attempt to provide a combination of the classic disciplines to thought (Bacon's readiness, fullness, and exactness), and the equally precious qualities of imagination and creativity. The series purports systematically to intensify and extensify the curriculum; as such it is intended to supplement the regular courses of study, rather than to replace them.

The accompanying chart indicates the overall plan for the secondary school series of enrichment experiences. In the extreme left column, five broad categories of knowledge and skills are designated. The first of these, "Personal Development," stands apart from the remaining four categories which are traditional divisions of knowledge, i.e., humanities, mathematics, social sciences, and natural sciences. The initial category is intended to suggest a deliberate search for specific skills, and conceptions and habits respecting morals and even manners, which will facilitate the youngster's progress in attaining self-realization in the social world. Thus, instead of an excited story of someone's discovering that elementary school youngsters learned how to type, such skills as typing, shorthand, use of the slide rule and the calculator, use of technical handbooks of various kinds, would be systematically sought out and arranged in a sequence of opportunities so that by the end of the period of formal education, a large number of practical skills, useful through the life span, would have been acquired. And a similar procedure is suggested for games that are known to appeal to the intellectually inclined, not one learned by the accident of circumstance, but a deliberate game-by-game introduction to chess, bridge, complicated word play, etc. The arguments for this conception, and the relationships to other aspects of the underlying theory, cannot be presented in this brief time and space.

(SEE CHART NEXT PAGE)

Within the comprehensive traditional categories of knowledge, other aspects of the theory of education are manifest. The list of subjects is intended to be as broad as existing knowledge is, to include every major field of organized knowledge, in contrast to the very parsimonious and unbalanced array of subjects that comprise the standard curriculum. This feature of the Independent Studies relates to those principles in the body of theory which suggest unfettered application of the extraordinary learning capacity of the highly gifted youth, indicating the true and proper curriculum to be nearer to the Renaissance ideal of universal learning than to the meager patchwork of selected and elected courses which characterize the usual program of study for the individual.

It is in the horizontal array of phrases lettered from "A" through "F" under the heading "Type of Study" that the final step in the process of systematization occurs. These phrases embody the ideas through which each subject in the comprehensive list will be abstracted for supplementary learning of the brighter child. For instance, under concept "A. Perspectives Upon Knowledge," it is intended that the youth will be provided with a list of readings carefully selected to present an entire academic discipline, its problems, methods, promises, and limitations in a brief but generic form. A typical reference useful for exactly this purpose is Ely Chinoy's Sociological Perspective (Random

Curriculum Design

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INDEPENDENT STUDIES: A SYSTEMATIC SERIES OF EDUCATIONAL EXPERIENCES
FOR SUPERIOR STUDENTS

Design for Intensification and Extensification of the Curriculum
(Virgil S. Ward, 1959)

Area	Subject	Type of Study
I Personal Development	Personal & Social Skills Moral Development Intellectual and Academic Development Practical Skills, Etc.	<p>F. Great Ideas. Abstracted ideas around which the thought of scholars, scientists, and writers of the whole world have evolved; principal utilization of <u>The Great Ideas</u>, A Syntopicon of Great Books of the Western World.</p> <p>E. Significant Theses. Books or other major publications (paperback editions a fruitful source) that present ideas, causes, proposals advanced in complexity of thought beyond the level feasible with students not exceptionally endowed.</p> <p>D. Hidden Realities. Subtle analyses of social and personal phenomena not readily apparent, but substantial real or potential influences in the determination of personal conduct or social action and development.</p> <p>C. Summary Analyses. Varied abstractions, groupings, or summaries of facts, principles, and ideas that cut across time boundaries, fields of knowledge, or human achievements.</p> <p>B. Functional Concepts. Concepts from academic disciplines not usually available at present grade placement, but which concepts are functionally useful to the student in current thought and learning processes, and which are subject to a desirable maturation with his expanding experience prior to the availability of a fuller presentation of the ranges of knowledge within the various disciplines.</p> <p>A. Perspectives Upon Knowledge. Introductions to and explorations into whole fields of knowledge, and into specific subjects; studies about subjects, rather than of subjects.</p>
II Humanities	Aesthetics Language, Native and Foreign: Linguistics Literature, all peoples, all times, Etc.	
III Mathematics	Arithmetic Algebra Statistics Etc.	
IV Social Science	Anthropology History Political Science Etc.	
V Natural Science	Biology Chemistry Geology Etc.	

House, 1954). As is indicated in the description of this type of study, this phase of the theory emphasizes the worth of knowledge about knowledge, an emphasis traditionally neglected in favor of facts and principles from within the discipline alone. In this somewhat "uncommon" attitude toward, and use of, knowledge is intended an attack upon the fact that learning ordinarily centers more in techniques than in the purposes for which the techniques exist.

Briefly for the remaining concepts through which the comprehensive array of subjects is to be abstracted, "B. Functional Concepts" proposes to isolate ideas and processes that are useful in the youngster's thought long prior to his (usual) opportunity to study the subject represented in full course. The concept of "reliability" in the science of psychological measurement, the concept of "selectivity of perception," and the concept of part-whole relationships as mutually effective - all these are ideas which are needed for refined thought about natural and social problems; they are within the grasp of the able secondary school student; yet they reside in disciplines that lie a number of years ahead of the student in the normal yearly progression of school studies. Often the more broadly pervasive of such concepts, e.g., reliability of measurement, again, are developed in elective courses, and taught as applicable to single or narrowly selected subject fields. Such functional concepts need to be brought to the able student's attention early, in order that his maturing mentality may be paralleled with ideational content and structure essential to complex analysis.

As to "C. Summary Analyses," a few titles of projected Study units will suffice to suggest the nature of this type of subject by subject abstraction:

- "Great Experiments in Physics;"
- "History of the World in 240 Pages;"
- "Books That Changed the World;"
- "Darwin, Marx, Wagner: Critique of a Heritage;"
- "Men of the Consensus;" etc.

Again, the roots in the theory of special education for the gifted lie in the call for uses of knowledge other than straight-forward exposition of fact and principle, these yielding to abstractions, comparisons, syntheses and other forms of learning that characteristically involve the upper reaches of those mental processes signified by high intelligence test scores.

Some projected titles for studies under the concept "D. Hidden Realities" are: Advise and Consent (in this book of fiction, Drury exposes certain of the real processes of governing bodies, not formulated for conventional textbooks); "Government by Publicity" (in which a Reporter article examines the role of publicity in the shaping of public policy). Further similar

concepts around which Studies have already been developed are:

- "Freedom and Responsibility,"
- "Nature and Worth of Tragedy,"
- "The Longitude,"
- "A Problem in Proof,"
- "The Paradoxes of the Infinite."

Experiences with intellectually superior young people consistently indicates their attraction to propositions, charges, and issues which penetrate to the heart of morals and customs. Protagonists of atypical views in general are quite likely to be themselves the gifted youth of yesterday, continuing on the creative fringes of all manner of ideas and practices. Again, titles are suggestive of Studies that are projected in the vein of "E. Significant Theses:" "Religion without Revelation;" "Man Makes Himself;" "Decline of the West;" "Origin of the Species;" etc. It is our contention that merely incidental and haphazard contact with a minimum of ideas through which social and intellectual progress have occurred, must be replaced with a deliberate exploration of a very broad range of theses, systematically sought for the purpose of rounding out and generalizing the stuff of mind at this elevated plane.

As to "F. Great Ideas," the accomplishment of a series of classic writings of the Western World analyzed and keyed in terms of 102 "great ideas" by a group of scholars, then in Chicago, under the leadership of Robert Hutchins and Mortimer Adler, remains in the writer's sense of values a body of experience incomparably suited to the pursuit of young intellectuals. The systematic involvement of this major work of scholarship is projected as one phase of the Independent Studies.²

Conclusion

This treatment of the interaction between empirical and rational activity in the building of a differential theory of general education for the intellectually superior person, and in the subsequent application of such theory, is intended to suggest the nature and significance of rational discipline in any educational enterprise. We have based our own approaches to theory upon the ideas that the behavioral characteristics that distinguish gifted persons from the generality of men permit radical reconceptions of the nature of education, and that their anticipated social roles as cultural frontiersmen render it mandatory that extraordinary conceptions of the educative

²Contingent upon agreement with author and publisher.

process be achieved. Thorndike has suggested the vast significance to mankind of even a slight elevation in the level of performance of men and women of great potential ability. The promise of special education for the gifted is too convincing, and the American nation too delinquent in its readiness to support it, for educators to fail in vision or in courage to transcend the particular, the immediate, and the conventional practice in the attainment of a plane of experience commensurate with the superior biological endowments of gifted individuals, and the significant social needs which they tend to fulfill.