

EQUALITY OF EDUCATIONAL OPPORTUNITY  
AND  
A CORE CURRICULUM

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This paper is one of three on the issue of equality of educational opportunity. A common theme among the papers is the need to develop schools that are more sensitive to human diversity and to the attributes and aspirations of individuals (Otto, this volume; Sherk, this volume). Our concern is that popular interpretations of various commission reports on the status of schools has led to increased standards for promotion and graduation without a critical examination of the effects such practices may have on individuals, both students and teachers. In the first paper, Otto reflects on the need to make schooling effective (equal) for all students regardless of social circumstance. He concludes by acknowledging that a core curriculum may be one way to provide students with a common school experience, stressing that schools cannot be everything to everybody but should be something to everybody. John Sherk, in the other paper, keys his remarks to problems of providing effective schooling for students of special circumstance, black children of the urban poor. He argues that the present organization of high schools is ineffective for these students and suggests alternative schools as a way to meet the individual needs of students who differ from the "mainstream" in their expectations of and orientation toward school.

The purpose of this paper is to focus on the notion of a core curriculum as a way to fashion a common school experience in which access to socially valued information and conceptual skills is equalized. To do so, I first briefly sketch changing conceptions of what "equal educational opportunity" has meant in our society. I then summarize current theory and research trends in cognitive psychology which suggest that the subject matter students learn in school exerts a powerful influence on the cognitive skills they develop. Finally, implications of the research are discussed in terms of (1) inequities in school outcomes that result from differentiating the curriculum by ability groups, and (2) constraints domain specific knowledge place on reading-learning skill development.

CHANGING CONCEPTIONS OF  
EQUAL OPPORTUNITY

Originally the notion of equal opportunity in American education was restricted to mean that those who had the ability to profit from schooling would not be denied access to it due to social circumstance (Cohen & Neufield, 1981). Access was to a common body of knowledge and skills for those most able. For the school crusaders of the 1800's, the mission of public education was to strengthen community ties, instill shared moral and political values, and to distribute knowledge among the rich and poor to reduce the educational and political effects of economic inequality. Schools were to equalize conditions among social classes and served as agencies of political and moral cohesion. As society changed, schools became institutions that mediated between family life

and an increasingly technical and impersonal social order (Kliebard, 1979). With these changes came strongly competitive and controversial conceptions about the function of schools and what types of knowledge were of most value to society. Some argued for a differentiated curriculum tailored to the "natural" endowments and future life roles of various groups of students while others argued that such an approach gave schools the power to determine the social and occupational destinies of students. The latter groups stressed that the curriculum suited for the best and most able students was the best curriculum for all students.

Controversy particularly centered on the high school curriculum as that institution changed from an agency for the intellectual elite to one with near universal attendance. Social efficiency practices dominated school reforms designed to cope with the attendant diversity among students (Cohen & Neufield, 1981). Schools came to serve as agencies that were to prepare students for adult life roles, and it was deemed more scientific and efficient to differentiate the curriculum for students of varied ability who would do different types of work. Equal opportunity came to mean equal access to school sites rather than to a common body of knowledge and skill. The inequity of stratifying knowledge or judging student ability on the basis of standardized test scores, for the most part, was not questioned. Test scores were used to justify the assumption that not all students were capable of learning the content and skills associated with programs of studies designed for students in college tracks.

Recent commission reports and various reform proposals (e.g., Sizer, 1983; Goodlad, 1984a; 1984b) reflect on-going controversy about what equal educational opportunity means — equal access to school sites or equal access to a common body of knowledge and skills — as well as competing views about how it can be achieved. Most reports, however, recommend returning to a core program of studies as a means of diminishing the fragmented curriculum in schools and inequities that exist in the way students are treated in school (Cohen & Neufield, 1981; Cross, 1984; Ravitch, 1984a; 1984b).

Schools have responded to recommendations that they increase course offerings in science, mathematics, and other forms of knowledge associated with technological changes in business and industry. But these and other reforms that have been implemented reflect quick-fix technocratic responses to appeals for excellence that involve discipline, increased standards for graduation, and competency testing (Giroux, 1984a; 1984b; Toch, 1984). The more complex issues of what or why certain forms of knowledge should make up the core as well as how to teach it so that all students have an equal opportunity to master it have been ignored.

Current theory and research on the effects of domain specific knowledge lend some support to those who argue that a differentiated curriculum results in unequally distributing knowledge and skills to students placed in low-ability groups or general/vocational tracks. Results of this research indicate that cognitive skills, like those commonly associated with reading instruction, evolve with and are constrained by the accumulated knowledge students acquire in specific content areas as they go through school. This research suggests that different content and modes of instruction are means to different goals not equivalent routes to the same goal, thus

challenging the assumption that students can follow any program of study and leave school with equal knowledge and skill needed to participate in a literate society. Trends from this line of research will be reviewed next and then implications will be discussed in terms of (1) school practices which may perpetuate inequality of treatment among students through ability grouping and curriculum differentiation, (2) practices perpetuated by the reading establishment that may add to this unequal treatment.

### KNOWLEDGE EFFECTS

A dominant theme among researchers in cognitive psychology and artificial intelligence is that structure, organization, and meaning are central aspects of human intellectual performance which are closely tied to the life experiences of individuals. Most schema theories are frameworks for investigating how culturally specific information affords flexible access and use of prior knowledge in academic and nonacademic setting (Bransford, 1979; Rogoff & Lave, 1984). The search for "pure" cognitive abilities that are knowledge independent and highly generalizable across tasks and materials has diminished. Researchers now question whether general capabilities like comprehension, reasoning, or problem-solving exist as previously theorized. Instead of seeking to identify and measure such global all-purpose skills, researchers are more concerned with studying the characteristics and effects of knowledge that is domain specific, cumulative, and acquired over long periods of time (Anderson, 1982; Glaser, 1984; Rogoff, 1984; Sternberg, 1984; Voss, 1984).

This shift in research and theory reflects a growing body of evidence which suggests that individual differences in cognitive performance are often due to the knowledge and experience subjects bring to experimental settings rather than to some hypothetical general ability factor (Glaser, 1984). Thinking is now seen as a practical activity in which people use what they know to understand, solve problems, remember, and to learn new information. Such activities are goal directed and intricately tied to the social and contextual (i.e., physical, conceptual, and cultural) settings in which they occur.

Schooling, within this framework, is just one type of socially organized practice which has its own particular purposes, subject matter, activities, standards, and cognitive effects. And the social practices associated with schooling — such as assignment of children and topics of study to grades or use of test scores to assign students to particular programs of study — are directly implicated as influencing the quality and level of cognitive ability students achieve. Trends in developmental research will be summarized to illustrate this shift in thinking and then research more closely tied to the field of reading education will be reviewed.

### Developmental Trends

For years developmental psychologists emphasized differences in cognitive performance among children of various age groups. A guiding assumption in the field was that as children mature physically their minds go through various stages of transformation until they reach a stage of cognitive organization which enables them to engage in hypothetical reasoning and abstract thought. Knowledge, especially

knowledge acquired through school learning, was treated as a nuisance variable. The research goal was to assess pure mental capabilities using supposedly content neutral laboratory tasks in order to chart changes in cognitive organization and ability resulting from maturation (Brown, Bransford, Ferrera & Campione, 1982; Rogoff, 1984). Various maturational stages were assumed to reflect general capabilities which set limits on what students could learn and how they could think.

This assumption was challenged in the 1970's by findings from training studies which indicated that age-related differences in thinking and memory performance could be eliminated if younger or less-able subjects were provided task-appropriate strategies. For example, memory researchers found that when young and retarded children were taught or induced to use cumulative, organized, or elaborative rehearsal strategies their recall matched that of older or more capable students (Brown, et al, 1982). Such findings suggested that young and retarded subjects differed from older students in their ability to employ effective learning strategies rather than in memory capacity *per se*. Development was not just movement through various cognitive stages but involved the gradual acquisition and increasingly sophisticated use of strategies for learning and remembering.

Chi (1978; 1979), in a series of studies, challenged this strategic capacity notion. Working with young chess experts and children of various ages who differed in knowledge about dinosaurs, she demonstrated that the problem-solving and memory strategy advantage of older subjects did not occur if younger subjects had greater knowledge of the specific content in a problem or in the materials to-be-remembered. Chi interpreted her results as showing that as children acquire knowledge within a content domain they also acquire strategies for using that knowledge effectively. Based on similar findings, Chi (in press) and other researchers (Anderson, 1982; Brown, et al., 1982) now suggest that (1) knowledge and strategy development are interdependent, and (2) knowledge of specific content domains is in itself a crucial aspect of cognitive growth.

Many researchers now feel that cognitive development involves recurring, abstract, and pervasive changes in the ability to reason and learn which result from gaining knowledge and using that knowledge in a variety of content domains in school. This suggests that changes in mental ability previously attributed to maturation or the growth of strategies may reflect older subjects' greater experience with and increased knowledge about school subjects and academic learning tasks. Moreover, student capacity to learn particular subjects or perform various intellectual tasks lies not only in the knowledge and experience students bring to classroom settings but also in the expectations placed on them in specific grades and programs of study in school.

### Reading, Problem Solving, and Aptitude Research

The wide-spread influence of knowledge on cognitive performance also has been demonstrated repeatedly in studies related to comprehension, problem solving, and intelligence. Research by Voss and his associates (Bisanz & Voss, 1981; Voss & Bisanz, 1984; Voss, Fincher-Kiefer, Green & Post, in press; Voss, 1984), for example, reveals that as children mature they have more knowledge about information in texts, more knowledge about text structures, and more experience using

what they know to solve problems and learn new information. These researchers have found that older children are able to make more accurate predictions and recall more information about events and characters in complex stories because of (1) their greater experience using story structures to guide comprehension and memory; and more importantly, (2) their more extensive knowledge about how people resolve personal conflicts or overcome problems in dealing with others in society (cf., Poulson, Kintsch, Kintsch, & Premack, 1979). That is, as children mature they gain more knowledge about human social interactions and can exploit that knowledge to guide their understanding of stories. However, should the information in a story require knowledge from another domain, like the causes and effects of pollution, then the recall of young children who have that knowledge will exceed the recall of older students who do not.

Similar results have been found in studies comparing the comprehension and problem-solving performance of experts and novices in such diverse areas as baseball, mathematics, political science, physics, and mechanics (Voss, 1982; Voss, et al., in press; Voss & Bisanz, 1984). Experts are more effective problem solvers or comprehenders in these domains precisely because they know more about them and have spent more time using what they know to understand and solve problems in their area of expertise. Such skills, however, may not generalize across content domains. Experts in chemistry perform like novices when asked to solve political science problems, and those who are skilled in school mathematics may encounter difficulty transferring their skills to applied settings like tailoring, carpentry, etc. (Lave, 1977; Voss, et al., in press.)

Thus, instead of searching for abstract, all-purpose, or general intellectual capabilities, researchers are now trying to identify (1) the cumulative effects of learning within specific subject-matter areas; (2) the effects learning particular subjects have on promoting generalizable knowledge and skill, and (3) the circumstances in which prior knowledge interferes with or facilitates new learning (Bereiter & Scardamalia, in press; Heller & Hungate, 1984). This research trend suggests that what students get taught in school may be as powerful an influence on the intellectual skills they develop as the methods employed to teach them.

The issue highlighted by research on knowledge effects is that individual differences involve more than just differences in capacity to learn. The major implication is that what gets taught and how it is taught to diverse groups of people counts. Learning occurs within the conceptual context of individual experience and personal knowledge. That knowledge must be identified and exploited for growth to take place and various capacities to develop. This cannot be accomplished if diversity is considered a defect that sets limits on what students can learn rather than a challenge for initiating instruction which leads students to go beyond the level of knowing they bring to classroom settings.

### IMPLICATIONS

The domains of knowledge that get embodied in a school curriculum and who gets taught particular forms of knowledge are value-laden issues that should not be left only to psychologists to resolve on the basis of research results alone

(Giroux, 1984b; Hirsch, 1983; Kliebard, 1979). Nevertheless, the theory and research trends summarized above (1) challenge the equity of differentiating the school curriculum by ability groups established on the basis of standardized test scores, and (2) undermine traditional approaches to teaching reading that rely on general all-purpose skills.

To summarize briefly, research on the effects of domain knowledge indicate that the conceptual skills students attain are intertwined with the subjects they learn in school. That knowledge and skill may not generalize across situations and content domains as transfer has been found to be activity and content specific. Students who spend time in school learning to repair automobiles, for instance, may develop the reasoning skills associated with that practice but not those skills associated with spending time learning science, literature, or mathematics. Such findings suggest that different curricula and modes of instruction do, in fact, lead to different outcomes and call into question school practices in which students are expected to learn different things while their academic capability is judged on the basis of tests that may not assess what they have learned.

Use of standardized tests is entrenched in our educational system and could increase given the current emphasis on raising standards and competency testing. The content of these tests, however, represents a "hidden" core biased to assess the acquisition of some idealized course of studies taken by students who aspire to go on to college. For students grouped or tracked into curricular programs that do not teach the presupposed curriculum embodied in these tests, the results have inequitable consequences. These students are tested on what they ought to know not on what they may have studied (Sternberg, 1984). Results of the tests are then interpreted as indices of academic ability to channel students into programs of study that can only perpetuate their inability to perform well. Many of these students and their teachers soon realize that the competition in school is indeed loaded against them (Cohen & Neufield, 1981; Sherk, this volume).

From this perspective, implementing a core curriculum which all students are to master at some basic level can only diminish the unequal outcomes of school for students who vary from the mainstream in their personal experiences and orientation toward schools. Implementation of a core within the existing instructional, organizational, and administrative structures of education, however, would simply maintain the current effects where some students learn more and others less. As noted by Cross (1984) "it is simply unrealistic to think that all students can learn from the same materials, to the same standards of performance, in the same amount of time, taught by the same methods" (p. 171). Without major changes in the way schools and instructions are organized, students in low-ability groups or general/vocational tracks would simply form the lower-ranks of students in the core.

It is, however, unrealistic also for reading educators to assume that traditional forms of reading instruction will help all students acquire the skills needed to participate in a literate society. For too long reading teachers have hidden behind the formal aspects of language skills (e.g., sentence and text structures) and global learning strategies (e.g., SQ3R, REAP, etc.) at the expense of helping students acquire the cultural, scientific, historical, and political knowledge which foster skill development.

van Dijk and Kintsch (1983), for instance, now argue that comprehension results from people using knowledge strategically to construct interpretations of texts. In their current model there is no single (general) set of comprehension skills that apply to all situations, people, and texts. And they characterize comprehension as the result of variable conceptual processes which differ among and within individuals depending upon (1) the situations in which the processes are employed, (2) the language/culture of the people doing the processing, and (3) the types and topics of the texts being heard or read. Similar notions also prevail in the literature on study-learning strategies (Glaser, 1984; Sternberg, 1984).

The research by van Dijk and Kintsch and the research previously reviewed strongly undermine general approaches to reading-learning instruction in which students are permitted to read and study anything so long as they are acquiring and practicing skills. Results of this research underscore the point that reading and learning are not content neutral skills that once acquired can be transferred and used with all sorts of texts in all subject-matter areas. Moreover, this research suggests that the specific content students are expected to read and to learn in school may exert an equally powerful, if not more powerful, influence on the levels of literacy students achieve as the methods and materials employed to teach them.

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