A STUDY OF THE ROLE THAT READING PLAYS IN THE EDUCATIONAL EXPERIENCE OF A GROUP OF STUDENTS AT MICHIGAN STATE UNIVERSITY

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Kathryn Neva Burns

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ABSTRACT

A STUDY OF THE ROLE THAT READING PLAYS
IN THE EDUCATIONAL EXPERIENCE OF A GROUP OF STUDENTS
AT MICHIGAN STATE UNIVERSITY

by Kathryn Neva Burns

In this study a group of students, who had scored either high or low on the MSU Reading Test, were interviewed in an attempt to explore their perception of the part that reading plays in their educational experience at Michigan State University.

Eighty undergraduates, who were distributed as equally as possible among the four class levels, both sexes, and the six broad major interest areas as well as among the high-ability and low-ability readers, were asked to discuss 1) their attitudes toward reading in general, 2) their reactions to reading assigned at the university, 3) what they do when they read, 4) how much reading they do and how much time they spend reading, and 5) what factors on campus they feel stimulate or inhibit reading.

To supplement the interviews, the students' permanent records in the registrar's office yielded data regarding 1) grade point averages, 2) majors and changes of major, 3) courses failed, repeated, waived or passed by examination, and 4) honors or probations. Analysis of these data supports the studies of the Michigan State University Office of Evaluation Services: that there is a close relationship between reading ability and academic achievement, as measured by grades, and that high-ability readers tend to pursue majors that demand considerable reading skill but low-ability readers tend to select majors or

change to majors that stress informational reading and skills developed in practical and applied courses. These data also revealed that low-ability readers tend to repeat more courses, to make lower grades in the general education courses, and to find it necessary to change majors more frequently than the high-ability readers do.

The interviews revealed that in general 1) the students seemed to hold a limited conception of the reading process and its potentials for learning, 2) they tended to dislike and avoid reading whether it was assigned or voluntary, 3) they were not habituated to reading for concepts or for depth of understanding but read primarily for facts and literal meaning, 4) reading ability appeared to have little relationship to the students' conception of reading, to the role it plays in their educational experience, to their concept of themselves as readers, or to their reading habits, 5) they felt they had received little guidance or inspiration to read effectively from the way in which assignments were presented, from the kinds and frequency of the evaluation used, from the way in which most of their classes were conducted, or from their peers, 6) they seemed to react somewhat more favorable to the reading in their major courses than to that in the general education courses, with the exception of Humanities, 7) they appeared to be more conscientious and more highly motivated to read as freshmen than they were as upperclassmen, 8) they seemed to use an inadequate conception of reading as a basis for judging themselves as readers

and for judging their reading assignments, 9) they tended to postpone doing the assigned reading until just before examinations, to do little or no supplementary reading, and to do relatively little voluntary reading.

In general, this study gives evidence that some apparently successful college students have an inadequate conception of the reading process and its potential for learning, have poor reading habits, and avoid reading as much as possible. Something is obviously lacking in the academic milieu when students deny that they read, express dislike of reading, and state that it is unimportant or unnecessary. If higher education, faced with larger number of students and in need of more effective means of reaching these individuals, is to succeed in challenging them to become personally and intellectually involved in learning, reading must come to play a much more significant role than it now appears to have with many students. Students, to be worthy of that designation, must read widely and deeply--and accept it as the expected and natural thing to do.

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TABLE OF CONTENTS

LIST OF TABLES

CHAPTER I

THE BACKGROUND OF THE STUDY

This study is concerned with the role that reading plays in the educational experience of a group of students at a large complex state university. It was undertaken in the belief that reading is an essential activity of the "fully functioning" individual, of the effective citizen in a democracy, and hence of the student in higher education.

In spite of the American goal of full educational opportunity for all and in spite of the availability of unlimited knowledge and understanding through the printed page, reading does not appear to be playing a major role in American life. Surveys indicate that adults in England, Germany, France and Canada read much more than Americans do although this country has compulsory education laws, free public schools, a higher national income, more leisure time, and a larger percentage of college-age youth attending institutions of higher education.[1]

Moreover, the greatly increased college enrollments forecast for the next decade will no doubt necessitate placing pressure on the individual student to study independently and to move forward as rapidly as his capabilities permit. These conditions could make reading become a necessity rather than an

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1. Lester Asheim, "A Survey of Recent Research," Reading for Life, pp. 3-5. Edited by Jacob M. Price. (Ann Arbor, 1959).

opportunity.

To combat the current neglect of the opportunities offered to our society, it appears that one of the first steps would be for colleges and universities to attempt to ascertain what part reading actually plays in educational experience. Are our modern educational systems making it unnecessary for a student to read? Have other mass media replaced reading, or have faculty and students simply neglected the use of reading as a source of enlightenment?

DEVELOPMENTS THAT HAVE AFFECTED THE ROLE OF READING

The ambivalence with which reading is regarded in America today may be traced to certain developments that have tended to elevate the status of education but reduce the demand for reading in American life and in higher education.

In the early American colleges and universities established to preserve the heritage of the ages and to train a select group of gentlemen to become the moral and intellectual leaders of the New World, reading was all-important. The early curricula continued the Old World emphasis on the past, placing stress on verbal ability, on reading the classics in the original, on "explicating the text" and on disciplining the mind through the study of logic and rhetoric.

Industrial and Social Changes. When industrial growth in America and the needs of the new industrial society forced the colleges and universities to expand and include training masses of students instead of educating merely the elite, it became necessary for them to shift from a primary concern for the

classical or liberal education with the emphasis on verbal ability to a concern for vocational or professional education with the emphasis on "doing."

Rapid expansion of human knowledge, vast technological and scientific developments, and the diverse abilities, needs and interests of the college students, who came from all levels of society, led to new "practical" curricula and new classroom procedures. It was felt that students could acquire knowledge more meaningfully and economically by other means--the lecture, laboratory, field experience, audio-visual aids--than by reading.[2] Students who were less interested or less able in the verbal areas were attracted to college campuses by curricula that stressed skills developed in practical and applied courses, and reading began to lose the central position it had once held in higher education.

New Educational Theories. During the first half of this century, the reform movement known as Progressive Education flourished and tended to de-emphasize reading somewhat in the elementary school. As the new movement stressed student-centered activity and provided for meeting the needs and interests of the individual, it was effective in creating some interest in reading on the part of the unmotivated child by having him read about things that interested him, but it tended to encourage the bright child to substitute, for reading and intellectual pursuits, activities that had never before been considered appropriate for

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2. Richard Hofstadter and C. D. Hardy, The Development and Scope of Higher Education in the United States, p. 166. (New York, 1952.)

the schoolroom. The proponents of Progressive Education attempted to re-examine and reconstruct the aims, values, content and methods of education in terms of the society it served, but they did not "completely agree among themselves on workable answers" and possibly for that reason have been misunderstood and misinterpreted.[3]

The attempt to develop the well-rounded individual for a society concerned primarily with technology and material values tended to emphasize psychological or social adjustment rather than intellectual pursuits or academic excellence.[4]

New Mass Media of Communication. Various electronic and mechanical innovations have led to new mass media of communication that virtually remove the necessity for the individual to read for information, for entertainment, or even for keeping up in his profession or vocation. Radio and television are obviously more expedient means than the printed word for disseminating information.

The population explosion since World War II, the increasing prestige value of the college degree, and the tremendous growth in human knowledge have created new problems for higher education. The almost fantastic rise in enrollments and the accompanying financial needs and difficulties are forcing colleges and universities to resort to larger classes and the use of

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3. William VanTil, "Is Progressive Education Obsolete?" Saturday Review, XLV (February 17, 1962), 56-7.

4. Hofstadter and Hardy, op. cit., pp. 108-9.

electronic or mechanical aids to instruction. Teaching by television, film, or machine and using vast computers and data-processing equipment for both instruction and evaluation permit rapid manipulation, organization and presentation of facts and figures and may provide for any number of students. On the surface it appears that the role of reading is becoming less and less important, that concern for the individual in higher education may be lost, and that education of the masses may become mass education.[5]

THE IMPORTANCE OF READING IN HIGHER EDUCATION TODAY

If the goals of American education were simply to dispense technological information and to provide for physical, social and vocational development, one might be justified in asking whether our assumption that reading is essential to education may not be antiquated and invalid.

It is possible of course for the individual to become informed of the ideas and experiences of persons and cultures, past and present, to become aware of new developments in human knowledge and of the obsolescence of much that has been learned in the past, and to develop wisdom and depth of understanding--without reading. It is reading, however, that provides the individual with one means of continuing his education throughout his lifetime, but still more important, it is the one means that permits him to do these things in private. It is indispensable for preserving the autonomy of the individual human mind.

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5. Algo D. Henderson, Policies and Practices in Higher Education, p. 13. (New York, 1960).

Some of the potential components of the educational experience that may lead the college or university student to change--in other words, to learn--are listed by Lazarsfeld:

> A college is in reality a complex social system with many parts which act upon one another. There are classes and lectures, but there are also friendship groups and fraternities which may support or oppose their influence. Then there are informal contacts with the faculty, and the mere presence of the faculty as models and examples; there is reading; there is the experience of living on one's own; there is exposure to other people's style of life and taste; there are organized student movements; there are ties to home and ties to anticipated future jobs. . . [6]

Of all these sources of influence and barriers to influence in higher education, the one single potential listed that involves the individual deeply, personally and independently in intellectual activity is reading. It is an especially necessary adjunct of large classes and of mechanical instruction if true learning is to occur.

Taylor warns that evaluating and integrating ideas and experiences require that the individual withdraw from the activities and busyness of his world long enough to pursue independent study and thought:

> All truth is private and all convictions personal. . . . Learning is a private affair taking place within the individual consciousness. . . . Unless the personal response is present, nothing has happened.[7]

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6. Paul F. Lazarsfeld, "Foreword" to Allen H. Barton, Studying the Effects of College Education, p. 9. (New Haven, 1959).

7. Harold Taylor, On Education and Freedom, p. 30. (New York, 1954).

Education then means more than the mere acquisition of information and skills. Its purpose is to enable the individual to become "fully functioning" as a person, an effective citizen and responsible member of society. The one activity that can provide for developing the power and resources of the human mind independently and individually is reading.[8]

To Develop the "Fully Functioning" Person. For the American ideal of individual fulfillment to become a reality to any extent, effort must be made to challenge each person to realize the satisfaction and enrichment possible from independent reading and from critical thinking. Continual self-education, self-discovery and re-shaping of self are essential if the individual is to realize his best self.[9]

The charges that Americans are materialistic and anti-intellectual and that American students are self-centered and socially irresponsible suggest their need for more involvement in ideas and for broader and deeper interests.[10] To cope with the vast flood of students effectively, institutions of higher education must expect and challenge the student to assume responsibility for his own development, to do independent study, and to do a great amount of reading and reading of a high level.

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8. Dan Lacey, "Reading's Place in an Effective Society," in Reading for Effective Living, pp. 17-22. (New York, 1958).

9. John W. Gardner, Excellence: Can We Be Equal and Excellent Too? (New York, 1961).

10. Philip E. Jacob, Changing Values in College. (New York, 1957).

To Develop the Well-Informed, Effective Citizen. One of the goals of higher education is to develop well-informed, effective citizens for a democratic society, which depends for its continued existence on the ability of its members to reason and evaluate ideas. In a free society each citizen must make complex decisions that affect not only himself but also others in that society. To deal intelligently with the cold war, with subtle propaganda, and with well-intentioned but irrational movements that endanger our world, it is imperative that the individual be able to think critically.

Since critical thinking demands that one have criteria for judging and making decisions, both extensive and intensive reading are essential. If democracy is "an expanding factor in the world--expanding not through force but through ideas," then reading, as it affects the decisions of the individual, can also affect the international scene.[11]

Because of the tremendous number and the uneven quality of publications from which the individual must choose, intelligent selection is a necessary correlative of critical reading. To develop skill in selecting the materials to be read and to develop skill in reading, the individual must have adequate and effective practice and motivation.

THE GENERAL AMBIVALENCE REGARDING READING

Some of the difficulties encountered in attempting to challenge students to develop skill in reading and to use reading

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11. President's Commission on National Goals, Goals for Americans, pp. 30-31. (New York, 1960).

intelligently may be traced to the ambivalence with which reading is regarded by our society. Although theoretically reading, like education, is considered generally to be an essential human activity that is "good" for everyone, it tends often to be of little concern to the individual.

Students in general, reflecting the values and attitudes of their society, feel little compulsion to read. Moreover, their interest in the immediate and utilitarian prevents them frequently from becoming aware of their inadequacy as readers or of the superficiality of passive learning.

The institutions, on the other hand, retaining the liberal arts approach to higher education, continue to assume the importance of reading to the individual and to regard books as basic tools for learning. The objectives of higher education--to develop our human resources for the good of the individual as well as for the good of our society--imply that developing maturity in reading and engaging in private critical thinking are of the utmost importance.

The faculty, theoretically attempting to implement the objectives of the institution but in actuality discovering that students are unable or unwilling to read with any degree of sophistication or motivation, frequently find it necessary to adjust their materials and methods of instruction to their "audience." They hand out reading lists and make reading assignments, which students tend to ignore--as most of the faculty are well aware. Ultimately teachers may come to expect their students to do little reading.

To complete the vicious circle, the fact that some students find success in college possible without much reading tends to increase the ambivalence with which reading is regarded by them and by society in general. Members of the faculty, though prescribing reading, may possibly, as representatives of that society, have ambivalent feelings about reading themselves.

It is assumed in this study that the first step in attempting to break this circle of ambiguities may be for each institution to assess how its students react to their reading assignments, to determine what factors appear to students to affect the amount and quality of the reading they do, and to explore what their conception of reading and their reading skills are in relation to their reading habits.

CHAPTER II

AREAS OF INVESTIGATION IN THE STUDY

The great challenge to American higher education today appears to be the difficult task of improving its quality and at the same time providing for great increases in the number of college-age students. Considerable attention is being given to developing appropriate aims, adequate physical facilities, and effective utilization of faculty resources. Institutional self-studies, inter-institutional co-operative projects, research centers, and independent research studies are involved in seeking possible means of improving the various aspects of the educational enterprise.

This study is related to this general effort since its purpose is to investigate at one institution, Michigan State University, the effectiveness of one component of the educational experience that is felt to be essential to the individual's intellectual development and continued self-education. Analysis of interviews with a random sample of students, some with high ability and some with low ability in reading, may reveal what measures appear to have been most effective in challenging students to develop themselves intellectually through reading. Possibly if both "the learner and the learned" become more aware of the interrelationship of reading ability, conception of reading, attitude toward reading and reading habits, they will recognize the importance of

their making certain adjustments or changes to aid this large complex land-grant institution in developing "a climate conducive to scholarship and intellectual achievement."[12]

THE STUDENT'S CONCEPTION OF READING

It is one of the basic assumptions of this study that the individual's perception of his task may either facilitate or limit his ability to perform that task. The many possible interpretations or conceptions of the word "reading" may cause much of the ambiguity and difficulty students encounter in reading at the college level.

Conceptions of Reading. To some, reading means merely the ability to recognize marks on a contrasting background--a visual and rote skill, possibly "reading" road signs or maps or just "mouthing" words. For example, a Japanese exchange student upon arrival in an American high school was able to "read" English aloud very well but admitted he was unable to comprehend the meaning of much that he had "read."

To others, reading (in Life magazines, for instance) may mean picking up incidental information often primarily through pictures or headlines. Some individuals read condensed books or spend hours on the daily newspaper merely to accumulate facts and details uncritically or to find momentary pleasure or escape. The student who races through his textbook just before examina-

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12. Committee on the Future of the University, A Report to the President of Michigan State University, p. xiii. (East Lansing, 1959).

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tion may be equally unaware of his limited conception of reading and limited perception of his task. The current vogue of speed reading tends to encourage this superficial interpretation of the word "reading."

To still others, reading may mean the ability to grasp concepts from the printed page and to evaluate their relevance to mankind in general and to the reader in particular.

In American colleges and universities reading is undeniably a problem both to the student, who is suddenly confronted with somewhat different academic tasks and expectations, and to the professor, who finds it necessary to adjust his materials and methods to all kinds of readers. Holding different ideas regarding the meaning of the word "reading," the instructor and the student may fail to communicate in regard to expectations and assignments.[13]

Levels of Meaning in Reading. College freshmen especially have reported that one of their major difficulties in adjusting to their new academic tasks is their inability to understand what reading an assignment means. One professor, assigning reading to a class, may expect them to memorize the facts while another may expect a high-level experience on the part of the student in thinking, comparing, analyzing, or criticizing. Students complain that they do not know "what is expected" of them.[14]

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13. George Stern, "Student Values and Their Relationship to the College Environment," in Research on College Students, pp. 67-8. (Berkeley, 1960).

14. Jacob, op. cit., p. 94.

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These "other-directed" students tend to view reading either as an incidental source of information or pleasure or as a fairly mechanical activity imposed upon them by the expectations of others. Unless or until such a student becomes "inner-directed" and is challenged by his own expectations and needs to develop concepts and discover meaning, the intellectual impact of the university upon him may depend upon the instructor's making his expectations and objectives very clear. Not only will the student need to be told the expected level of reading but also he will need to be guided in developing the ability to read at various levels. In other words, he will need to know how to adjust his reading to the type of materials at hand and to the purpose for which he is doing the reading. He will need to know when to skim, when to read for main ideas, when to punctuate his reading with periods of thinking, of self-testing, and of application and comparison.

Since special courses for improving reading efficiency appeal to students in the liberal arts and private colleges as frequently as in the large public institutions that attract students with less well-defined reading interests, it would appear that students of all socio-economic backgrounds, of all levels of general aptitude, and of all academic interests encounter reading difficulties.

One of the first concepts students must grasp in regard to reading is that there are four levels of reading:

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1) reading for literal meaning--the habit level, a fairly mechanical act,

2) reading for implied meaning--the comprehension level,

3) reading for related meaning--the application and transfer level,

4) reading for derived meaning--the integration level that produces stable and permanent personality changes.[15]

Unless the student becomes aware of the complexity of the reading process and is "expected" to read at the higher levels, the university can expect to have little intellectual impact upon him.

One purpose of this study is to ascertain what relationship appears to exist between the student's idea of what reading means and his reading performance. What part does the instructor's method of making assignments, the student's choice of major, or the method of instruction appear to play in developing the student's awareness of what reading entails at the college level? What means do students perceive as having been effective in challenging them to read at higher levels?

THE STUDENT'S ATTITUDE TOWARD READING

Although Jacob's study found that the American college had had little impact on the values of its students, any institution desiring to improve its intellectual impact on students will need to investigate every avenue possible for increasing the intellectual challenge of its students. One of these may have to do with the student's attitude toward reading and toward his assignments.

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15. William S. Gray, "Reading and Reading Efficiency," in Reading in General Education, pp. 19-31. (Washington, 1940).

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The student's home environment as a child, his own self-concept based on his sense of success or failure in reading in the past, and his personal goals and needs play a major role in developing his attitude toward reading, but on the campus various forces may also facilitate or inhibit his use of reading and change his attitude toward it.

This relationship between the student's attitude toward reading and his reading performance is a second area of investigation in this study. What motivates the student to read? How does the peer group, the choice of major, the method of instruction, or the individual instructor appear to affect the student's attitude toward reading? Do upperclassmen differ from the freshmen and sophomores in their reading attitudes and habits? Do students with high reading ability differ from the students with low reading ability in their attitudes toward assigned reading and toward voluntary reading? How is the student's attitude toward reading related to his concept of himself as a reader and to his conception of the meaning of reading?

THE STUDENT'S READING HABITS

A third area of investigation in this study concerns the reading habits of the student, the amount and quality of the reading he does and his flexibility in reading in various ways for various purposes. Since good lifetime reading habits are essential to the effective, well-informed citizen and to the "fully functioning" individual, the university has an obligation

to attempt to know as much as possible about the reading habits of its students and to challenge them in every way possible to develop maturity in reading.

Gray defines "maturity" in reading not as an "end-product" but as a process or a "combination of traits that make for full, rich and efficient living with abundant capacity for on-going development."[16] With Rogers, Gray made a study of maturity in reading and identified the following "traits" that mature readers possess in varying degrees:

1) awareness of the many purposes for reading,

2) grasp of the various levels of meaning,

3) a focus of interest or inner drive to which much of the individual's reading relates,

4) awareness of the importance of constructive social participation, of being a responsible group member,

5) an expanding spiral of reading interests, a desire for continual growth,

6) rational reaction to the ideas of others and the use of sound judgment and discrimination in applying one's own ideas.[17]

Reading readiness at the elementary level has been generally recognized as deserving major consideration, but Shaw and Townsend stress the importance of assessing "readiness" at the

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16. William S. Gray, "Nature of Mature Reading," in Promoting Maximal Reading Growth Among Able Learners, p. 11. (Chicago, 1954).

17. William S. Gray and Bernice Rogers, Maturity in Reading, p. 236. (Chicago, 1956).

college level, also.[18] They observe that students must have "good habits of application, understanding and analysis . . . to build on" and must be ready for new challenges and new skills in reading and thinking if they are to develop the attributes of the mature reader.

McConnell, studying the compatibility of students and institutions at the point of intake, advises that the college has the task of bringing the less informed and less cultivated individuals into the college subculture--to teach them "to read, to acquire a basic way of relating to ideas and knowledge, before their liberal education can significantly get underway."[19]

Since higher education's raison d'etre is to challenge students to new approaches to learning and to more complex tasks, maturity in reading must be one of its major goals.

The vast amount of research in reading, surveyed in the following chapter, indicates the complexity of the reading process. Many conditions or factors appear to be involved in determining when or whether a given reader will achieve maturity in reading. It may not be possible, particularly at the college level, to change or influence some of these factors, such as certain personal characteristics, but some manipulation of the factors investigated in this study may be possible. All of them

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18. Phillip Shaw and Agatha Townsend, "Diagnosis of College Reading Problems by Use of Textbooks," The Reading Teacher, XIV (September, 1960), p. 30.

19. T. R. McConnell, "Problems of Distributing Students Among Institutions with Varying Characteristics," North Central Association Quarterly, XXXV (January, 1961), p. 226.

are necessarily interwoven and interdependent, and awareness of their interrelationships and of the dominance of the affective factors seems imperative if students are to be challenged to greater intellectual development.

CHAPTER III

RESEARCH IN READING

Experimental and action research in reading at the college level leans heavily upon the psychological and physical research involving readers of all ages. This chapter could become hopelessly long and involved if it attempted to review even the major analyses and studies of reading that have been reported since the beginning of the century. Probably more research has been devoted to reading than to any other single aspect of the educational process. Hundreds of studies have been made by physiologists, psychologists, sociologists, linguists, and educators with the emphasis varying from the structural analysis of words or sentences to blood analysis of poor readers, from the relationship between reading and academic achievement to the relationship between reading and delinquency. They touch upon all aspects of the reading process and upon all factors affecting reading and affected by it. Many of them are concerned with details and minutiae or with variables that cannot be controlled and that may not be susceptible to teaching. The complexity of the reading process is responsible for the great multiplicity and variety of research studies in reading.

An attempt has therefore been made to categorize the studies and discuss briefly the findings which bear on reading as it has been conceptualized in the earlier chapters.

READING STUDIES THAT HAVE "MADE A DIFFERENCE"

Out of the welter of reading studies, David H. Russell, professor of Education at Berkeley and well-known in the Reading and English fields, has selected six studies that he feels are basic and have really "made a difference" in the field of reading instruction:[20]

1) Judd and Buswell's study before 1920 "had a great influence in showing the advantage of silent over oral reading and in illustrating the differential nature of the reading act."[21]

2) Thorndike's "memorable study" in 1917 investigated errors in paragraph comprehension and clearly showed the difference between "mouthing" the words and understanding meaning.[22]

3) Gates demonstrated in a series of studies the importance of visual techniques and the "intrinsic" method in getting meanings of words and sentences as opposed to the use of the phonics method alone. His research "led rather directly to a revolution in teaching materials and method."[23]

4) The Terman and Lima book in 1929 on children's reading interests "helped provide a basis for the concept of developmental reading."[24]

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20. David H. Russell, "Evaluating and Using Research in the English Language Arts." Speech at the National Council of Teachers of English Convention in Chicago, December, 1960.

21. C. H. Judd and G. T. Buswell, Silent Reading: A Study of the Various Types. (Chicago, 1922).

22. Edward L. Thorndike, "Reading As Reasoning: A Study of Mistakes in Paragraph Reading," Journal of Educational Psychology, VIII (June, 1917), pp. 323-332.

23. Arthur I. Gates, "Studies of Phonetic Training in Beginning Reading," Journal of Educational Psychology, XVIII (1927), pp. 217-26.

24. Lewis M. Terman and Margaret Lima, Children's Reading. (New York, 1937).

5) The Agnew Study of phonics, made in 1939 and combining several methods of attack, "may be important just because it left certain questions unanswered."[25]

6) Gray's survey for UNESCO in 1956 "points to world-wide problems in literacy, in types of language, and in adaptation of instruction to the nature of the language."[26]

These studies, except for Thorndike's, dealt with children and had direct application to elementary school reading, but all indirectly contribute to an understanding of college level reading problems:

Judd and Buswell's basic research has direct application to one of the major problems encountered by many college students. Plagued with slow reading habits and low comprehension, they are unaware that reading involves thinking. Frequently they read silently at the same rate and in the same way that they read orally, reading words instead of ideas.[27]

Thorndike's study revealed some of the difficulties that are encountered when one reads mechanically or projects his own experiences and feelings into the printed page. Misinterpretation of words and ideas may be the result of physical or psychological factors that affect perception or may be due to the

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25. Donald C. Agnew, The Effect of Varied Amounts of Phonetic Training on Primary Reading. (Durham, North Carolina, 1939).

26. William S. Gray, The Teaching of Reading and Writing: An International Survey. (Chicago, 1956).

27. Homer L. J. Carter, "Effective Use of Textbooks in the Reading Program," Eighth Yearbook of the National Reading Conference for Colleges and Adults, p. 156. (Fort Worth, 1959).

stress on speed in the teaching of reading and to failure to adjust instruction to the individual's "readiness" for reading at various levels.[28]

The studies by Gates, casting doubt on the value of intensive phonics training, led to a controversy in the teaching of reading that has not been completely resolved today. Misunderstanding of the research caused many schools to discontinue all word analysis and phonics training.[29] The Agnew study gave evidence twelve years later that phonics instruction does have value. As a result, most teachers have found that a combination of the "phonics" and "intrinsic" methods is necessary. Students whose early reading training does not succeed in developing skill in the use of phonics or phonetics tend to mis-read individual words and may comprehend aurally words they cannot recognize visually.[30] On the other hand, failure to stress reading for meaning leads the student to read slowly and with poor comprehension.[31] Either overemphasis or inadequate emphasis on phonics has been found to affect the college student's reading proficiency.[32]

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28. Helen R. Lowe, "Solomon or Salami," The Atlantic, CCIV (November, 1959), 128-31.

29. David H. Russell, "Teachers' Views on Phonics," Elementary English, XXXII (1955), 371-75.

30. Gertrude Hildreth, "Reading Methods for the English Language," The Reading Teacher, XV (November, 1961), 75-80.

31. George Spache, "A Phonics Manual for Primary and Remedial Teachers," Elementary English Review, XVI (1939), 147-50.

32. M. V. Rogers, "Phonic Ability as Related to Certain Aspects of College Level Reading," Journal of Experimental Education, VI (1938), 381-395.

Out of the Terman-Lima study of interests came the concept of developmental reading, which is the basis of reading improvement at the college level. Since the student's interests reflect his personal values and needs and motivate his behavior, they determine to a large extent the quality and quantity of his reading.[33] Until the individual has developed the interests, values and motivations of a mature person and has set goals for himself as a responsible member of society, his reading will undoubtedly reflect his lower level of maturity. His interests and his involvement in his reading, either intellectually or emotionally, may have considerable influence on his comprehension and on his reading habits.

The significance of Gray's study of reading patterns and instruction in various languages lies in his generalizations regarding the perceptual process. Although this study has had less impact upon teaching method than the other five, it reflects a current belief that reading has an important role to play in the social reorganization and international developments in the world today.

Russell defends his selection of these six studies on four bases: They show the tremendous scope of the reading research field, each dealing with a different problem in reading. Each has a different research design. Each is closely related

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33. J. W. Getzels, "The Nature of Reading Interests," in Developing Permanent Interest in Reading, p. 71. Edited by Helen M. Robinson. (Chicago, 1956).

to the context in which it was made, the major reading problem of the day. Finally, all are characterized by simplicity of design and of statistical analysis.

RESEARCH ON FACTORS RELATED TO READING

The studies listed by Russell are basically concerned with instruction, but they could also be variously classified as psychological, sociological, physiological or linguistic studies of reading. Since most reading research tends to be related to more than one of these areas, the studies discussed in the following pages have been grouped according to whether they contribute primarily to an understanding of the relationship of reading to intelligence, physical factors, sex role, attitudes or social adjustment. This is an arbitrary grouping, and some of the studies fit into more than one of these categories.

Reading and Intelligence. From a survey of literature in 1933, Tinker observed that "the most important determinant of reading ability is, without doubt, general intelligence." He found correlations of reading age and mental age ranging from .50 to .80 in various studies, depending upon the chronological ages and the tests used.[34] Witty and Kopel, on the other hand, concluded from studying IQ's of poor readers that most of them have enough mental capacity to read satisfactorily but lack appropriate and attainable goals or proper motivation. They stated that

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34. C. C. Bennett, An Inquiry into the Genesis of Poor Reading, p. 6. (New York, 1938).

lack of mental ability can be considered a primary cause of reading disability perhaps in only 1% to 2% of the total population of the United States.[35] Most studies tend to agree that reading defects may occur at any intellectual level from very superior to very inferior, as measured by intelligence tests.[36] Although inadequate intelligence appears to cause inability to learn in all school subjects including reading, low general intelligence is not the predominant cause of most of the cases of severe retardation in reading.[37]

Studies of the gifted in college reveal that many of them need help in improving their reading skills.[38] Although IQ and reading ability are not necessarily correlates, Anastasi observed that within our cultural setting, intelligence appears to consist largely of verbal ability.[39] Strang found a correlation of .75 between a reading test and the language portion of an intelligence test but of only .35 between the reading test and the non-language portions of the intelligence test.[40] This suggests the import-

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35. Paul Witty and David Kopel, Reading and the Educative Process, pp. 227-28. (Boston, 1939).

36. Marion Monroe, Children Who Cannot Read, p. 6. (Chicago, 1932).

37. Helen M. Robinson, Why Pupils Fail in Reading, pp. 67-8. (Chicago, 1946).

38. Agatha Townsend, "How Can We Help College Students Develop Critical Reading of Textbooks?" in Better Readers for Our Times, p. 112. (New York, 1956).

39. Anne Anastasi, Differential Psychology, pp. 360-70. (New York, 1958).

40. Ruth Strang, "Relationship Between Certain Aspects of Intelligence and Certain Aspects of Reading," Educational and Psychological Measurement, III (1943), 355-59.

ance of recognizing both verbal and non-verbal ability when predicting capacity for achievement.

In general, the studies of the relationship between reading and intelligence appear to be less relevant to college level reading problems than studies of other factors related to reading. Most students who attend college or university classes have demonstrated that they have adequate mental ability to develop reading skills.

Reading and Sex Roles. The study of reading gains made during one school year by a sample of Michigan State University freshmen showed that among the men the low gainers and the high gainers differed little in their verbal ability or in their general aptitude. Among the women, however, the high gainers showed considerably higher verbal ability and somewhat higher total aptitude. As the study suggests,

> It therefore seems that verbal and total aptitude are related to gains of women but that men gain for other reasons--perhaps greater motivation to succeed in college because of vocational pressures.[41]

Most studies of sex differences in reading find evidence that girls tend to learn to read earlier than boys with fewer extreme delays because girls tend to mature earlier linguistically than boys, but subsequently when equated with girls on

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41. Margaret Lorimer, "A Study of Reading Gains Made During One School Year by a Sample of 1959-60 Freshmen," p. 2. (Michigan State University, 1960).

chronological age, intelligence and background, boys tend to equal or excel the girls in reading performance.[42]

The generally accepted ratio among retarded* readers of seven boys to one girl is primarily attributed to differences between masculine and feminine psychosexual development. The social roles and activities expected of girls and boys no doubt influence boys to tend to be more aggressive, independent and resistive while girls tend to conform and be more docile.[43]

The early advantage that girls have in reading comes at a time when reading habits are being formed, when discouragements or inadequacies become a handicap to learning. Some schools have attempted to reduce this problem by requiring for entrance to first grade both a mental age and a chronological age of six as further assurance of adequate background for reading.[44]

Gates, from his recent testing of boys and girls in grades two to eight, believes that the superior early performance of the

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42. I. H. Anderson, "The Rate of Reading Development and Its Relation to Age of Learning to Read, Sex, and Intelligence," Journal of Education Research, L (1957), pp. 481-94.

* The term "retarded" may refer either to the slow learner, the average reader who is reading below his potential level, or to the individual whose reading achievement is below that of his peers but who is actually reading up to the level of his mental capacity. The former is the chief object of concern at the college level as well as elsewhere.

43. Fritz Redl, "Resistance in Therapy Groups," Human Relations, I (1948), 307; M. D. Woolf and J. A. Woolf, Remedial Reading, p. 69. (New York, 1957).

44. Monroe, op. cit., p. 80.

the girls in reading is probably due more to the environmental than to the maturation factors.[45] Awareness of the importance of reading for academic success or vocational preparation may lead boys particularly to take a rational approach at the college level toward re-forming or developing reading habits that will enable them to meet their goals.

Reading and Physical Factors. Attempts to determine causes of reading disabilities have led to analysis of a number of physical factors in relation to reading development. One of the first steps in clinical diagnosis has to do with visual acuity and functions. The studies of eye fixations, refractive errors, binocular co-ordination, span of visual perception, and other visual factors are numerous and reveal many bits of conflicting evidence.[46]

These studies are worthy of attention since they are the basis given for using the tachistoscope and similar devices in some college developmental reading programs. There is, however, a growing body of evidence that direct training of eye movement has little or no demonstrable effect on reading performance.[47]

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45. Arthur I. Gates, "Sex Differences in Reading Ability," Elementary School Journal, LXI (1961), 431-34.

46. Helen M. Robinson, Clinical Studies in Reading, II, pp. 31-8. (Chicago, 1953), and Monroe, op. cit., pp. 7-33.

47. D. G. Sayles, "Recent Research in Reading: Implications for College and Adult Programs," Journal of Developmental Reading, IV (1961), 217-27.

A recent study in this area by Gilbert is significant in that his novel approach to the problem of eye movements and reading suggests that in the functional efficiency of the eyes and of the central nervous system there are basic physiological differences that distinguish very slow readers from average or fast readers. Gilbert's findings imply that approaching reading deficiency as though it were a matter of improving reading habits is not entirely sound.[48]

Smith and Carrigan, also pursuing the physiological bases for reading deficiencies, believe that difficulty in controlling eye movements may be the result of calcium deficiency, a condition related to parathyroid dysfunction.[49]

Studies of other endocrine disturbances, of auditory and speech difficulties, of inconsistent eye-hand dominance or preference, of malnutrition, infection, and "the blood picture" in relation to reading indicate occurrence more frequently among poor readers but are inconclusive in ascertaining causal relationships.[50]

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48. L. C. Gilbert, "Speed of Processing Visual Stimuli and Its Relationship to Reading," Journal of Educational Psychology, L (1959), 8-14.

49. D. E. P. Smith and Patricia Carrigan, The Nature of Reading Disability. (New York, 1959).

50. Woolf and Woolf, op. cit., pp. 5-6.

Reading and Attitudes. Several recent studies of the interrelationship of reading ability of college students and affective or attitudinal factors indicate that authoritarianism, rigidity and anxiety definitely inhibit reading ability and performance, and that attitudes, values and interests definitely influence perception.[51]

Raygor, Vance and Adcock report an inventory of primarily emotional or attitudinal statements that appear as a whole to predict reading ability of college students about as well as intelligence tests do.[52]

One of the hypotheses of Robinson in a study of emotionally immature children appears to have a relationship to the reading behavior of some college students also:

> [Boys who are unsuccessful readers], finding it difficult to learn to read because of inaccuracy of perception and yet able to respond maturely to their emotional environment, turn more to the area of social contacts than to the intellectual for their satisfaction.[53]

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51. Beulah Ephron, Emotional Difficulties in Reading. (New York, 1953); Anne S. McKillop, The Relationship between the Reader's Attitudes and Certain Types of Reading Responses. (New York, 1952); Margaret F. Lorimer, A Comparison of Responses Made to Selected Pieces of Literature by High Scorers and Low Scorers on the Inventory of Beliefs. Unpublished Doctoral Dissertation, Michigan State University, 1959; D. E. P. Smith, R. L. Wood, J. W. Downer, and A. L. Raygor, "Reading Improvement as a Function of Student Personality and Teaching Method," Journal of Educational Psychology, XLVII (1956), 47-58.

52. A. L. Raygor, F. L. Vance and D. Adcock, "The Diagnosis and Treatment of College Reading Difficulties," Journal of Developmental Reading, III (1959), 3-10.

53. Robinson, Why Pupils Fail in Reading, op. cit., p. 80.

Some studies have found the successful reader immature emotionally although apparently more mature perceptually than the poor readers. Some of these may tend to withdraw into the world of books rather than face the social contacts with which they feel insecure. The retarded readers tend to be more aggressive (although not necessarily overtly so), to be preoccupied with small unimportant details, and to be unable to perceive practical and abstract applications.[54]

Reading and Social Adjustment. No matter what or how many causes the various research projects have chosen to investigate in connection with reading development and reading difficulties, invariably personal factors enter the picture. These may have to do with the individual's own personality and emotions or with his social relationships and his environment. The pattern of parent-child interaction, levels of frustration, emotional immaturity--all show evidence of being related to reading performance, but again the evidence does not succeed in showing conclusively which is the causative factor.[55]

Studies of poor readers at the college level indicate that the individual's personality traits tend to permit or prevent him from improving his reading skills. The rigid person

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54. R. S. Stewart, "Personality Maladjustment and Reading Achievement," American Journal of Orthopsychiatry, XX (1950), 416-17.

55. Ibid., 410-17.

who perceives pressure to change as a threat to the image he has of himself may react defensively and so make no improvement.[56] The good reader, on the other hand, tends to have a fairly accurate view of himself, to be more willing to accept new ideas and to show a more positive attitude toward himself and toward reading. The individual's self-concept, his ideal self, his perception of the way in which others see him, and his attitude toward authority appear to have considerable influence on his academic achievement and on his reading attitudes and habits.[57]

Some Generalizations About Various Factors Related to Reading. Conclusions reached in many of the studies are conflicting, but they tend to support a few generalizations:

1) Reading development and mental age are clearly related.

2) Although intelligence is generally conceded to have a positive relationship to reading development, the correlation of the two is by no means perfect. Comparatively few in the total population seem to lack the mental ability necessary for learning to read at least for literal meaning.

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56. Robert M. Roth, "The Role of Self-Concept in Achievement," Journal of Experimental Education, XXVII (1959), 265-81; A. S. McDonald et al., "Reading Deficiencies and Personality Factors," in Eighth Yearbook of National Reading Conference, op. cit., pp. 89-98.

57. George Middleton, Jr. and G. M. Guthrie, "Personality Syndromes and Academic Achievement," Journal of Educational Psychology, L (1959), 66-72.

3) The earlier maturation and more precocious linguistic ability of girls seem to account for their superiority in reading ability in the early years. Vocational motivation in the college years may be the factor that causes men to become generally superior in reading ability and performance at that time.

4) Physical disabilities may possibly interfere with reading development, but there have been many instances of compensation for physical handicaps through motivation.

5) Reading is a function of the whole personality, and reading performance often improves concurrently with emotional maturation and with improvements in personal and social adjustments.

RESEARCH IN READING AT THE COLLEGE LEVEL

Some of the research having to do with the reading of college students has been mentioned earlier under the various factors. A few studies of the reading habits of college students and adults have also been made, but these have been primarily surveys based on library withdrawals and book purchases, which may or may not be indicative of the individual's reading habits.[58]

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58. Asheim, op. cit., pp. 3-5.

A Study of Adult Reading Habits. One study that has a definite contribution to make to the understanding of college reading problems is the investigation of Gray and Rogers into the nature and appraisal of maturity in reading. They surveyed the reading habits of adults by means of interviews and noted a close relationship between reading behavior and social role or social class structure. They observed that education, of itself, does not seem to bear a direct causal relationship to the reading pattern, but two of the most important factors that determine when or whether a given reader reaches the point at which the reading-growing process becomes self-generating are

> the potentials which the individual brings to a reading situation and the way in which the home, school, and other agencies structure the reading situation for him. Little can be done to change the reader's capacity to learn to read. Much can be done to stimulate and direct reading activity so as to insure maximum progress toward maturity within the limits of the individual's capacity.[59]

Studies of the Effects of College Education. Research in reading at the college level has received some incidental supplementary data from the various institutional self-studies and research into the impact of the college on student values and attitudes. Although the "climate" or "press" of the institution appears to have much to do with the quality of the individual's education and the level of his reading, some of the same reading problems and underdeveloped reading skills are encountered on all campuses.

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59. Gray and Rogers, op. cit., 237-238.

These reports give strong support to the belief that the individual's maturity, his personality traits, his attitudes, values and motivations determine how well and how much he reads.[60]

Studies of College Reading Programs. The bulk of the reading research at the college level has investigated the relationship between reading ability and academic success with the emphasis on the non-achiever, and most of the studies have grown out of the remedial and developmental reading programs that are an accepted service of most colleges and universities. Unfortunately, in general, one is impressed more by the quantity than by the quality of these studies.

The problems involved in evaluating college reading programs are numerous: There is a lack of reliable and valid instruments for measuring college reading. There are many interrelated variables that are extremely difficult to isolate. There is little agreement about the relative importance of the various components that contribute to reading performance. The

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60. Barton, Studying the Effects of College Education, op. cit.; Edward D. Eddy, Jr., The College Influence on Student Character, (Washington, 1959); Rose K. Goldsen, Morris Rosenberg, Robin M. Williams and E. A. Suchman, What College Students Think, (Princeton, 1960); Robert Hoopes and Hubert Marshall, The Undergraduate in the University, (Stanford, 1957); Jacob, Changing Values in College, op. cit.; Lois Murphy and Esther Raushenbush (Ed.), Achievement in the College Years, (New York, 1960); Nevitt Sanford (Ed.), "Personality Development During the College Years," Journal of Social Issues, XII (1956), pp. 3-72 and The American College, (New York, 1962): Hall T. Sprague (Ed.), Research on College Students, (Berkeley [WICHE], 1960); Agatha Townsend, College Freshmen Speak Out, (New York, 1956).

studies are largely action research involving a specific reading program, comparing two or more techniques or approaches without allowing for differences in instructor bias or student motivation, and relying heavily on subjective evaluations and standardized tests that frequently are not relevant to the particular situation.[61] Failure to control such variables as admissions, academic standards of the institution or criteria for college success, and failure to define adequately the reading factors or to provide a control group may account for the contradictory findings of the studies.[62]

Many of the studies are concerned with demonstrating the effectiveness of one of the three basic approaches to improving reading at the college level: the mechanical, the workbook, or the counseling approach.

If one accepts the conception of reading as a thought or reasoning process, he will tend to reject the mechanical approach that relies heavily on mechanical devices and is concerned with eye span and eye movement. The objectives of the machine approach are chiefly to increase rate of reading and to

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61. Roy Somerfeld, "Problems in Evaluating College Reading Programs," in Evaluating College Reading Programs, Fourth Yearbook of the Southwest Reading Conference, pp. 17-27. (Fort Worth, 1955).

62. E. P. Bliesmer, "1959 Review of Research on College and Non-College Adult Reading," in Research and Evaluation in College Reading, Ninth Yearbook of National Reading Conference for College and Adults. (Fort Worth, 1960).

stress reading for literal meaning. The contradictory--but for the most part negative--findings in studies of this type of program can be explained on the basis of the research weaknesses mentioned previously and on the basis of variations in the conceptions of reading. This approach implies that there is transfer of training and that reading is a fairly simple mechanical skill.[63]

In the workbook approach to reading improvement, the emphasis may lean in varying degrees toward the mechanical if the workbook gives practice in perception of symbols, words and phrases or toward the counseling approach if the book discusses concepts of reading, factors in reading disability, study skills, and personality assessment. The book may stress the various levels of reading, analysis of structure, author intent, and critical thinking, or it may place heavy emphasis on skills-drills and on accumulation rather than integration of skills.[64]

The counseling approach is found to some extent in most reading courses--to the extent that attempt is made to analyze student weaknesses by means of pre- and post-tests and to give students some understanding of reading and study processes.

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63. George D. Spache, "A Rationale for Controlled Reading," Reading for Effective Living, op. cit., pp. 190-94.

64. Lyle L. Miller, "Evaluation of Workbooks for College Reading Programs," Sixth Yearbook of the National Conference for Colleges and Adults, pp. 75-85. (Fort Worth, 1957).

Programs primarily emphasizing counseling are frequently under the jurisdiction of the psychologists and stress diagnosis of reading problems by means of personality, interest and aptitude inventories and through the use of visual, auditory, psychomotor and other physical tests. Directive and non-directive methods in private or group counseling sessions are used in attempting to improve reading attitudes and abilities.[65]

Most college reading programs appear to use a combination of all three approaches. One of the psychologists expressed the general belief that all have some merit:

> All approaches may contribute to the student's apperceptive mass for intellectually gestalting the printed page.[66]

SUMMARY OF RESEARCH IN READING AT THE COLLEGE LEVEL

In general, research in reading has tended to concentrate on reading at the elementary level, on reading instruction, and on reading deficiencies, but two facts suggest that reading has had wide-spread attention and is a highly complex area of research. Since Thorndike's study of "Reading as Reasoning" in 1917, roughly five thousand articles have reported research re-

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65. McDonald et al., "Reading Deficiencies and Personality Factors," op. cit., p. 48; Smith et al., "Reading Improvement as a Function of Student Personality," op. cit.; Spache, "Reading Improvement as a Counseling Procedure," op. cit.; and Raygor, "Counseling in the Reading Program," op. cit.

66. Jack A. Holmes, "Factors Underlying Major Reading Disabilities at the College Level," Genetic Psychology Monographs, XLIX (1954), p. 83.

lated to reading. Moreover, the process had been studied by educators, psychologists, physiologists, sociologists, and linguists. Much of the research in reading at the college level has stressed student attitude and affective factors and is the result of either institutional self-studies or analyses of reading improvement programs.

Weakness of research design or procedure and failure to identify and define concepts have been the cause, at least in part, of the contradictory and inconclusive findings of much of the research. Certain aspects of the reading process and of reading problems have been somewhat clarified however.

There was a time when reading was considered a fairly mechanical skill that could be mastered in elementary school, but today it is fairly generally recognized as a complex thought process, essentially an adjustment rather than a skill. In other words, what the reader brings to the printed page is just as important as what the writer has placed there. Many factors appear to determine the individual's reading ability and reading habits. In general, these factors may be classified under mental ability, physical or biological status, and environmental or psychological experiences. At the college level research in reading must logically be concerned chiefly with the individual's environment and motivation, and unfortunately these experiential and affective factors do not lend themselves readily to quantitative measurement.

Since reading is essentially an individual matter, whatever can be learned about the individual students, their attitudes, values, expectations, concepts of self, concepts of reading, and reactions to their reading should give both the institutions and the instructors assistance in their tasks. It is the purpose of this study to attempt to assess the effectiveness of the environmental and motivational features of Michigan State University in challenging students to develop maturity in reading.

CHAPTER IV

DESIGN OF THE STUDY

Some questions skimmed over lightly by research in reading concern the relationship of the individual's ability to read to his conception of reading, his attitude toward reading, and his reading habits. In addition to investigating these relationships, this study will attempt to determine what part the method of instruction, method of making assignments, instructor expectation, and choice of major or vocation appear to play in establishing reading habits, attitudes and concepts of students. How does the student change as a reader as a result of his college experience?

In an effort to obtain the best possible picture of the impact of reading on students at Michigan State University, a sample was selected of eighty undergraduates believed to be representative of the students with high ability in reading and of those with low ability in reading enrolled in the winter term, 1961.

Distribution of Sample. Research indicates that a number of factors undoubtedly affect a student's ability and motivation to read. So that the sample would be as representative as possible, the following factors were considered in the selection of the students:

1) Sex. Since sex may account for some differences in verbal facility, interests and vocational

motivation, half the sample chosen were men and half women.

2) Level of Reading Ability. An equal number of students was selected from those who demonstrated high reading ability and those who demonstrated low reading ability in their Orientation Week scores on the MSU Reading Test.[67]

3) Class Level. The students were chosen equally from each of the four undergraduate classes in order to observe any changes in reading activities or attitudes that might evolve from increased experience or maturity.

4) Major. As the student's area of major interest and vocational motivation may have considerable effect upon his reading activities and since his reading ability may in some degree affect his choice of major, the forty men and forty women were selected so that each of the six broad interest areas was represented by at least eight students.

Source of Sample. The original list of students with high or low ability in reading was obtained by selecting every fifth page of the alphabetical list of freshmen that is issued by the

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67. This was a 42-item reading test used as part of the Orientation Test battery and designed to measure the ability of students to comprehend reading passages from each of the four areas included in the University College (general education) program: Social Science, American Thought and Language, Natural Science, and Humanities.

Office of Evaluation Services in the orientation test score books for 1957, 1958, 1959, and 1960.[68]

Adjustment of Sample. Non-resident students who were difficult to contact for appointments were not included in the original list, nor were any foreign students who had a language problem. Because of dropouts, inaccessibility, or a concentration of too many students in certain majors, it was occasionally necessary to substitute other students listed on the selected pages of the orientation test score books in order to meet the criteria set up for distribution.

Obtaining an even distribution of students among the major areas was difficult because, in general, students who major in certain areas, such as Science and Arts, tend to have high reading ability while in areas, such as Agriculture, Business and Public Service and Education, the students tend to have low reading ability.[69] Some choices had to be made consequently when one group offered too many possible students in the same categories. In ten instances (see 0's on Table 1) no students at all were available.[70]

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68. Since the method of reporting scores changed in 1959, those selected from the entering freshman class in 1957 and 1958 had high reading scores of 10 through 7 or low scores of 4 through 1 on a ten-point scale; those entering in 1959 and 1960 had high scores in reading of 99 through 90 or low scores of 46 through 00 on a percentile rank system.

69. A. E. Juola, "Comparative Standings of the Various Colleges and Curriculum Groups on the Orientation Week Examinations for the Fall of 1961." Mimeographed report issued by MSU Office of Evaluation Services.

70. See Appendix, Table 1. Note that the twenty-eight majors represented in the study are combined under larger headings, following the pattern of the registrar's codes.

Pilot Study. Prior to the study, the writer presented to two freshman honors sections in American Thought and Language a questionnaire to be completed weekly for one term with information regarding the amount of reading assigned in each class, the reading expectations of the professors (as perceived by the students), student attitude toward the assignments, and student reading activities. The responses served to suggest some of the questions to which this study needed to be directed.

The results of the questionnaire established beyond a doubt that further study of attitude would be worthwhile and also established the necessity of using a method that would probe more deeply into the individual student's activities, attitudes and concepts than a questionnaire was able to do. It was for this reason that the interview method was finally used.

Hyman, in his Interviewing in Social Research, warns of the limitations of interviewing in research: that the interview yields subjective data, attempts to make inferences from behavior that may not necessarily be reliable, may be influenced by interviewer bias or by the social impact of interviewer and respondent, may procure answers in terms of desires rather than belief, and may lead to a "tendency to overestimate unity of personality."[71] All scientific research however is subject to some error, and the interview has proved generally more revealing of attitudes

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71. H. H. Hyman, Interviewing in Social Research. (Chicago, 1954).

and reactions to reading than most other methods.[72]

Procedure. The students were interviewed chiefly by telephone since the telephone proved to be not only the more convenient means but also the more effective means of getting information. All were willing to discuss their reactions to their reading at the university--some of them at considerable length and in considerable detail--and most seemed flattered to be asked and eager to be as honest and objective as possible after the purpose of the interview was explained to them.

In the interview the student was invited to discuss his reading freely. The following questions were used to guide the discussion in whatever order or form seemed advisable as the interview proceeded:

1) Do you enjoy reading?
2) How do you rate yourself as a reader in terms of speed and comprehension?
3) What is your reaction to the reading assigned you at Michigan State University? The amount assigned? Its difficulty? Its interest to you?
4) How much of the assigned reading do you do? When do you do it? How do you generally do it? What method of study do you use?
5) Are you given optional and supplementary readings? Do you do them?

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72. Gray and Rogers, Maturity in Reading, op. cit., p. 229.

6) How are reading assignments made to you? Do you feel that the method of presenting assignments, the method of instruction, or any other classroom conditions tend to affect the amount or quality of your reading?

7) How much of the assigned reading do your instructors expect you to do? How do you know?

8) What reading do you do "on your own" regularly? Occasionally?

9) How much time do you estimate you spend reading per day as an average?

10) How much do you use the library? For what purposes?

11) How do your living conditions affect the amount of reading you do?

12) Do you see any relationship between your reading assignments in your various courses?

13) Do you become personally involved in what you read? Or is it just a hurdle to get over to reach a goal? Do you feel that your reading at Michigan State has changed you in any way? What have you read today or yesterday that seems to be specifically related to you and your life now?

14) In your opinion, how much stress is reading given at Michigan State?

Notes taken in shorthand during the interview permitted quoting almost verbatim. Comments on each question were transferred to cards for collation and comparison.

In addition to the transcriptions of the interviews, the following data on each student were obtained from the student's records in the registrar's office:

1) all-university grade point average,[73]
2) grade point average for the University College courses that require considerable reading: American Thought and Language, Social Science, and Humanities,
3) major and changes made in choosing major,
4) class level and terms in residence,
5) courses in which the student received D or F grades,
6) courses repeated,[74]
7) courses waived or "comp'd,".[75]
8) honors, terms on probation, warnings, withdrawals and readmissions.

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73. Four points are allowed for each credit graded A, 3 for B, 2 for C, 1 for D. No points are given for F or X. Dividing the total points earned by the total credits carried gives the cumulative grade point average. Credits carried include those earned, failed, and conditioned. A grade point average of 2.0 (C) is required for graduation from the University.

74. The student may repeat courses in the University College in an effort to raise his grade to meet the total grade point average or specific course grade requirement of his major college.

75. Superior students may take "comprehensive" course examinations in order to waive the requirement of one or more terms of a University College course without credit, and under special arrangement the student may take comprehensive examinations to obtain credit in one or more terms of a University College course.

Clarification of Terms "High Ability" and "Low Ability."

In this study the terms "high ability" and "low ability" refer to the student's demonstrated skill as a reader on the MSU Reading Test and do not refer to his mental capacity or reading potential.

Although the correlation between reading ability and intelligence is generally high, it is by no means perfect, and in this study, as in any random sample, some of the students with high scores on the MSU Reading Test had below average scores on the total College Qualification Tests, and some scored low in reading but high on the total CQT.

CHAPTER V

ANALYSIS OF DATA

The purpose of this study was to investigate the part that reading plays in the educational experience of students at Michigan State University. The sample, including forty men and forty women, were fairly evenly distributed among the four class levels and the various major areas. As freshmen, half the sample had received above-average scores and the other half below-average scores on the MSU Reading Test. Although effort was made to select students with average or above-average total aptitude scores, in some majors and some classifications it was not possible to find students with reading ability below-average and general aptitude above-average. Actually fifty-three of the eighty in the sample were average or above on the CQT-Total score.

This chapter will merely present the data collected. Discussion and interpretation will follow in the next chapter. Because of the selection involved in this sample of students, it is not possible to compute statistical measures of association. The nature of the study and the many factors involved require that subjective appraisal rather than statistical analysis be employed.

From the permanent records of the students in the sample, some observations may be made regarding the relationship of the student's reading ability to his

a. academic achievement and

b. choice of major.

The data from the interviews were analyzed for the relationship of the student's reading ability to his

c. conception of the meaning of reading,

d. attitude toward reading,

e. concept of self as a reader, and

f. reading habits.

READING ABILITY AND ACADEMIC ACHIEVEMENT

The information from the records of the students shows that in general there is a clear, though much less than perfect, relationship between reading ability and academic achievement. This tends to confirm the report of the Michigan State University Office of Evaluation Services that reading ability is the best available predictor of academic achievement.[76]

Reading Ability and Total Grade Point Average. Twenty-eight of the forty high-ability readers had above 3.0 in total grade point average, and only three had below 2.5. In contrast, none of the forty low-ability readers had above 2.87, and fifteen had below the 2.0 total grade point average required for graduation. (See Appendix, Table 2.)

Since the total grade point average includes such non-reading courses as arts, crafts, physical education and activity band, a comparison of the grade point averages of high-ability

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76. 1958-1959 Correlations Among GPA's, Orientation Tests, CAT and SCAT, a mimeographed report by A. E. Juola of the MSU Office of Evaluation Services, indicates that the MSU Reading Test scores and total grade point averages had a correlation of .50 for men and .58 for women.

and low-ability readers in the "reading basics" is perhaps more meaningful.[77]

Grade Point Averages in the "Reading Basics." The "reading basics" are the required general education courses that emphasize verbal abilities and are usually taken by freshmen and sophomores: American Thought and Language, Social Science, and Humanities.

In the "reading basics" twenty-nine of the forty high-ability readers had grade-point averages above 3.0, three had below 2.5, but none had below 2.0. Of the forty low-ability readers, only five had above 2.4, and twenty-two had below 2.0. (See Appendix, Table 3.)

Since the "reading basics" make up a large part of the general education program in the first two years, a low attainment record in those courses may prevent the student from entering the college of his choice or may cause his compulsory dropout.[78]

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77. For example, one low-ability reader with a "reading basic" GPA of 1.5 had a total GPA of 2.6. Forty-four of her 187 grade points came from seven A's in Activity Band, four B's in Physical Education, and one A in Methods of Study. She received above-average grades in only four strictly academic courses (all in Foreign Studies), and in the remaining courses she had a total GPA of 1.9.

78. "Successive GPA Expectancies for Freshmen for Four Quarters at MSU," a mimeographed report issued March 23, 1962 by A. E. Juola of the MSU Office of Evaluation Services, shows that 53% of the lowest one-fifth of the students dropped from college during their first four quarters, while 15% of the one-fifth at the highest ability level failed to complete four quarters of work at MSU. Based on the MSU Reading Test alone, 42% of the males and 44% of the females in the lowest fifth in reading ability dropped out during the first four quarters, but 16% of the males and 18% of the females in the highest fifth in reading dropped out.

Grade Point Averages of Upperclassmen. The upperclassmen regardless of reading ability, tend to have total grade point averages higher than their "reading basics" averages possibly because courses in their major area seem more relevant to their interests and vocational plans. Another possible explanation may be the tendency for the poor reader to select a major that places less emphasis on verbal skill.[79] Inability to read effectively thus may appear to have more influence on the student's academic achievement during his first two years than it does subsequently.

In this study, fourteen of the twenty upperclassmen with low reading scores as freshmen had total grade point averages higher than their averages in the "reading basics." (See Appendix, Table 4.)

Reading Ability and Academic Failure. Thirty of the forty low-ability readers received at least one grade of F or D, indicating unsatisfactory work, in both their "reading basics" and their other courses. Only one of the forty high-ability readers did so. Actually this one student failed to do satisfactory work in only one of the "reading basics," but the thirty low-ability readers accumulated a total of eighty-six D's or F's

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79. Lorimer, "A Study of Reading Gains," op. cit., p. 2 and Juola, "Comparative Standings of the Various Colleges," op. cit., p. 4. Also, see section on Reading Ability and Choice of Major, which follows on page 56.

in the "reading basics" alone.[80] (See Appendix, Tables 5 and 6.)

Academic Achievement of Men and Women. In this study the mean grade point averages of the men tended to be slightly higher than the mean grade point averages of the women in comparable groups. (See Appendix, Table 4.)

Among the high-ability readers, seven men received grades of D or F in a total of thirteen courses, and eight women in twenty-seven courses. One man had a D in a "reading basic," but none of the other high-ability readers had unsatisfactory grades in the "reading basics."

Among the low-ability readers, fourteen men received a total of twenty-eight grades of D or F in the "reading basics," but sixteen women had fifty-eight unsatisfactory grades in these general education "reading" courses.

Reading Ability and Repetition of Courses. In an effort to meet requirements and receive credit or higher grade points, nineteen of the forty low-ability readers repeated a total of thirty quarters in the "reading basics," and twenty-eight repeated sixty-eight other courses. None of the high-ability readers repeated any of the "reading basics," but four did repeat a total of six other courses.

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80. It was necessary to select substitutes for seventeen low-ability readers on the original list because they had already dropped out of college for academic reasons before the interviewing began. Eight of the low-ability readers included in this study withdrew from the university within a year after the interviews, seven with grade point averages below 2.0.

Thirteen of the twenty low-ability readers again received grades of D or F in the courses they repeated.[81]

Reading Ability and Credit by Examination. Fifteen of the forty high-ability readers undertook independent study and received credit by examination in a total of twenty-one terms of the "reading basics." None of the low-ability readers did so.

From the data regarding reading ability and academic achievement, as measured by grades, one may draw several conclusions:

1. The students with high scores on the MSU Reading Test tended
   a. to have above average grade point averages, particularly in the "reading basics,"
   b. to have no grades indicating unsatisfactory work in the "reading basics" and relatively few in the other courses,
   c. to repeat few courses, and
   d. to be more likely to obtain credit by examination than the students with low reading test scores.
2. The students with low scores on the MSU Reading Test tended
   a. to fail or receive unsatisfactory grades in at least one course and often in several courses,
   b. to repeat numerous courses, occasionally more than once, and often with little or no improvement in grades, and
   c. to experience difficulty in achieving the total grade

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81. Three students found it necessary to take a course three times before obtaining a satisfactory grade.

point average necessary either for continuing at the university or for pursuing the majors of their choice.

3. The men seemed to have slightly higher mean grade point averages than the women in comparable groups.
4. Upperclassmen with low reading ability tended to have total grade point averages higher than their averages in the "reading basics" possibly because they tend to select majors that demand less reading skill.

READING ABILITY AND CHOICE OF MAJOR

Analysis of the majors selected by the high-ability and low-ability readers in the sample suggests that these students tend to follow a pattern similar to that of the entire freshman class in 1961.[82]

Original Choice of Major. Twenty-four of the forty high-ability readers originally selected majors that require considerable reading skill, ten enrolled in the No Preference classification, and six named majors that require reading chiefly for information or stress other practical skills.

Thirteen of the forty low-ability readers selected majors originally that require considerable reading skill, seventeen enrolled in the No Preference classification, and ten selected majors that do not stress reading.

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82. Juola. "Comparative Standings of the Various College and Curriculum Groups," op. cit., Table XIII, p. 20. The rank order of colleges based on the median score for the MSU Reading Test was, from high to low: Communication Arts, Science and Arts, Veterinary Medicine, Engineering, Home Economics, Business, Education and Agriculture.

In spite of the effort made in this study to select high- and low-ability readers in each college or major area, it was not possible to find any low-ability readers at some class levels in one area (Engineering) or any high-ability readers at some class levels in other curricula (Agriculture and Business).[83] (See Appendix, Table 1.)

The thirty high-ability readers who had selected their majors when they first enrolled retained their original major or changed to one related to it in the same curricular area. Twelve of the twenty-three low-ability readers who had chosen their majors when they first enrolled found it advisable because of their low grades to change majors or to change to the No Preference classification. The majors to which they changed appear to require less verbal or reading skill. (See Appendix, Table 10.)

Reading Ability and Changing of Major. Thirty-nine of the eighty students in the sample changed majors at least once. This changing follows the pattern reported by the Office of Evaluation Services--that is, that about one half of all students change their major at least once before the beginning of the

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83. The curricula or majors selected by the students in this study were arbitrarily placed by the researcher into three groups, according to the nature of their content: majors that in general place stress on verbal ability and on both extensive and intensive or interpretative reading (languages, literature, social science), majors that stress quantitative or scientific ability and intensive reading in one or two textbooks (biological or physical sciences, engineering), and majors that stress informational reading and skills developed in practical and applied courses (agriculture, education, home economics, art, nursing, business).

junior year.[84] However, among the students in this sample, eleven of the forty high-ability readers changed, and twenty-eight of the forty low-ability readers changed at least once. (See Appendix, Table 11.)

If changes from an initial No Preference classification to a specific major are ignored, only four high-ability readers changed, but fifteen of the low-ability readers did. Since the four high-ability readers ranged in general aptitude from the 6th to the 9th decile, the changers show greater similarity in reading ability than in general aptitude. In other words, reading ability appears to influence changes in major more than general aptitude does.

No freshmen or sophomores in the higher-ability group had changed at the time of the interviews, but twelve of the low-ability freshmen and sophomores had already made fifteen changes.

The number of times the student changes his major may not necessarily indicate failure to achieve. Two high-ability readers made three changes in their majors but each time selected areas that place greater emphasis on verbal and reading ability.

Reading Ability and Majors Chosen Later. At the time of the interviews, thirty-three of the forty high-ability readers, in contrast to fifteen of the forty low-ability readers, were enrolled in majors (including Science and Engineering) that stress

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84. Lorimer, "A Study of Reading Gains," op. cit., p. 7.

critical reading. Seven of the high-ability and twenty of the low-ability readers had chosen majors that place less emphasis on high-level reading (as in Accounting, Agriculture, Home Economics and Education). Moreover, five of the low-ability readers had changed from their original majors to the No Preference classification until such time as a compatible major could be found.

From the data regarding reading ability and choice of major, one may draw certain conclusions:

1. The students with high scores on the MSU Reading Test tended generally
   a. to decide on their major area before enrolling as freshmen,
   b. to retain their original choice of major, and
   c. to choose majors that demand high-level reading skills.
2. The students with low scores on the MSU Reading Test tended generally
   a. to choose the No Preference classification when they first enrolled,
   b. to change their majors at least once,
   c. to begin to change majors early in their college years,
   d. to choose majors that stress informational reading and skills developed in practical and applied courses, and
   e. to find it advisable or necessary to change to the less

demanding majors because of unsatisfactory grades.[85]

READING ABILITY AND CONCEPTIONS OF READING

In the interviews each student was led into a discussion of his conception of reading, what he did when he read or studied, and how much he became personally involved in his reading and was stimulated to weigh and evaluate the ideas presented.

The Meaning of "Reading." The students appeared to divide themselves into two groups. One group, which included nearly three-fourths of the sample (twenty-three high-ability and thirty-four low-ability readers), "hadn't really thought about" the meaning of the word "reading" but spontaneously described it as

> recognizing the meaning of words put down in a set manner to present facts,
>
> the understanding of a group of words placed in a unit to give information, or
>
> the process of recalling the meaning of symbols as they pass before the eyes.

They appeared to think of reading as a mechanical process. Five of these high-ability readers said that as freshmen they had anticipated that reading in college would be somehow different from reading in high school, but they had been given little instruction about approaching it differently and had decided it was primarily a matter of concentration. Several observed that

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85. Ibid., p. 7. "Students tend to gravitate at the beginning of their freshman year to the majors which fit their verbal abilities. For example, only 32% of the low-ability students placed themselves in September in majors that require the most verbal skills and 67% placed themselves in majors that require the least."

reading was "an art one developed in grade school" and said their chief problem in reading was to find "something that would hold their attention."

The second group of students, the remaining one-fourth of the sample (seventeen high-ability and six low-ability readers), indicated some awareness that reading could be more than just a means of accumulating information and of getting momentary pleasure or escape through the printed page. Various individuals in this group spontaneously described reading as

> an art which requires the ability to think and compare ideas,
>
> a key to learning. . . necessary for acquiring not only knowledge but wisdom,
>
> the conveyance of ideas in writing from the mind of one person to the mind of another, or
>
> a means of visiting and knowing the world, knowing oneself, and being better equipped to enjoy life.

Although these twenty-three students showed that they were aware that reading at the college level means grasping concepts and working with ideas, only ten of these (nine high-ability and one of the low-ability readers) gave evidence of actually using reading in this way, of actually being personally involved in their reading. Typical of the responses were these:

> It is a process that opens the mind to all worlds and whets my appetite for more knowledge and greater understanding of ideas and concepts.
>
> It is a stairway to educating oneself rather than depending upon others to select what one must hear and accept as important or true.

> It is a challenge to think about ideas, and if I just listen to lectures or TV, I don't feel that I have a hand in translating the message sent my way. Reading lets one think things out and leads to deep comprehension.

Factors Affecting the Student's Concept of Reading. The students in the sample mentioned several possible sources of influence on campus that may affect their conception of reading. Among these were instructors, assignments, tests, materials, and the general orientation or attitude toward reading on campus.

Instructors

Most of the ten students who were concerned with reading as communication of ideas felt that their conception of reading had changed at Michigan State and recalled individual instructors who had challenged them to read more widely and "go deeper." They said they were reading more, enjoying it more, and "getting away from just fiction."

Some of the high-ability readers described their positive reactions to instructors as follows:

> The enthusiasm of the instructor is most important. We read a portion of Gulliver's Travels for one class, and the lectures were so stimulating that I read the whole thing during Christmas vacation. He showed us how to get something more important than the "facts" from our reading.

> If one wants to take part in discussions and be well-prepared for tests, it is necessary to keep up on the assignments, but there's no other check made in this class to see if we do the reading. It 's the professor's enthusiasm that makes me want to read as much as I can. I don't have a chance to do too much of it, but I'm keeping a list of the books he suggests that I'll read later. There's so much more to some of these readings than I thought there was.

But one noted a difference among instructors and their influence:

> I feel the instructor "makes" the course. I have one course now (English) that I thought I'd like a lot, but all the instructor talks about is the Agricultural Revolution. I'm glad I had some of the other courses in English first--where the instructor was enthusiastic about the materials of the course and discussed the author's style and ideas and different approaches to literature. I still like the materials of the course and have read extra background books, but I hate to go to that class. It's deadly.

The other thirteen students in this idea-conscious group of the sample also gave evidence that individual instructors had urged them to read at higher levels and had made them aware that reading could be more than a mechanical accumulating of facts. However, they inadvertently showed that they had failed to internalize the concept of reading for ideas. Some of their comments were

> In the Basics one of my instructors made me realize that, when I read, I should think about the ideas of the author and look for relationships. . . . I'm just starting in my major field (English) and all of my courses except French require a lot of reading. I certainly hope this won't continue next term and next year. . . .I have to force myself to sit and read and take notes. Maybe I don't spend enough time at it. I just don't find it interesting.
>
> I know now there is more to reading than just finding the things we need in order to get through the course. One of my major professors has made me see that. I even see now the relationship of Humanities to my life, but I didn't when I took it last year. The same way with Social Science. Actually, though, I just don't like to read. I'm sure there are several instructors who have had more influence in changing my thinking than any reading I could do.

They reported--some of them somewhat apologetically--that they

had been "too busy" and just could not find the time to do the kind of reading they felt they should be doing.

Methods of Assigning Reading

A second factor that appeared to have considerable influence on the student's idea of the meaning of "reading" was the method by which the assignments were presented.

Although a few students said the instructor's "enthusiasm" or his lectures or study questions "spurred" them to read more, less than one-fourth of the sample said the presentation of the assignment had inspired them to want to do the reading.

Most of the students said the "normal" method of making assignments was merely: "Read the next chapter (or chapters)" or "Read the next fifty pages or so before next time." They complained, in general, that they had been given little guidance in reading or little challenge to approach it other than on the informational level.

Most of the idea-conscious students in the second group said that as freshmen they had expected to be given more challenging assignments and to encounter more intellectual discussions than they had found.

One high-ability reader who was "involved" in his reading expressed his disappointment in the expectations at Michigan State. A senior in Entomology with a 4.0 grade point average, he had found that

> Too few instructors stress reading for the author's purpose or method of presentation. Most stress facts or plot only. Too few give a list for back-

> ground reading or discuss anything other than what is in the textbook, and on the whole the tests are pretty factual.

On the other hand, some students boasted of their skill in "geting to know what each instructor expects" and of limiting their reading and studying accordingly.

A TV major with a 2.7 grade point average said she did not generally do the assigned reading in her classes, but

> I just scan and figure out the parts that are extra and the parts we'll be tested on . . . . We've just finished Hamlet in one class, but I wasn't interested in reading that because I'd read it a long time ago.

One high-ability reader, an upperclassman, said he had "really appreciated being told in the Basics what to read, what to look for, and what to underline" but added that "in the major courses we are expected to memorize every detail." However, another high-ability reader, an upperclassman also, appeared to have a different view:

> Generally in our major courses, where we already have the background and the interest, we don't need directions on what to look for and how to read, but in the Basics (general education courses) we needed help, and they just handed us the syllabus.

Although freshmen appeared to be more conscientious about reading their assignments than upperclassmen, several of the freshman low-ability readers showed the need for more guidance in approaching their assignments. Two of them, for example, commented:

> There's not much point in my reading the assignments though because I don't understand what it's all about until after the lectures.

> I read the textbook through fast just before the final last term and got so much more out of it than I did when I read it slowly earlier in the term that I think after this I won't do any of the reading until just before the tests.

This last observation made by a freshman may explain why some of the upperclassmen said they habitually planned to cut classes the last week of the term and pursue a "crash" program with their textbooks.

Tests

A third factor that appeared to determine to a large extent the student's conception of reading has already been suggested. The kind and frequency of the tests experienced by the student had considerable effect on his perception of his reading tasks, the amount to be read and its quality. Twenty-four of the forty high-ability readers and thirty-one of the forty low-ability readers showed clearly that their reading was primarily test-oriented.

They expressed preference, in almost every instance, for objective tests, which they felt stressed "facts," rather than for essay tests that demanded the organizing and evaluating of ideas.

A sophomore with high scores on the reading test and with a 3.3 grade point average said her humanities class had just "finished" Hamlet, but she "didn't understand it--really." When asked if she could discuss Hamlet as "a prince and a gentleman," she answered,

> Oh, our tests are objective so I don't have to worry about questions like that.

Three low-ability readers and one high-ability reader, all freshmen, expressed some indignation or even bewilderment because tests did not ask for the facts they had memorized from the textbooks. Several others stated that it was important for the instructor to inform the class whether a test would be based on the book or on his lectures.

Three of the high-ability readers with high grade point averages said they had been able to maintain their averages without reading the assignments in specific courses because the tests merely required that one grasp certain concepts from the lectures and apply common sense to the choices offered on the objective tests. Most of the eighty students, however, showed that they saw reading primarily as a means of getting information in order to pass tests.

Materials Assigned

Another factor that seems to affect the conception of the meaning of "reading" held by some students is the difficulty of the material they read. Of the eighty students in the sample, twenty-one (five high-ability and sixteen low-ability readers) were aware that they experienced difficulty in comprehending what they read, in getting the facts or the literal meaning. Some of their comments were

> I don't seem to be getting out of my reading what my roommates do.

> I've read the material over and over, but I don't understand it so I just memorize the definitions and some of the sentences he (the instructor) told us to underline.

> I have been reading Power of Darkness for an outside report, and I think I like it, but I don't really understand it.

Although some of the students said they had difficulty because of their limited vocabulary, several had found that, even when they knew the meaning of all the words, they often did not understand what they read. Not only did they have difficulty with abstract or symbolic materials, but also they reported having difficulty sometimes with factual questions, such as what happened to certain characters or what happened at the end of the story.

A few saw selectivity as one aspect of the reading process--the problem of selecting what to read. As one high-ability reader explained,

> We couldn't possibly read all that we're assigned so we have to try to select the articles or parts that are most important. Last night I spent a lot of time trying to decide which authors I needed most and which ones I could understand the easiest.

This problem was mentioned generally in connection with reading for term papers or for required supplementary reading. Although this suggests awareness of the vast amount of material available to the reader to permit him to develop depth or breadth of understanding, it also suggests that students do not read efficiently and perhaps do not have adequate time to do the kind of studying they may want to do.

It does not appear likely that a student who has difficulty comprehending the literal meaning of his reading will be aware of the need to read beyond the informational level.

Approach to Reading

A fifth factor that has an impact on the individual's conception of reading is his perception of his own approach to it and the methods others use or their attitudes toward it. In this study a typical response of the student asked to rate himself as a reader was

> I'm sure I read the same way the others do. I read as much and as well as most other students I know.

No one indicated that other students had inspired him to read more widely or to approach reading differently.

Both high-ability and low-ability readers seemed to be more concerned about their rate of reading than about their comprehension. Twenty-five of the eighty students (fifteen high-ability and ten low-ability readers) said they generally read fast, and forty-two (sixteen high-ability and twenty-six low-ability readers) said they read "too slowly." Only thirteen of the eighty students (nine high-ability and four low-ability readers) said their rate depended upon the difficulty of the material and their purpose in reading it.

One low-ability reader showed her confusion about the meaning of reading when she said, "I read quite rapidly but comprehend rather slowly."

Only two of the low-ability readers with low grade point averages observed that possibly they read too rapidly to comprehend adequately.

This sensitivity to rate is understandable in view of the recent publicity given "speed reading" which has led many individuals to become extremely conscious of rate of reading without giving adequate consideration to the relationship between comprehension and rate.

From the interviews several conclusions may be drawn in regard to the students' conceptions of "reading" and some of the factors on campus that may affect the development of one's concept of it:

1. The students in the sample tended to divide themselves into two groups based on their conception of reading:
   a. Approximately three-fourths said they "hadn't really thought about" the meaning of "reading," but when pressed to define it, they indicated that they saw it as a simple, perceptual and mechanical process.
   b. The remaining one-fourth said reading was the process of using the written word to gain ideas and evaluate them, but only half of this group gave evidence of actually reading above the informational or mechanical level.
2. Some of the students tended to be aware of certain influences at Michigan State that had either modified or confirmed their original conception of reading:
   a. Individual instructors, through their own enthusiasm and expectations, appear to have been instrumental in making one out of three students aware of the importance

of using reading as a source for depth and breadth of understanding.

b. The method by which assignments were presented was a factor reported by about one out of five of the students as giving them definite guidance and inspiration to read more effectively.

c. The type of tests given and the frequency of the tests appeared to affect the conception of reading held by two out of three of the sample.

d. The general approach to reading observed by most of the students in the sample led them to see rate of reading as something apart from comprehension. Only one out of six students said his rate of reading varied with the difficulty of the material and the purpose in reading it.

3. The students who had high scores on the MSU Reading Test tended to differ little from those with low scores except that the high-ability readers appeared

a. to be slightly more likely to have an "idea-centered" conception of reading and to read for deeper understanding,

b. to be somewhat less influenced by tests in developing their conception of reading,

c. to express somewhat less concern about comprehension difficulties, and

d. to be slightly more likely to recognize the importance of developing flexibility in both rate and method of reading.

READING ABILITY AND ATTITUDE TOWARD READING

Inasmuch as one's attitude toward an activity normally plays a key role in determining how much and how well one pursues that activity, it would seem logical to expect the high-ability reader to have a more favorable attitude toward reading than the low-ability reader.

Immediate Response to the Question "Do You Like to Read?"

In their spontaneous responses, there appeared to be little difference between the high-ability and low-ability readers, between the men and the women, or between the upperclassmen and the lowerclassmen in regard to their liking for reading. Most of the sample said, "Yes, I like to read," but most later qualified this in some way.

Antagonistic Attitude

Thirteen of the eighty students (nine high-ability and four low-ability readers) said unequivocally that they disliked reading. Among these were six of the ten Engineering majors in the sample, three with high reading scores. The other high-ability readers who were antagonistic to reading in general were three in Home Economics, two in Education, and one in Speech.

Favorable Attitude

Approximately one-fourth of the sample (thirteen men and eight women, fifteen high-ability and six low-ability readers) showed consistently throughout the interviews that they enjoyed reading. Five of the eighty students interviewed expressed a keen enjoyment of reading in general. These were all high-ability readers with high grade point averages. Their reported

voluntary reading appeared to verify their expressed fondness for reading.

Attitude Toward Assigned Reading. About half of the sample (approximately as many high-ability as low-ability readers) said they liked reading but did not like to read assignments. There seemed to be two quite different reasons for this reaction.

Reasons for Antagonistic Attitude

One group of both high-ability and low-ability readers seemed to have an "adolescent resentment" against attempts to control or direct their activities. For example, when asked what she had been reading recently, one low-ability reader, a junior who had changed her major twice and had been on probation six terms, replied,

> Right now we are supposed to be reading The Great Gatsby. I liked it although I was required to read it.

A high-ability freshman in Engineering showed the same attitude:

> I enjoyed reading The Crucible even though it was assigned reading.

A high-ability major in Speech commented about one of her major courses:

> I suppose I might have enjoyed the reading for that class if I hadn't been expected to do it at a certain time. You can't enjoy it when you feel you have to do it.

Another group of students appeared to dislike assigned reading because they resented what appeared to them to be a superficial approach in education. They saw assigned reading as limiting, as lacking in depth and breadth, as failing to challenge students to seek greater understanding. One individual in this

group said,

> There is too little reading in the American Thought and Language course. Only a page or two isn't enough to get much of an idea of an author's purpose and ideas.

Another high-ability reader, a Speech major, whose grade point average in the "reading basics" was just 2.0, said,

> There isn't enough reading assigned, and what is assigned is either something we should have known before we came here or is covered in the lectures. Anyway it isn't very challenging.

A senior in Social Science commented,

> I hate page assignments, but if they would assign whole books I'd read them.

Although this statement by itself appears to express a mature desire for more understanding than the student felt was expected of him because the assignment limited the amount of reading, his next statement makes his maturity somewhat questionable:

> I generally don't read the assignment until just before the mid-term and final. I seem to need deadlines. If a whole book is assigned, I read it on the weekend all at once.

This postponing of reading the assignments until just before examinations was the practice reported by approximately half of the sample, by slightly more high-ability than low-ability readers.

Assignments in the General Education Courses

Forty-eight of the eighty students (as many high-ability as low-ability readers) indicated that at least some of the general education courses they were required to take seemed to be rather meaningless hurdles and had little relevance to their

own activities and future plans.

Seventeen students (five high-ability and twelve low-ability readers) were fairly vehement about their dislike of the Social Science textbook and the amount of reading assigned. Four others stated that they had not read any of the Social Science text. Another high-ability reader with a 4.0 average said,

> I read the text but no outside readings though. I wanted an A so I always read the textbook, but I could have made a B without doing it I'm sure.

Three others commented that they had generally done all the reading assigned "even in Social Science."

The General Education course about which the students were most enthusiastic was Humanities. This was especially true of both high-ability and low-ability men readers. All felt they would have liked more reading in Humanities although several said,

> We probably couldn't have covered any more in class, and it wouldn't have much value without the discussion.

Twenty-two of the eighty students (eight high-ability and fourteen low-ability readers) felt there had been too much reading assigned in the Basics, but thirty-four of the eighty (twenty-one high-ability and thirteen low-ability readers) felt there had been too little. One student with a high reading test score but only 2.5 grade point average said,

> I used to like to read, but I lost interest in it in the Basics because there was too little assigned and not much of a challenge.

More high-ability men readers expressed criticism than any of the other groups about the limited amount of reading assigned.

In some instances a student's criticism of the amount of reading assigned may simply reflect a limited conception of reading and a failure to read beyond the informational level. However, one freshman's observation

> We can't seem to get started, and when we have just a few pages assigned, we feel we don't have much to do anyway so we put it off until time for a test.

suggests that students in their early college experience may not receive the guidance they need to know what college level reading should be. They may need to be shown--through study guides, challenging questions, possibly specific demonstration--how to read for deeper meanings and how to make associations and evaluate what they read.

Reading Assigned in the Major Areas

In general, the reading in the major courses appeared to draw more favorable comments and to be done more completely and methodically than the reading in the Basics. However, only one group expressed unusual enthusiasm for the reading in their major. These were students in Home Economics who appeared to gain great satisfaction from their reading because of its practical nature or because it dealt with current interests. One student observed that she enjoyed the assignments that required reading in the journals on current research. Another found the course readings "fabulous" because they were concerned with practical matters she could use every day. Another reported that the reading she had done the night before in her Home Economics book on "how to put in buttonholes" was really "worthwhile reading."

The only students who expressed lack of interest or even disdain for the reading in their field were the Education majors. A senior who had a 3.8 average said she did "no reading to speak of" until the week before examinations, but she added,

> I did do the reading for an English literature course in the novel. It makes a difference as to what the reading is. I'm afraid I agree with the complaint made about the reading in Education courses in general. I always defend it to others, but a lot I've been asked to read could certainly have been condensed and made more challenging. It is a shame that the really new and exciting things in Education are just lost to us because we have to read so much stuff that is boring that we just get out of the habit of reading any of it.

It was fairly apparent that freshmen tend to read more of their assignments than do upperclassmen. Not only did more freshmen state that they did all the reading and kept up daily on their assignments, but also several upperclassmen mentioned that as freshmen they had been more conscientious about reading all their assignments on time.

Approximately one-fourth of the sample (six high-ability and twelve low-ability readers) believed reading played a very important role at Michigan State, but a few more than that (sixteen high-ability and ten low-ability readers) felt it was not stressed at the university. Some of them commented

> Reading is considered almost incidental at MSU. There's no emphasis put on it even for those who don't have trouble with reading.

> Sometimes I'm disgusted to think that I can get a B average without doing any more reading than I do. I always bring my grades up on finals, but I feel that shouldn't be the case. Reading should be made more necessary at MSU--not just for grades.

> There isn't much emphasis on reading here. The university seems to take the attitude "Take it or leave it." I guess it's up to the student really.
>
> Reading is very important here to get good grades, but I can't see that it has had much effect on me. My outlook on life has changed, but that all took place the first term and the rest has just been a hurdle to get through with.

On the other hand, two of the high-ability readers showed considerable satisfaction with their experiences at Michigan State:

> Reading is the most important thing we do here. The emphasis is on ideas rather than surface learning. You have to take some responsibility for your own development. The extra work in the honors sections helps.
>
> The reading for my courses has been definitely important to me. Some of the reading has changed my whole outlook on things. I'm used to reading more difficult things now and get quite involved in most of it. Of course a lot depends upon the professor and the way he handles the material.

Although in this study reading ability appeared to have comparatively little to do with the individual's attitude toward reading, some conclusions may be drawn from the interviews:

1. The students with high scores on the MSU Reading Test appeared to have some tendency
   a. to show a definite reaction to reading, either consistent enjoyment or dislike of it,
   b. to feel that their attitude toward reading had been influenced by the instructor, the instructional method, and the tests given,
   c. to feel that too little reading was assigned in the general education courses, and

d. to believe that, in general, reading did not play a major role at the university.

2. The students with low scores on the MSU Reading Test tended
   a. to feel that too much reading was assigned in the general education courses, and
   b. to believe that, in general, reading played a key role in their education at the university.

3. It appeared that, with relatively little difference between the high-ability and low-ability readers,
   a. approximately half the sample had a negative attitude toward assigned reading,
   b. freshmen tended to be more conscientious about reading assignments,
   c. more than half the sample saw reading in the general education courses as having little relevance to their own lives or goals, and
   d. approximately half the sample seemed indifferent to the role of reading in their educational experience and in their lives.

READING ABILITY AND CONCEPT OF SELF AS A READER

The student's concept of himself as a reader was gleaned from his explicit response to the question, "How do you rate yourself as a reader in comparison with other students?" and from other remarks he made in the interview.

Positive Self-Assessment. Thirty of the forty high-ability readers and twenty-three of the forty low-ability readers

believed they were good or average readers. Each apparently based his judgment on his current satisfaction with his academic achievement, on his observations of his roommates or friends, or on some other bit of evidence that seemed relevant to him.

Some, among the low-ability readers especially, felt that maintaining a C average was evidence of their reading effectiveness. Some mentioned their scores on the MSU Reading Test. Freshmen tended to see themselves as good readers if they had been academically successful in high school.

A few, disregarding their grade point averages, felt they had become good readers because they had been challenged to read more intensively or more extensively. A freshman, majoring in mathematics, said,

> I'm still a slow reader, but I think I have improved since I came here. It was very hard for me at first, and I didn't like to read in high school, but I do now. The instructor's discussions of the reading make me want to do it. Most of it has a definite bearing on my life, and some of it has changed my way of thinking about things--religion, government, some of our values. I've learned to read for ideas.

Another student, a junior majoring in science, a low-ability reader with a low grade point average, said,

> I've improved quite a lot. I'd say I'm at least an average reader but slow. My roommate works in the Admissions Office, and he can predict a student's success by his reading score. . . . I've read Great New World this term, and I like to read best sellers like Hawaii and adventure stories.

It would appear that this student's roommate had given him a good reason for trying to improve himself as a reader, but the

misquoting of the title, Brave New World, and the interest in best-sellers and adventure stories suggest that his concept of himself as a good reader may be based on "wishful thinking" and an immature conception of reading.

Even high-ability readers with high grade point averages had a tendency to qualify their self-evaluations as good readers by criticizing their rate of reading as "too slow."

Negative Self-Assessment. Two of the high-ability readers who said they were poor readers were freshmen who seemed to lack academic motivation and to have negative attitudes throughout the interviews. They made such comments as

> I've never cared much about reading really. I read the assignments, and some of it isn't too bad, but I don't see that a lot of it is going to help me particularly except to give me a better understanding of the world. The difficulty is that all the instructors seem to give larger and longer assignments around mid-term, and I'm just swamped.

> To keep up with the reading assignments every day I'd have to spend eight hours at least. Some of it I don't get much out of. Social Science is a waste of time. I get nothing out of that reading. Nat Sci was interesting at first, but it's boring now. . . .I subscribe to Time but have no time to read much of it.

A third high-ability reader, a sophomore in Engineering, possibly was identifying with a stereotype he held of his profession. After two years in the University College, he evinced little interest in general education and little awareness of the importance of becoming a mature reader or thinker. Although he had a total grade point average of 3.4 and a grade point average in the "reading basics" of 3.1, he said,

> The reading these first two years has been quite a bit for me. It was probably all right for most people, but it's a little on the heavy side, and I didn't get much out of it. I don't mind reading action stories--Jack London's books and things like that--not very good reading I suppose. I guess I'm just one of those illiterate engineers who don't know how to read or write. . . .I'm not interested in people or psychology. Living is more important.

The other seventeen students who said they were poor readers were low in reading ability, had failed numerous courses, felt reading was of little importance in their vocational areas, and mentioned that they "never have been interested in reading." (See Appendix, Table 12.)

Several who felt inadequate as readers mentioned vocabulary deficiency as their major problem in reading. One student said she was an average or "better" reader but found it difficult to concentrate because she had to "stop to look up so many words." In most instances, these students either read very little or read only one type of material, such as light magazine fiction or such magazines as Popular Mechanics.

Many of those who showed a negative concept of themselves as readers said they could not understand why they were poor readers. As one of them observed,

> I go over my assignments very carefully and outline everything and underline and I'm sure I understand it. But then on tests I find that I apparently didn't get as much out of it as I was supposed to or as the others did.

Several said they couldn't understand their low scores on the MSU Reading Test because they liked to read and previously had read "all the time" in high school. It had apparently not occurred

to them that what they had chosen to read had been material that offered little challenge or possibly offered more than the story or entertainment they had found in it.

One student said of The Great Gatsby

> Fitzgerald writes real different, but I understand the book. It's a good story. Symbolism? Oh, yes. It was pointed out in class. I didn't get that though when I read it.

Another student, after a discussion of the symbolism in The Octopus and in some of the other readings in the American Thought and Language text, asked,

> Isn't there anything you can read just for enjoyment? Does everything have to have some meaning? How do you know the author wasn't just telling a story?

He said he had always felt that he was a "pretty good" reader, but it seemed he was "generally missing the point lately."

Several conclusions may be drawn from the interviews regarding the students' self-concepts as readers:

1. Most of the sample, low-ability as well as high-ability readers, believed they were good or average readers.
2. Students in both ability groups tended to judge their own proficiency in reading by their scores on the MSU Reading Test, their grade point averages, their interests, their vocabulary, and their rate of reading.
3. What appears to be more significant, however, is that relatively few seemed to have or use an adequate conception of the reading process as a basis for judging themselves as readers.

READING ABILITY AND READING HABITS

To assess the student's reading habits, the writer asked each student to describe how much reading he did, how he usually approached his reading assignments, and what he generally read voluntarily.

Reading of Assignments. The interviews revealed little difference between the high-ability and low-ability readers in regard to the amount of assigned reading they did or when they did it. (See Appendix, Table 13.)

Two-thirds of the sample, an equal number of high-ability and low-ability readers, reported doing all the required reading. Slightly more than half in each reading ability group said they read their assignments on time, and the rest said they postponed most of their reading until just before tests.

Some of the reasons offered for not doing all the reading have already been indicated in the discussion of the students' attitudes toward reading: they did not have time, the lectures covered the material, and it was possible to pass the tests without doing all the reading. On the matter of not doing it on time, one high-ability reader said,

> In the other Basics, assignments are given without any guidance so, if you read it before it's discussed, you waste a lot of time and have to force yourself to do it. But in the Humanities course we were told what to look for and what to note and that gave us more incentive to read. You have to read everything in Humanities anyway because of the quizzes. I'm not always ready for them though.

Three low-ability readers explained that for them reading the assignment before it was discussed in class was rather point-

less because they didn't understand it by themselves anyway.

Method of Study. Reading ability appeared to have some influence on the student's approach to his reading assignments. Twenty-seven of the forty high-ability readers and seven of the forty low-ability readers reported reading their assignments only once. Ten of the high-ability and twenty-four of the low-ability readers said they read and re-read their assignments several times.

Although most of the sample generally outlined, underlined, and took notes on their assigned reading, only three high-ability and nine low-ability readers said they used the SQ3R Method of Study or a slight variation of it.[86] (See Appendix, Table 13.)

It appeared that students with low reading test scores were more aware of study methods than the high-ability group of readers because they had been given some instruction in how to study and were attempting to follow the SQ3R pattern taught them. However, some of these individuals said they had had to abandon that study method because they felt they understood the material only if they read it slowly and carefully several times; some of these same students admitted they had difficulty on tests that "don't cover the textbook." They appeared to retain the feeling that studying means memorizing.

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86. The SQ3R Study Method is described by Francis P. Robinson in his book, Effective Study, as Surveying for main ideas and outline, forming Questions to establish purpose for reading, Reading to answer the questions, Reciting the answers in one's own words, and Reviewing at spaced intervals to reinforce learning and recall.

Several of the high-ability readers had developed their own study methods that differed little from the SQ3R but said they had not been aware that this method of study had been formalized.

Reading Ability and Optional Reading Recommended. Most of the sample said that there had been no supplementary reading material recommended to them.

Since, in the pilot study of several sections of American Thought and Language, some students reported supplementary reading recommendations while others in the same sections reported that none had been recommended, it appears possible that suggestions for supplementary reading were simply ignored by students who had no intention of doing any additional reading.

Twelve high-ability readers, nine men and three women, and three low-ability freshman women said they had read some of the optional readings recommended. In most instances, they felt these had been well worth the effort.

A few mentioned that additional materials had been recommended to them but they couldn't possibly have done any extra reading since they couldn't find time to read the textbook assignments. Several students "kept hoping" they would find time for the supplementary reading because they felt it made the material easier to understand and remember.

Reading Ability and Voluntary Reading. Approximately half of the eighty students in the sample said they did not do any reading voluntarily except possibly to skim the headlines

or comics in the newspaper or to glance through Life, Look or a similar periodical occasionally. Most of the students read the local news and "Peanuts" daily in The State News, and most of them said they read their hometown paper when it was available. Ten of the forty-one, however, said they sometimes read popular magazines or best-sellers during vacations.

Of the thirty-nine students (twenty-one high-ability and eighteen low-ability readers) who said they did some voluntary reading, only eight--all high-ability men--read newspapers, books and magazines, all three, with some regularity.

Newspapers

"Reading the newspaper" referred to reading the national and international news rather than merely headlines, comics, social notes, and advertisements. There were more high-ability readers, more men, and more upperclassmen who said they read newspapers regularly. Most frequently mentioned were the State Journal and the Detroit Free Press. One high-ability upperclassman read the New York Times regularly, and another the Manchester Guardian.

Periodicals

Five of the eight men who reported considerable voluntary reading were the only ones who mentioned reading such periodicals as Harpers, Atlantic, Atlas, National Geographic, New Republic, Soviet Review, and Nation. Other magazines mentioned in the interviews were Time, Newsweek, U.S. News, Sports Illustrated, Saturday Evening Post, New Yorker, Playboy, and numerous women's magazines.

The ones mentioned most frequently were Time and Reader's Digest. Journals and trade magazines were included in the supplementary course-related reading discussed earlier.

Books

More high-ability readers than low-ability readers said they read books voluntarily, but most of the students who read books named novels rather than non-fiction. Several mentioned Exodus, Hawaii, and Catcher in the Rye. More men than women read non-fiction as well as fiction. The non-fiction included chiefly books on politics, foreign policy, biography, or science.

Three high-ability women readers who had reported that they did not read their textbooks until just before examinations said the only books they read "voluntarily" were "back" textbooks. In each instance they reported that they had been able to make satisfactory grade point averages but found in the following term that they were not prepared for that work. In other words, they had avoided getting involved in thought-provoking reading until they found their superficial approach handicapped them in subsequent courses. This reading of "back" textbooks was not classified in this study as voluntary reading.

Time Spent in Reading. The amount of time the students said they normally spend reading each day varied from an average of zero to eight hours. Over half of them estimated they read from two to four hours a day generally while they were on campus. While these are estimated figures and impossible to verify, they give some indication of how much time the students believe they

devote to reading. Several found it difficult to estimate because they said there were days in which they read very little and other days, particularly on weekends, when they read most of the day. Three of the men said they occasionally went on "reading binges" and spent the whole day reading a novel. The estimates of the high-ability and low-ability readers differed little. (See Appendix, Table 15.)

The Influence of Living Conditions. Thirty-five of the eighty students said that their living arrangements on campus were not conducive to reading. Several mentioned that it was "too easy to get into a card game or a bull session" or that "it isn't quiet enough on our floor to do any serious reading until about midnight."

On the other hand, four students who lived at home felt that they would do more reading if they lived on campus. They mentioned family activities and television as interfering with their reading.

The students who reported the most reading observed that one's living conditions had little to do with one's reading habits, that "you can read in a boiler factory if you really want to."

Several noted the importance of having the books and the periodicals available in their room or dormitory.

Forty-one of the sample, slightly more low-ability than high-ability readers, felt they would read more if they could find the time. Some of the same individuals, however, indicated

that what they did find time to read had had little impact on them. They said that it "must be worthwhile" to do all the reading and that what they were asked to read would "probably be of some value" to them in the future but most of it seemed irrelevant and rather meaningless to them so far.

Library. Few of the students reacted with any enthusiasm to the library. Forty-two of the eighty said they used it only occasionally as a place to study. Many of these were freshmen and sophomores who had little or no reading assigned in reserved books. Thirty said they used the library for reference and for reserved books only when writing term papers or for one or two specific assignments during a term. Several said the facilities were inadequate, that for large classes there were not enough copies available of the books on the required lists, and that invariably the books they needed were either in use or lost.

Some conclusions may be drawn about the reading habits of this sample of students although in general there appeared to be little difference between the habits of the high-ability and low-ability readers.

1. Although about two-thirds of the sample tended to do all the assigned reading, almost half of the sample said they postponed this reading until just before examinations.
2. The student with a high score on the MSU Reading Test tended to read assignments only once, to do more of the recommended supplementary reading, and to be more likely to read books, magazines and newspapers voluntarily.

3. The student with a low score on the MSU Reading Test tended to read assignments several times, to do no optional reading recommended by instructors, and to read popular magazines rather than books voluntarily.
4. The high-ability men tended as upperclassmen to be more likely to read newspapers and non-fiction books than were any other group of students.
5. In general, the apathy toward reading, whether assigned or voluntary, the comparatively unchallenging nature of most of the voluntary reading, and the meagerness of it suggest that most of the students are not developing either maturity in reading or good lifetime reading habits.

CHAPTER VI

SUMMARY AND IMPLICATIONS

This study of the part that reading plays in the educational experience of students at Michigan State University was undertaken in the belief that only as reading becomes a highly complex process of thinking and reasoning can students in higher education become "fully functioning" individuals capable of continued self-development. It was believed that a study of the students' attitudes toward reading, reading habits, and values attached to reading would serve as an index to the quality of their educational experience.

Using a sample of two groups of students, one scoring relatively high and one scoring relatively low on the MSU Reading Test administered during Orientation Week, the study attempted to assess the students' conception of the meaning of reading, the role reading plays in their college experience, their concept of themselves as readers, and their reading habits.

From the data collected, it appears that reading ability has little relationship to any of these factors although it does seem to be related to grades and choice of major.

As a whole, the study points to the limited conception of the reading process and its potentials held by most of the students in this sample, to the minor part that reading plays in their educational experience, and to their limited conception of the purposes and goals of higher education. Seventy of the

eighty students interviewed appeared to have an oversimplified view of reading at the college level, tended to avoid reading as much as possible, and conceded that they were too busy with other activities to find time to read thoughtfully and effectively.

The study suggests that students who do not use their freedom to read fare little better than those to whom freedom to read is denied. Whether the individual or society is basically at fault, here is evidence that students are not developing maturity in reading necessary if the objectives of American higher education are to be achieved.

THE RELATIONSHIP OF READING ABILITY TO GRADES

This study confirms the findings of others that there is a close relationship between reading ability and grades, but interviews revealed that the student's reading ability, as measured by the MSU Reading Test, does not reflect his conception of the meaning of reading at the college level, his motivation to read, his attitude toward reading, or his potential for grasping concepts through reading.

Although the reading scores and the grade point averages of the students seemed to be related, in this sample three out of four of the students who had received high reading scores and high grade point averages showed that their conception of the meaning of reading at the college level was limited to the informational aspect of it, that they were not habituated to reading for concepts or depth of understanding, and that they

tended to dislike and avoid reading whether it was assigned or voluntary. It would appear then that their high reading scores may simply reflect competency in the primary skills of reading rather than in the special skills needed for maximum benefit from college work. Moreover, their high grades do not appear to reflect scholarly attainment, interest in independent study, or understanding of the goals of higher education.

THE RELATIONSHIP OF READING ABILITY TO CHOICE OF MAJOR

The data show that students with low reading scores are likely to experience difficulty in choosing their majors and tend to change each time to majors that place less emphasis on verbal skills. It is difficult to assess what role reading ability actually plays in this because involved are numerous factors--the student's previous school experiences, his developing interests, and his personal values or needs--as well as his conception of reading and its potentials. The fact remains, however, that these people do tend to reject or avoid majors that make demands on reading ability, and it is possible that they do so because of a limited conception that might have been broadened with proper instruction, with more explicit presentations of assignments, better use of evaluation, and more emphasis on the process of learning rather than the materials of learning.

It cannot be denied that the practice of changing majors is frequently frustrating and costly in both time and money for the student who may be unable to cope with his reading assign-

ments and for the college that is attempting to meet his needs.

THE STUDENT'S VIEW OF READING

The data suggest that the importance of the student's conception of the meaning of reading cannot be overemphasized. In general, the individual's attitude toward reading--how much he enjoys it and how much importance he attaches to it--and his level of reading skill and reading habits depend unquestionably on his understanding of what reading entails at the college level.

In the interviews the students named various factors--physical, psychological, emotional and social--that they felt affected their reading, thus suggesting the complexity of college life and its influence on teaching and learning.

Some of the students revealed that the changes they encountered on campus, the separation from home and parental guidance, the adjustments necessary for dormitory living, the different values and attitudes of their peers, the impersonality of evaluation and of the lecture method in college, gave them a sense of insecurity that affected the way they studied and read. They felt the need of external direction and of specific suggestions from the faculty. Failing to receive this, they turned to their peers for assistance and learned to conform to the general practice of memorizing facts and concentrating on reading for literal meaning. They thus were proceeding to spend four years obtaining a degree in the most effortless way they could find.

Other students appeared to adapt readily to the new demands of college life and liked the new feeling of independence, both in the classroom and outside, to the point that they resented any assignments or suggestions that seemed to restrict their freedom. They too tended to regard reading as a task to be accomplished with as much speed and as little effort as possible.

The complexity of the reading process apparently had not occurred to most of the students in the sample. They seemed to be unaware generally that long reading assignments might have been given to encourage breadth of understanding and short assignments to encourage depth, that often the shorter assignment demanded more effort than the longer one, and that one could read the same material for several purposes and in as many different ways.

Most of the sample seemed to view reading as a simple, mechanical means of getting information. Their behavior, when requested to explain what they meant by reading at the college level, indicated that most of them had given little thought to the relative importance of the means they were employing to acquire an education. Several of those who hesitated and then defined reading as a process of perceiving or collecting facts said they hadn't thought about it before. At the end of their interviews, three of these students commented that they felt they had learned something from the questions because it had not previously occurred to them that reading was something they should be "involved in." They had assumed that reading assignments meant memorizing selected portions and collecting information for tests.

Although several of the sample recalled that they had expected as freshmen that reading in college would be more demanding and difficult, they had experienced little instruction or incentive to read or study any differently than they had become accustomed to doing in high school. They implied that they had come to college with high expectations, ready to encounter new and more difficult subjects and materials and to find new ways of studying and reading. Their failure to understand how to approach their reading assignments troubled them as freshmen. A typical explanation was

> I'm interested in all my courses, but I can't seem to get started studying. . . .Most of what we read is historical and doesn't affect us too much. I think we're expected to read it all, but I really don't get much out of it. Some of the things we're asked to read I had in high school so I don't waste time on those assignments.

The interviews also revealed that freshmen tend generally to be more conscientious than upperclassmen about reading their assignments and about keeping up daily in their reading. The older students recalled that they had begun to change when they saw other students apparently succeeding by postponing their reading until just before the examinations and by using other means of acquiring the information and understanding needed to cope with objective tests or the other methods of evaluation used. Some of the sample rationalized that there was so much reading assigned they couldn't possibly do it all. Others decided that there were so few pages assigned in some courses that the reading of them could be postponed until it seemed worthwhile. Still others explained that, since they had "had

this in high school" or couldn't understand it anyway, they usually depended upon the lectures, class discussions, published course outlines and summaries, or just "common sense" to get them through their courses satisfactorily.

Twenty-three of the eighty students in the study spoke of the importance of reading for ideas and of penetrating beyond the surface meaning or literal level of meaning in reading, but only ten of these students gave evidence of actually having a sustained interest in reading and of using it and reacting to it thoughtfully. The other thirteen students explained that they were aware of the potentials of reading but had simply been too busy to explore these potentials beyond the factual level or did not know how to develop flexibility in reading.

In other words, the study suggests that the student's conception of the meaning of reading at the college level may logically affect his attitude toward it, the amount of reading he does, and his reading habits, but the study also indicates that the student who knows the potentials of reading and verbalizes an adequate conception of it may still fail to develop the attitudes or skills that lead to mature reading habits because he either does not know how to read for various levels of meaning and for various purposes or is not motivated to do so.

The student who said she wasn't interested in reading Hamlet because she had read it "a long time ago," the one who said she didn't have to worry about discussing Hamlet as "a prince and a gentleman" because the test would be objective,

the one who felt that asking college freshmen to read Huckleberry Finn was "insulting" to them, and the students who stated that their real problem in reading was their inability to concentrate or their lack of speed--all of these clearly show that they do not understand what reading at the college level means or what the objectives of higher education are.

IMPLICATIONS FOR INSTRUCTION

These data seem to indicate that most of these students have two basic needs that are within the realm of responsibility of the instructor. In addition to the need already mentioned--to understand what reading means at the college level, these students show a need to be challenged to understand themselves, their potentials, their obligations, and their opportunities. These interviews revealed that the students need instruction that will be somewhat less concerned with the transmission or communication of knowledge and more concerned with developing within the student the desire as well as the ability to think for himself and to study and read independently.

The writer does not presume the right or the ability to state precisely how the instructor is to challenge each student to become "fully functioning" and involved in his education, but the students themselves seemed to suggest in their interviews some areas in which they had failed to receive guidance.

Presentation of Assignments. These data imply that an important task for each instructor may be that of clarifying in the classroom what reading an assignment entails in his particular course and his subject matter area. This is especially im-

portant in the student's early college experience but may also prove beneficial to the upperclassman. In their interviews, a few students told how their approach to their reading varied with the subject matter, their familiarity with it, their purpose in reading it, and the expectations of the instructor. Most of the students, however, regardless of their reading scores and grade point averages, showed that they had a somewhat standard approach to all reading.

Although the students seemed to believe that the instructor's enthusiasm and method of making assignments may influence them to read more carefully or more extensively, most of the sample asserted that assignments were generally presented in a mechanical, uninspiring manner that tends to discourage rather than stimulate reading. As one student observed rather caustically,

> Much of the reading given us is "busy-work"--for example, assigning a chapter a week. Instead of giving the student some desire to read materials, the instructor hands out a list of books and says, "Everyone should read these" or "Of course you are all familiar with these, but re-read them to refresh your memory." No one wants to admit that he hasn't read them, but few have. The material is merely given as an assignment without enthusiasm or suggestion of the relationship to the subject of the course. We all would read with more active minds if some encouragement were given.

Clarification of Objectives. It is also possible that the student may be motivated to read more effectively if he is made aware of the objectives of the course, the objectives of each assignment, and indirectly perhaps the objectives of higher education.

The goals of the general education courses especially must be clarified for most students. As their own reasons for attending college seem to be primarily vocational or social, they tend to find little in their assigned reading to interest them personally or deeply unless they see its relevance to their own lives and plans. Since general education, as defined by the University College, involves the fulfilling of goals other than those implied by the vocational or social reasons students give for coming to college, some failure to interpret these goals or to teach with them in mind is implied in the student comments.

Several students showed that they had little conception of the purposes of their general education courses and therefore considered them no more than hurdles. Others, assuming there was value in them, said they would probably recognize their value "some day." A few of the upperclassmen were aware that, as freshmen and sophomores, their goals and attitudes had been immature and had prevented them from benefiting from the general education offered them. Although the freshmen gave evidence of being more conscientious about doing their reading assignments--reading and re-reading the matrrial, taking copious notes, and keeping up daily--they appeared to be less cognizant of the value of general education to them personally. Such activity without purpose promises little reward.

Methods of Instruction. That the method of instruction had an influence on student reading was implied in several of the interviews. The students who commented that they had not found

it necessary to read the assignments because the lectures covered the material and the tests were based on the lectures seemed to suggest that the formal lectures may present the material too thoroughly and too well. The students gave little evidence that they had been inspired by their lecturers to read independently for deeper understanding that would permit them to weigh and evaluate theories and ideas for themselves. It was apparent that many of the students believed their principal task in some courses was to know the instructor's "pet theories" or attitudes. One of the seniors, an English major, observed,

> Each instructor has an area of special interest. That's fine, and actually that is what makes him worth studying under, but constant reference to one particular author who is not even included in the course becomes a little absurd. In the same way, the interpretation of a piece of writing should not be limited to the instructor's preference. Various views should be presented and discussed, and some judgment should be left to the student.

Further criticism of the lecture system was implied by such comments as

> We have no chance to react to readings so there is no incentive to do them.

> I try to get into large lecture sections whenever I can. Then there can't be much class discussion, and you don't have to read until just before the exams. When there is class discussion, just a few people get into it. I never offer to answer a question. I'm shy I guess.

Although several students said that the only classes for which they did the assignments regularly were those in which the instructor called on people to discuss the material, others told of discussion classes that were based on observations rather than

on reading and added that they believed they "get more" from that than from reading a book. Although overt behavior, such as participating in class discussion, does not necessarily indicate that greater learning is taking place, it cannot be denied that possibly in smaller sections students either may feel the necessity of preparing for discussion through reading or may tend to identify with the instructor to the extent that they do more reading.

The part that method of instruction can play in the student's educational experience was suggested by the students who showed that they were personally involved in their reading. They observed that their most challenging classes were those in which the instructor varied his approach by lecturing, not to repeat the text but to clarify certain portions, by throwing out "leading" questions for discussion, by bringing in "new" material and presenting several points of view, by showing so much enthusiasm even in the comments on the written work that the student felt a desire to make "at least a little niche in that area" for himself. In other words, the student was challenged to become an active participant in all the activities of the classroom and developed a tie, not to the instructor but to the subject matter. Instead of presenting all that he knew on his subject, the instructor was endeavoring to teach the students how to teach themselves.

Evaluation. That students expect external motivation cannot be denied. They need tangible evidence, through grades and credits, that reading assignments are essential. This was true of both the high achievers and the low achievers in this study. The data seem to suggest that instructors may underestimate the relationship be-

tween testing and learning just as they underestimate the importance of their presentation of assignments.

The quality of the tests and the kinds of evaluation used have a definite impact on most students, on both the kind of reading and the amount of reading they do. When the tests do not distinguish between the student who reads and the student who does not read, when both receive satisfactory grades and occasionally the non-reader receives the higher grades, students feel justified in assuming that reading assignments are mere adjuncts to be done if time permits or the spirit moves! Few of the students in the study failed to comment on the quality and frequency of the testing in most of their classes. Their observations imply that their tests frequently do not encourage acquiring the depth and understanding that are the purposes of college level reading but instead encourage a superficial acquisition of facts and trivia.

Furthermore, several students indicated that evaluation procedures were not serving as learning experiences because there was no feedback. They had no way of knowing what errors they were making or of confirming their grasp of the material when tests were not returned or discussed. The few students who complained that their written work was merely graded but that no specifically critical or helpful comments were given apparently were aware that feedback is more necessary than grades. If evaluation is used primarily for grading or placement of students and is not regarded as essential to learning, one of the basic principles of learning is being ignored. The individual must have means for judging his per-

formance, for assessing how well he is meeting the standards or objectives, for knowing what misconceptions or inadequacies he must still overcome. Without feedback the highly motivated student as well as the unmotivated gradually becomes conditioned to consider the grade more important than inner satisfaction and understanding.

IMPLICATIONS FOR CURRICULUM PLANNING

The data of this study seem to imply the need for changes not only in instructional practices but also in curriculum if students are to have the educational experiences essential to the development of the future citizens and leaders of a democracy. Particularly as increased enrollments may tend to decrease the student-faculty contact hours and increase the responsibility of the student in higher education, it is apparent that emphasis must be placed on independent study, on acceleration and examinations for credit, and on recognition of the student's level of preparation and his needs.

Proliferation. One deterrent to the student's reading at the level necessary for independent study was evident in most of the interviews. There were repeated expressions of frustration because of the lack of time for reading either extensively or intensively. Having five or six courses requiring preparations forced them, they said, to curtail their interest and involvement in any or all of them. To acquire insight and perspective the student needs sufficient time to analyze, compare and evaluate. Several mentioned having a constant sense of guilt because they couldn't find time for even the most routine preparations.

Granted that poor planning, inefficient study habits, and lack of motivation may occasion some of the references to lack of time, still the impossibility of delving deeply into a subject or of reading widely when one's time is divided among five or six areas cannot be denied. Hence, if students could have fewer classes per term, perhaps they would find it possible to develop deeper interests and pursue their interests in each area. It is possible that offering courses with larger blocks of credit and thus reducing the number of courses per term would permit students to have time for meaningful study and reading.

Overspecialization. The data seem to imply that in some instances the pressure to meet professional requirements may force students to begin specializing before they are sufficiently motivated to benefit from highly technical and specialized courses or may condition them to regard as worthless any course that is not geared especially to their profession, such as the general education courses.

The narrowness of these students and their concentration on mastering facts and specifics rather than on concepts and insight suggest both instructional and curricular weaknesses. The enthusiasm the senior men expressed in this study for Humanities, when they had postponed it until their last year, causes one to wonder if the relevancy of general education to the student's personal goals becomes clear to him because of his increased maturity and perspective or because of his reaction to the narrow specialization of his courses and interests.

Organization and Integration. The general apathy of the students in this study toward their academic activities is indicated by such comments as

> I feel I'm gaining more from my social contacts than I am from any of my courses.
>
> I have a terrible time choosing my courses. I have taken all the courses offered by some professors because they've traveled a lot and make their lectures so interesting. . . .I'm majoring now in Humanities, but I may shift to Business. I'm taking a course in Wildlife and Fisheries this term--just for fun.

The lack of organization and integration suggests that, although integration necessarily takes place within the individual, the curriculum for each student must encourage this integration in every way possible. The sciences and the humanities, the specialized and the general education courses, all must be presented not as separate and miscellaneous bodies of useful or cultural information but as the interrelated products of all humanistic thought and experiences. Instead of the students' expressing surprise when they find some relationships among their courses (as several did in this study), the desirable reaction would be their expressing surprise when they cannot find relationships, thus indicating an awareness of the importance of integration.

The students' comments that their freshman and sophomore reading assignments were more difficult than those given upperclassmen may suggest that they gradually acquire more facility in handling assignments or may suggest the need of organizing or planning the curriculum so that students will be aware that each

course in a discipline builds on its prerequisites to increase their insight and competencies. Repetition of course materials without increasing perspective or proficiency and without challenging the student to seek depth or breadth can only result in the student's boredom and loss of incentive.

Emphasis on Credit Accumulation. The data also imply that students, indifferent to the goals of general education and interested chiefly in vocational and social goals, tend to regard their academic tasks as a process of accumulating credits rather than achieving understanding and mastering concepts and principles. The most glaring example of this was the student, a senior, who hoped that his correspondence course requiring the reading of five Victorian novels would provide sufficient credit to enable him to avoid taking the Humanities course.

Possibly planning the student's curriculum so that he is aware of the sequential organization, achieves a balance between general education and specialization, and has time to assimilate and integrate his courses would lead him to seek achievement instead of merely accumulating credits.

THE IMPLICATIONS FOR INSTITUTIONAL PLANNING

What the data revealed about the student's responses to his educational experience and the part reading plays in it suggests several possibilities for improving the campus climate through institutional changes as well as instructional and curricular changes.

Flexibility. The campus climate is necessarily determined to some extent by the admissions policy of the institution. The heterogeneity of the student body attracted to Michigan State University by the wide offerings, ranging from agriculture and applied science to arts and letters, implies a wide range of verbal ability. Therefore, one of the principles of learning that must be given special attention on this campus is the necessity of taking the individual "where he is" and beginning his instruction at that point.

There is need for flexibility if this principle is to be applied. If students are admitted to the university with a wide range in reading ability, then possibly the university has an obligation to give some students direct reading assistance or take some responsibility for it in the regular freshman classes and to accelerate those with highly developed skills and capabilities or give them opportunities for independent study or advanced work.

Counseling. The interviews also suggest that the counseling of students, whether for academic or personal reasons, may be instrumental in challenging students to become aware of the relative importance of the means they employ to acquire an education. The students' reactions to being questioned for this study about their reading suggest that some individuals may benefit from periodic challenges to re-assess their activities, potentials, and achievements.

Reducation in Routine. From many of the interviews one has

the impression that major deterrents to student reading are the busyness of the campus and the amount of time and energy that sheer movement on this large campus requires of students. Much time is consumed in getting from one class to another. Furthermore the number of classes scheduled per day breaks the student's study time into brief periods and often in locations that are not wholly conducive to study.

There were implications that campus routine also interfered with students' voluntary reading. They indicated that during the summer they generally read newspapers, some books, and current magazines and that they would like to do so during the school year if they could find the time. Possibly their general indifference toward current affairs and world problems was more apparent than real. For some at least the volume of assigned reading or its difficulty or perhaps their inefficiency in reading may have prevented them from maintaining contact through reading with events outside the campus. Several stated that, although they subscribed to Time, they couldn't find time to read it. Except for three students who lived at home and admitted that family television habits interfered with their reading, most of the students questioned about how much they watched television appeared to be quite sincere when they answered, "Are you kidding?"

One development that gives promise of improving the campus climate is that of making dormitories into living-learning centers, both to improve the intellectual climate and to be of greater convenience for students. This, in addition possibly to

offering courses in larger blocks of credit in order to reduce the number of courses a student carries per term, could serve to decrease the routine involved in registration and facilitate adjustment to new schedules and orientation to new courses and different professors. These improvements could lead to greater involvement of students in their courses and give them more time for reading and more incentive to read. Also, if every student were to have some experience in small class sections and had the opportunity to participate in discussion about his reading, possibly each might develop greater appreciation of the value and potential of effective reading.

Emphasis on Achievement Rather Than Accumulation of Credit. With graduation dependent merely on the accumulation of a given number of credits, regulated by a few general requirements, students seemed to be primarily interested in acquiring credits as quickly and effortlessly as possible. Repeatedly students in the sample gave evidence that this attitude had considerable influence on their choice of courses and on what they did to earn credit--often, in other words, on how much reading they did. This situation suggests that, if the institution would change its policy to giving credit based on achievement, on evidence of involvement in subject matter, rather than on attendance and attentive listening, possibly students would have a greater incentive to read and inadvertently might acquire good reading habits.

CONCLUSION

The first impression one receives from the interviews in this study is that both the quality and the quantity of reading at Michigan State University is poor, but as one analyzes the students' comments and the reasons for them, it appears that improvement of this situation is not impossible or improbable since some of the steps to improvement may have already been taken. Although responsibility for improving the quality and amount of student reading lies ostensibly with the instructor, he can do little without the support of curricular and institutional policies. No one of these can hope to solve the problem without the aid of the others.

It seems evident from this study that all possible efforts should be made to broaden the student's conception of reading and to improve his attitude toward reading and his reading habits if Michigan State University is to succeed in its objective of "graduating educated men and women, trained to be effective citizens, ready and willing to assume the duties of leadership."[87]

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87. John A. Hannah, "We Believe--A Statement by the President of Michigan State University." 1962-1963 Michigan State University Catalogue, p. 9.

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APPENDIX

Table 1: Majors of the Students with High or Low Reading Ability in Each Class Level at the Time of Interviewing

	Freshman		Sophomore		Junior		Senior		Total		
Major Area	High	Low	High	Low	High	Low	High	Low	High	Low	All
Agriculture) Business) Public Serv.)	0	2	0	1	0	4	1	2	1	9	10
Engineering	1	0	3	1	2	0	2	1	8	2	10
Home Economics	1	1	1	1	0	1	2	1	4	4	8
Humanities) Speech) Social Sci.)	4	1	3	1	4	2	4	4	15	8	23
Mathematics) Phys. Sci.) Pre-Vet.) Pre-Med.)	4	2	2	2	3	2	0	1	9	7	16
Education	0	1	1	2	1	1	1	1	3	5	8
No Preference	0	3	0	2					0	5	5
	10	10	10	10	10	10	10	10	40	40	80

Table 2: Number of High- and Low-Ability Readers with All-University GPA at the Various Intervals

Total GPA	High-Ability Men	High-Ability Women	Low-Ability Men	Low-Ability Women
3.5 - 4.0	8	5	0	0
3.0 - 3.4	8	7	0	0
2.5 - 2.9	2	7	3	1
2.0 - 2.4	2	1	9	12
1.5 - 1.9	0	0	4	7
1.0 - 1.4	0	0	4	0

Table 3: Number of High- and Low-Ability Readers with GPA in the "Reading Basics" at the Various Intervals

GPA in the "Reading Basics"	High-Ability Men	High-Ability Women	Low-Ability Men	Low-Ability Women
3.5 - 4.0	10	7	1	0
3.0 - 3.4	4	8	1	0
2.5 - 2.9	4	4	2	1
2.0 - 2.4	2	1	8	5
1.5 - 1.9	0	0	7	10
1.0 - 1.4	0	0	1	4

Table 4: Mean Grade Point Averages of High- and Low-Ability Readers in All Courses and in the "Reading Basics"

		Mean GPA	
High-Ability Readers		All Courses	"Reading Basics"
Freshman-Sophomore	Men	3.36	3.34
	Women	3.22	3.22
	Mean	3.29	3.28
Junior-Senior	Men	3.20	3.20
	Women	2.96	3.15
	Mean	3.08	3.17
Mean of High-Ability	Men	3.28	3.27
	Women	3.09	3.17
Mean of Readers of High-Ability		3.18	3.22
Low-Ability Readers			
Freshman-Sophomore	Men	1.90	2.10
	Women	1.81	1.61
	Mean	1.85	1.80
Junior-Senior	Men	2.15	2.00
	Women	2.18*	1.81
	Mean	2.16	1.90
Mean of Low-Ability	Men	2.02	2.05
	Women	2.00	1.71
Mean of Readers of Low-Ability		2.01	1.88

* One low-ability reader among the junior women is partly responsible for the 2.18 mean of the junior-senior women. An Elementary Education major, whose "reading basics" GPA was 1.5, she achieved a total GPA of 2.6 by receiving seven A's in Activity Band, four B's in Physical Education, and one A in Methods of Study. Thus, forty-four of her 187 grade points are four courses that are not strictly academic; at least they do not stress reading. In academic courses her total GPA was 1.9, which also includes eleven credits in instrumental music instruction. She received above-average grades in only four academic courses (Foreign Studies).

Table 5: Number of High- and Low-Ability Readers Who Received D or F Grades in "Reading Basic" or in Other Courses

Number Receiving D or F		High-Ability Readers			Low-Ability Readers		
		In "Reading Basics"	In Other Courses	Total	In "Reading Basics"	In Other Courses	Total
Freshman) Sophomore)	Men	0	2	2	6	9	9
	Women	0	1	1	8	10	10
Junior) Senior)	Men	1	5	5	8	10	10
	Women	0	7	7	8	10	10
		1	15	15	30	39	39

Fifteen of the forty high-ability readers and all but one of the forty low-ability readers received at least one D or F grade. One high-ability and thirty low-ability readers received a grade of D or F in both the "reading basics" and their other courses. The "reading basics" figures are the more meaningful for the purpose of this study because failures in the other courses include failures in such courses as physical education and military science.

Table 6: Number of "Reading Basics" and Other Courses in Which High- and Low-Ability Readers Received Either D or F

Classification of Students Receiving D or F		High-Ability Readers			Low-Ability Readers		
		In "Reading Basics"	In Other Courses	Total	In "Reading Basics"	In Other Courses	Total
Freshman) Sophomore)	Men	0	3	3	8	61	69
	Women	0	1	1	23	44	67
Junior) Senior)	Men	1	10	11	20	61	81
	Women	0	26	26	35	65	100
		1	40	41	86	231	317

Table 7: Number of High- and Low-Ability Readers Who Repeated at Least One of the "Reading Basic" or Other Courses

Classification of Those Who Repeated Courses	High-Ability Readers			Low-Ability Readers		
	In "Reading Basics"	In Other Courses	Total	In "Reading Basics"	In Other Courses	Total
Freshman) Men	0	0	0	2	9	11
Sophomore) Women	0	0	0	6	5	11
Junior) Men	0	0	0	4	8	12
Senior) Women	0	4	4	8	8	16
	0	4	4	20	30	50

Table 8: Number of "Reading Basic" and Other Courses Repeated by the High-Ability and Low-Ability Readers

Classification of Those Who Repeated Courses	High-Ability Readers			Low-Ability Readers		
	In "Reading Basics"	In Other Courses	Total	In "Reading Basics"	In Other Courses	Total
Freshman) Men	0	0	0	2	18	20
Sophomore) Women	0	0	0	9	11	20
Junior) Men	0	0	0	7	23	30
Senior) Women	0	7	7	14	21	35
	0	7	7	32	73	105

Table 9: Majors Demanding Various Levels of Reading Selected by High-Ability and Low-Ability Readers

		Majors with General Emphasis on				
High-Ability		High-Level Extensive Reading	Problem-Solving and Science	Skills and Reading for Information	No Preference	Total
Freshman) Men		2	8	0	0	10
Sophomore) Women		5	2	3	0	10
Junior) Men		4	5	1	0	10
Senior) Women		6	1	3	0	10
		17	16	7	0	40
Low-Ability						
Freshman) Men		0	3	4	3	10
Sophomore) Women		2	2	4	2	10
Junior) Men		1	4	5	0	10
Senior) Women		3	0	7	0	10
		6	9	20	5	40

Table 10: Number of High-Ability and Low-Ability Readers Who Changed from No Preference to Majors in Areas That Vary in Reading Requirements

	From	To Majors Stressing		
High-Ability	No Preference	High-Level Extensive Reading	Problem-Solving and Science	Skills and Reading for Information
Freshman) Men	0	0	0	0
Sophomore) Women	0	0	0	0
Junior) Men	5	1	3	1
Senior) Women	5	3	1	1
	10	4	4	2
Low-Ability				
Freshman) Men	6	0	3	3
Sophomore) Women	1	1	0	0
Junior) Men	7	1	2	4
Senior) Women	3	2	0	1
	17	4	5	8

Table 11: Number of High- and Low-Ability Readers Who Changed Their Major and the Number of Times They Changed

	No. of Changes in Major				Total No. of	Total No. of
High-Ability	One	Two	Three	Four	Students	Changes
Freshman) Men	0	0	0	0	0	0
Sophomore) Women	0	0	0	0	0	0
Junior) Men	4	0	1	0	5	7
Senior) Women	4	1	1	0	6	9
	8	1	2	0	11	16
Low-Ability						
Freshman) Men	7	2	0	0	9	11
Sophomore) Women	2	1	0	0	3	4
Junior) Men	8	0	0	0	8	8
Senior) Women	4	3	0	1	8	14
	21	6	0	1	28	37

Table 12: Number of High- and Low-Ability Readers Who Saw Themselves as Good, Average or Poor in Comprehension and Fast, Slow or Variable in Rate of Reading

	Good Comprehension			Average Comprehension			Poor Comprehension		
High-Ability	Fast	Var.	Slow	Fast	Var.	Slow	Fast	Var.	Slow
Freshman) Men	4	2	2			1			1
Sophomore) Women	4	1	1	1		1			2
Junior) Men	5	2	3						
Senior) Women	4	3		1	1	1			
	17	8	6	2	1	3	0	0	3
Low-Ability									
Freshman) Men	4			1	1				4
Sophomore) Women			2		1	1			6
Junior) Men	3		1		1	1	1		3
Senior) Women	4			1	1	1			3
	11	0	3	2	4	3	1	0	16

Table 13: Number of Students Who Read All Assignments or Only Parts, Who Read As Assigned or Only Before Tests, Who Used a Definite Study Method, Read Material Once or Generally Re-Read Several Times

	Generally		Read		Method		
High-Ability	All	Some	As Assigned	Before Exams	SQ3R	Read Once	Read and Re-read
Freshman) Sophomore)	20	0	16	4	1	12	7
Junior) Senior)	6	14	7	13	2	15	3
	26	14	23	17	3	27	10
Low-Ability							
Freshman) Sophomore)	14	6	13	7	5	2	13
Junior) Senior)	12	8	9	11	4	5	11
	26	14	22	18	9	7	24

Table 14: Number of Students Who Read Newspapers, Periodicals or Books with Some Regularity While Attending MSU

		Voluntary Reading			Periodicals			Books	
High-Ability		None	Some	News-paper	Better	News	Popular	Fic.	Non-Fic.
Freshman) Sophomore)	Men	5	5	3	1	3	1	3	1
	Women	5	5	3	0	2	1	1	0
Junior) Senior)	Men	3	7	7	4	4	2	3	3
	Women	6	4	1	0	1	3	1	0
		19	21	14	5	10	7	8	4
Low-Ability									
Freshman) Sophomore)	Men	8	2	1	0	1	1	1	1
	Women	6	4	1	0	3	1	1	0
Junior) Senior)	Men	4	6	1	0	4	3	1	0
	Women	4	6	2	0	4	1	2	0
		22	18	5	0	12	6	5	1
Total									
Freshman) Sophomore)	Men	13	7	4	1	4	2	4	2
	Women	11	9	4	0	5	2	2	0
Junior) Senior)	Men	7	13	8	4	8	5	4	3
	Women	10	10	3	0	5	4	3	0
		41	39	19	5	22	13	13	5

Table 15: Number of Hours Students Estimate They Spend Reading Each Day in an Average Week While on Campus

		Average Hours Per Day					
High-Ability		0-2	2-3	3-4	4-5	5-6	4-8
Freshman) Sophomore)	Men Women	3 2	2 4	1 2	 1	3 1	1
Junior) Senior)	Men Women	1 1	5 2	1 4	2 3		1
		7	13	8	6	4	2
Low-Ability							
Freshman) Sophomore)	Men Women	 4	7 1	1 1	1 2	 2	1
Junior) Senior)	Men Women	 1	4 3	2 4	4 	 2	
		5	15	8	7	4	1