

INVESTIGATION OF THE ACCELERATED PROGRAM
OF THE THERMOPOLIS SCHOOL SYSTEM

BY

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CHAPTER I

INTRODUCTION

Homogeneous bunches appear to be one of the myths of present education.¹ This myth almost died a generation ago but currently is having a rebirth. It tends to hold that more learning occurs when individual differences are at a minimum within a specific group. Can homogeneity appear even among the people who permit such grouping? Does evidence support the idea that homogeneous grouping is effective? What are the present educational philosophies concerning grouping?

Having taught in the Thermopolis school system for the past four years and having held the position of guidance director for three years, the writer was very interested in the educational effectiveness of the accelerated program. This program had been the topic of discussion in many faculty, classroom teacher association, and parent teacher association meetings. It was felt that a definite, organized investigation would enlighten those concerned about the accelerated program and its possibilities. It was because of this interest and the feeling of a definite need for an investigation of the values of the accelerated program that this study was made. It was the belief of the writer that the middle and lower groups needed association with the accelerated groups for intellectual growth.

¹Harris, Ben M., "Ten Myths That Are Leading Education Astray," The Nations Schools, 69:4, April, 1962, p. 61.

Problem

The problem of this study was to determine the general effectiveness of the Thermopolis accelerated program regarding the intellectual growth of three groups--the accelerated, middle, and low ability students. Thus, the evaluation of the accelerated program resolved itself into answering two questions:

1. What were some of the factors that contribute to the intellectual growth of students?
2. What was the educational effect of the accelerated program on the accelerated groups and also on the middle and lower groups?

Procedures

The procedures utilized in this study were as follows:

1. A review of literature was made to determine the general status and the development of grouping practices of accelerated programs in the United States.
2. A study was made of four groups of students; ninth graders, who participated in the accelerated group three years; tenth graders, who participated two years; eleventh graders, who participated one year; and twelfth graders, who had never participated in the accelerated program. Achievement and I. Q. records of the students were compared.
3. The third procedure was to evaluate the program through determination of pupil, teacher, and parent attitudes by means of questionnaires, interviews, and unsolicited responses.

4. A study was conducted through observing and interviewing students in order to determine if grouping was a factor in the selection of friends.

5. Conclusions were then drawn on the basis of the information obtained in the study.

Limitations

There were three limitations in this study.

1. The study was limited to the Thermopolis community for the purpose of answering the educational effectiveness of this particular program.

2. The study was limited to those students enrolled in the system since the fourth grade because complete records were not available for transfer students.

3. The review of literature was made at the Thermopolis faculty library and the Montana State College Library.

The first procedure in the study was to determine through literature the status and the development of grouping practices of accelerated programs throughout the United States. The writer investigated the middle and low ability groups as well as the high groups in the review of literature. The findings of this review are presented in Chapter 2.

CHAPTER II

REVIEW OF LITERATURE

A review of literature was made to determine the status and the development of grouping practices of accelerated programs in the United States. The writer was concerned with not only the high ability groups but also the middle and low groups in the review of literature.

Speaking before a group of school trustees and administrators in 1960, McIntyre¹ made a statement to the effect that the youth of today might be classified in the following groups according to mental abilities; the gifted, the above average, the average, the low average--and then there are the neighbor's kids. Whether in agreement completely with this grouping or not, one must conclude that abilities do vary, and the differences may be quite pronounced.

It seems down through the last three centuries that first one phase of democracy and then another has been subjected to criticism by the American people. Education received its turn shortly after the Korean War. The following summary statement was presented to President Eisenhower following the White House Conference on Education in 1953.

The order given by the American people to the schools is grand in its simplicity; in addition to intellectual achievement, foster morality, happiness, and useful ability. The talent of each child is to be sought out and developed to the fullest. Each weakness is to be studied and, so far as possible, corrected. This is a truly majestic ideal, and an astonishingly new one. Schools of

¹McIntyre, Frank O., A Lecture given at Casper, Wyoming, November 11, 1960, Public Relations Director for the California Teachers Association, Southern Section.

that kind have never been provided for more than a small fraction of mankind.²

Going back through the years in the field of education, leaders of educational thought have recognized individual differences and tried in many ways to provide for them. Comenius and Rousseau, Pestalozzi and Herbart, Froebel and Dewey, Charters and Bobbitt, Conant and others have all made their contributions to the total pattern of educational practices in effect today. The constant increase in the fund of man's knowledge and the steady search for further knowledge has necessitated continuous review and change in teaching methods and teaching content provided by the schools.

The average man on the street today needs to know more science than teachers knew a generation ago, just to be able to read the newspaper intelligently. The world has been moving so fast, new knowledge has been appearing at such a fast pace, that only the capable, interested persons are able to grasp a small portion of this vast field of knowledge.³

Young folks should be well-grounded in a good, basic education--as complete and as comprehensive as the individual pupil can attain.⁴ Whether the child is gifted or slow he should be prepared to take his place in society as an informed and participating citizen.⁵ Provisions must be made for all--the gifted, the above average, the average, the low-low average,

²Stoddard, Alexander J., Schools for Tomorrow; An Educator's Blueprint, The Fund for the Advancement of Education, New York, 1957, p. 15.

³Stoddard, op. cit., p. 16.

⁴McIntyre, Lecture, op. cit.

⁵Ibid.

and even the neighbor's kids.⁶ The question is, "How shall this be done?"

Through the years many plans to cope with this problem have been advanced and tried. Some have not accomplished the desired results and have been discarded. Others have measured up and are currently in use in certain schools. Many of the older plans--such as ability grouping, coaching the slow learner, parallel courses for pupils of varied abilities, the platoon school, the opportunity school, the Winnetka Plan, and the Dalton Plan--are still in use today.⁷ The terminology applied to the plans may differ, but basically the old plan has been the foundation for the "new" program.⁸

Interest in education has been spurred considerable during the past twenty years by national and international events which have troubled the American people.⁹ Perhaps the greatest single factor has been the unprecedented increase in the number of boys and girls to be educated. Coupled with this rapid rise in enrollment has been the acute shortage of competent teachers. Other factors which have contributed to this interest have been the dramatic increase in the range of knowledge that students must acquire in order to live intelligently in the technological space age and the somewhat similar increase in the complexity of the knowledge to be assimilated.¹⁰

⁶Ibid.

⁷Crow, Lester D., and Crow, Alice, An Introduction to Guidance, American Book Company, New York, 1960, p. 113-115.

⁸Ibid., p. 113-114.

⁹Teachings in Television, The Ford Foundation, New York, 1959, p. 2.

¹⁰Ibid., p. 2.

Still another factor which has created interest in education has been the change in the thinking of people.¹¹ The idea is no longer accepted that individuals may do what they wish with their abilities and experiences but rather should pursue and share them to the fullest with society to help the community, state, and nation.¹² Many people have begun to recognize that they must play their part in shaping a better tomorrow.¹³

A report from the Ford Foundation and the Fund for the Advancement of Education pointed out that the success of the satellites of the Soviet Union was not the incident that spurred American education, but rather spurring was already underway and was merely accelerated by "Sputnik" and "Laika".¹⁴

This acceleration in American education brought about a clamor to jump on the "band wagon". Many bold new methods of educational experimentation are being conducted, teachers salaries are being raised, the government has been granting money to teachers to advance their education, and loans are being made available to educational institutions.

Schools are faced with the formation of curricula which will meet the needs of all students. They cannot follow the program advanced by some educators that indicated schools should "Teach the best and shoot the rest".¹⁵

¹¹Crow and Crow, op. cit., p. 2.

¹²Ibid., p. 2.

¹³Ibid., p. 2.

¹⁴Teachings by Television, op. cit., p. 2.

¹⁵The Pursuit of Excellence, The "Rockefeller Report" on Education, Doubleday and Company, New York, 1958, p. 22.

They cannot follow a program of teaching for only those of average ability which would certainly result in mediocrity for all. In Rockefeller Report on Education the foregoing ideas were supported in these words:

A modern society such as ours cannot choose to do one or the other. It has no choice but to follow a program of teaching for the students of accelerated, as well as average, ability. Our kind of society calls for the maximum development of individual potentialities at all levels.¹⁶

According to Chase, in order to move toward having quality education for the increasing number of individuals in society, a constant curriculum revision is essential.¹⁷ He believed that schools must improve instructional materials and develop flexible grouping procedures with individual pacing of learning.¹⁸ In Chase's views, of primary importance was the improvement of ways in which the selection, education, and employment of teachers is conducted.¹⁹

The Educational Policies Commission appeared to support similar lines of thought. The Commission held that education can be best when it allows and enables each student to develop to the limit of his abilities and thus serve society.²⁰ To have high quality, education must be ever-changing and gaining in improvement.²¹ Educational offerings appropriate

¹⁶The Pursuit of Excellence, op. cit., p. 22.

¹⁷Chase, Francis S., "University Versus Excellence in Education," Education Looks Ahead, Scott, Foresman and Company, Chicago, 1959, p. 34.

¹⁸Ibid., p. 34.

¹⁹Ibid., p. 34.

²⁰An Essay on Quality in Public Education, Educational Policies Commission, Washington, 1959, p. 5.

²¹Ibid., p. 5.

to different students and also to different social needs must be made available.²²

The Rockefeller Report on Education emphasized that many educators reject the idea of grouping, and thus some students are exposed to educational programs whose pace is too slow to challenge their abilities.²³ One of the most important goals would be to identify and then guide able students to develop their capabilities to the fullest.²⁴ In America, there has been a tendency to accept programs of mediocrity rather than admit differences in abilities. American schools have made far more progress in identifying levels of talent than they have done to develop programs for those different levels.²⁵ It has not been held to be undemocratic to group students as to ability; however, it is thought to be a poor society that ignores individual differences of ability.²⁶

The review of literature indicates that the status of acceleration has developed from the recognition of individual differences, the establishment of grouping practices in the schools, and the desire for the United States to maintain world leadership. After reviewing pertinent literature to determine the general status and the development of grouping practices of accelerated programs in the United States, the writer evaluated the Thermopolis accelerated program. This evaluation has been presented in Chapter 3.

²²Ibid., p. 5.

²³The Pursuit of Excellence, op. cit., p. 22-23.

²⁴Ibid., p. 29.

²⁵Ibid., p. 30.

²⁶The Pursuit of Excellence, op. cit., p. 32.

CHAPTER III

AN EVALUATION OF THE THERMOPOLIS ACCELERATED PROGRAM

An evaluation of the Thermopolis accelerated program was made to determine the general educational effectiveness of this program in regard to the intellectual growth of three groups--the accelerated, middle, and low ability students. This evaluation was conducted through comparisons of I. Q. and achievement test scores, by polling the opinions of parents, pupils, and teachers, and by observations by the writer.

In the belief that additional opportunities should be provided for the better students in the Thermopolis schools, a general statement recommending curriculum changes was prepared by the Thermopolis school board, teachers, and administrators in 1957, and the changes were introduced into the school program in the fall of 1958. The plan was to provide an accelerated curriculum for the better students beginning with the fifth grade and carrying on through high school. This accelerated plan has now been in effect for four years.

The general plan for the accelerated program was to divide each grade level, starting with the fifth grade, into three ability sections; accelerated, middle, and low. The top 20 to 25% of each class were to be accelerated in the fields of science and mathematics, and a program of enrichment would be given to this group in all other areas of study. This "upper" section would be retained as a group through grades five, six, seven, and eight with the expectation that, by the time they reached high school, they would achieve academically one year beyond the normal eighth grade level. It was then expected that the students in this group would enroll in high school science and mathematics classes that are normally

considered second-year subjects and would stay together as a group in their other subjects. By following this plan it would be possible for these students to complete a four year high school program and some courses normally considered first-year college courses.

The pupils included in this accelerated section were to be selected on the basis of intelligence test results, achievement test results, teacher recommendation, and parental approval. The size of the section would be limited to 25 students. Students could be advanced to this group at any time, provided they wished to do so and it was felt by the teachers that they were capable of carrying the work. If at any time a student felt that he could not "keep up" with the group he could be placed in one of the other groups. A copy of the original plans for the program has been included in Appendix A.

The ninth, tenth, eleventh, and twelfth grade students in the Thermopolis high school for the 1961-62 school year who were enrolled in the Thermopolis school system from grade four to eight comprised the study group. Achievement grade placement scores and I. Q. scores were tabulated for high school students who were enrolled in the Thermopolis school system from the fourth to the eighth grade. The results of this phase of the study are presented in the following section.

Survey of Achievement Grade Placement and I. Q. Scores

The first step in the survey was to decide if the students selected for the study group, the ninth, tenth, eleventh, and twelfth graders in the Thermopolis school system for the 1961-62 school year who had been enrolled

in the Thermopolis schools from fourth to eighth grade, were representative (as far as I. Q.) of the total Thermopolis High School population. This tabulation has been given in Figure 1.

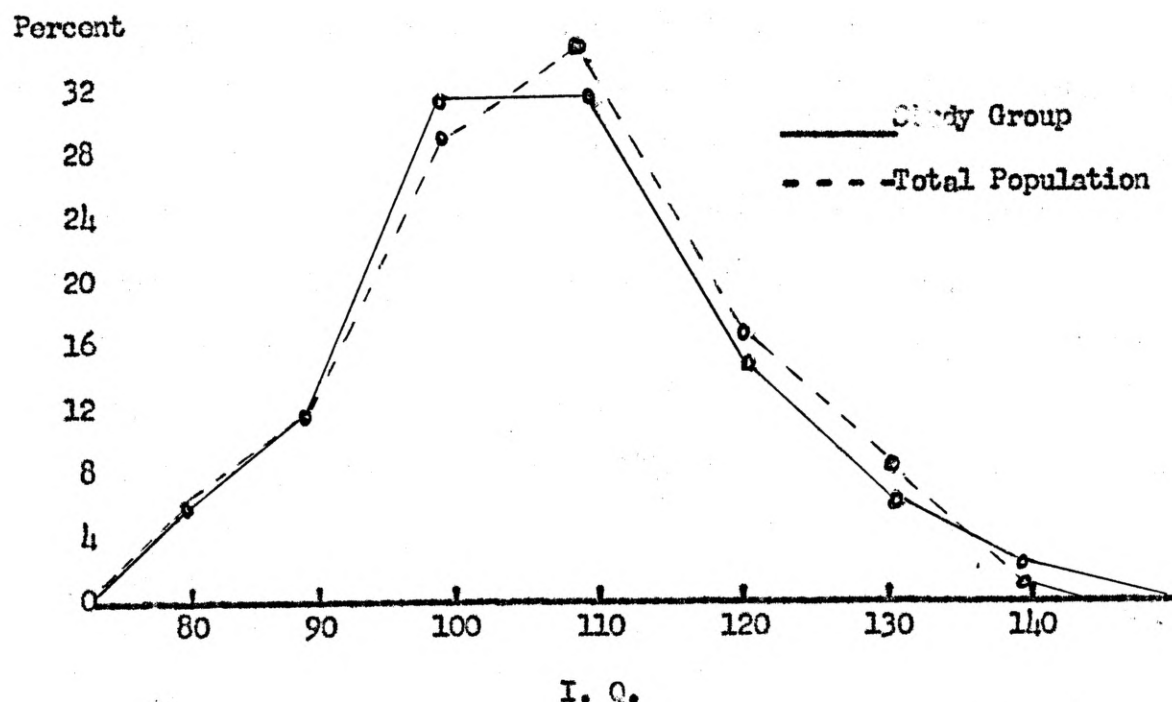


Figure 1. Comparison of I. Q. of Study Group with I. Q. of Total Thermopolis High School Population, 1961-62.

The I. Q. scores of students in the Thermopolis school system since the fourth grade were taken to be the averages of three I. Q. tests; the California Primary Short Form, the California Elementary Mental Maturity Short Form, given at the third, fifth, and seventh grade levels. The I. Q. scores for the total population were the averages of available I. Q. test results. Results indicated that the study group was representative of the total high school population, with respect to I. Q.

The I. Q. range was from 112-139 for the top 25% of the students in the study group and total Thermopolis high school population. The I. Q. range was from 80-95 for the lower 25% of the students in the study group and total Thermopolis high school population. Selection of the top 25% would not assure an accelerated group but merely an above average group with a few gifted students. The lower 25% would not provide for merely a low group but for a portion of the average group.

The achievement test grade placement scores were gathered and tabulated for high school students who had been enrolled in the Thermopolis school system from the fourth to the eighth grade. There were no achievement test grade placement scores for grades nine through twelve as achievement tests are not given on the high school level at Thermopolis.

The study group was divided into four groups--ninth graders, those having been in the accelerated program three years; tenth graders, those having been in the accelerated program two years; eleventh graders, those having been in the accelerated program one year; and twelfth graders, who had never been in the accelerated program. The ninth, tenth, eleventh, and twelfth grade study groups were subdivided in the following I. Q. ranges; 80-90, 91-110, 111-120, 121-up. The number of students in each subdivision according to I. Q. range appear in Table 1.

TABLE 1. NUMBER OF STUDENTS BY GRADES AT EACH I. Q. LEVEL IN THE STUDY GROUP AT THERMOPOLIS HIGH SCHOOL, 1961-62.

I. Q. Levels	Number of Students by Grades at Each I. Q. Level			
	9th	10th	11th	12th
80-90	8	10	5	3
91-110	37	23	21	21
111-120	11	3	3	6
121-up	3	1	2	0
TOTAL	59	37	31	30

These subgroups were then averaged as to achievement test grade placement scores for grades four through eight in order to make comparisons between groups to determine if the accelerated program had an effect upon achievement test grade placement scores. This tabulation has been included in Appendix B for reference. Achievement test grade placement scores for the ninth grade group, if over 10.0 in the eighth grade, were listed in the records as 10+. Therefore, the achievement test grade placement score averages at the eighth grade level for the ninth grade group were only approximate. Tests used were the Stanford Achievement Series through grade six and the Metropolitan B and A Advanced in grades seven and eight.

The achievement test grade placement score averages for the 80-90 I. Q. range of each study group, ninth, tenth, eleventh, and twelfth, appears in Table 2.

TABLE 2. ACHIEVEMENT TEST GRADE PLACEMENT AVERAGES AND ACTUAL GRADE PLACEMENT FOR ONE ABILITY LEVEL OF THE THERMOPOLIS HIGH SCHOOL STUDY GROUPS, 1961-62.

I. Q. Levels	Actual Grade Placement	Achievement Test Grade Placement Score Averages of Four Groups			
		9th	10th	11th	12th
80-90	4.7	3.9	3.8	3.2	3.6
	5.7	4.8	4.8	4.0	3.4
	6.7	5.4	5.4	4.7	4.7
	7.7	6.1	6.2	5.5	5.3
	8.7	7.3	6.5	6.4	6.2

Achievement test grade placement scores for the study group of the 80-90 I. Q. range showed that ninth graders, who had been in the accelerated program three years had 7.3 achievement score averages at the end of grade eight; tenth graders, who had been in the accelerated program two years had 6.5 at the end of grade eight; eleventh graders, who had been in the accelerated program one year had 6.4 at the end of grade eight; twelfth graders, who had never been in the accelerated program had 6.2 at the end of grade eight. There appeared to be a direct correlation between the eighth grade achievement test grade placement score average and the number of years of participation in the accelerated program.

The achievement test grade placement score averages for the study group in the 91-110, 111-120, and 121-up I. Q. ranges appears in Table 3.

TABLE 3. ACHIEVEMENT TEST GRADE PLACEMENT SCORE AVERAGES AND ACTUAL GRADE PLACEMENT FOR THREE ABILITY LEVELS OF THE THERMOPOLIS HIGH SCHOOL STUDY GROUPS, 1961-62.

I. Q. Levels	Actual Grade Placement	Achievement Test Grade Placement Score Averages of Four Groups			
		9th	10th	11th	12th
91-110	4.7	5.2	4.8	5.1	5.3
	5.7	6.7	5.9	5.9	6.1
	6.7	7.3	7.3	7.0	6.9
	7.7	7.8	8.2	8.3	8.1
	8.7	9.0+	9.0	9.4	9.4
111-120	4.7	6.6	6.1	5.9	6.7
	5.7	6.8	8.0	6.7	7.8
	6.7	8.4	9.2	7.8	9.3
	7.7	8.9	10.7	7.9	9.8
	8.7	10.0+	9.9	10.4	11.3
121-up	4.7	6.1	6.8	9.2	No Students
	5.7	8.4	7.7	10.2	
	6.7	9.6	9.9	10.5	
	7.7	9.8	10.7	12.4	
	8.7	10.0	9.9	12.9	

The achievement test grade placement score of the students with 91-110 I. Q. range in the accelerated program three years showed 9.0+, the students in the accelerated program two years showed 9.0, the students in the accelerated program one year showed 9.4, and the students who had never been in the accelerated program showed 9.4. At the end of the eighth grade the study groups with 91-110 I. Q. range appeared to decrease in average achievement test grade placement score the longer their participation in the accelerated program.

The study group in 111-120 I. Q. range who had never participated in the accelerated program showed the highest achievement test grade placement score at the end of the eighth grade. The ninth, tenth, and eleventh grade study groups were approximately equal at the end of the eighth grade. The tenth grade study group reached the highest achievement test grade placement level at the end of the seventh grade and dropped .8 grade placement by the end of the eighth grade. Participation in the accelerated program did not raise the achievement test grade placement score to the level of those students never in the accelerated program.

Through the opinions of the parents of the students in the accelerated, average, and low groups, the point of view of the general public was formulated concerning the Thermopolis accelerated program. This information is presented in the following section.

Comments From Parents of Accelerated, Average And Low Group Students

Opinions, requested and unsolicited, were gathered through discussions with parents of the students in the accelerated, average, and low

groups. While these techniques were very subjective in nature, it was believed that a pattern might evolve, and helpful suggestions might result from such a survey. Approximately 100 parents were contacted. Many parents had more than one comment; some had only one.

Accelerated group. Parents of students in the accelerated program for two or three years gave their comments concerning the educational effectiveness of the accelerated program. The most frequent comments are listed:

1. Requires too much home work.
2. Causes nervousness because they have too much to do.
3. Limits participation in other activities.
4. Creates a "smarty" and a "dummy" attitude between students.
5. We like it. First time child has done any home work.
6. Son working better and learning more. Has improved his study habits.
7. Has matured in actions and thoughts since starting the program.
8. Question the requiring that all take the advanced work in science and mathematics regardless of interests.
9. Foreign languages should be included in elementary grades.
10. More emphasis on all subjects--not just in science and mathematics.
11. Competition too great--grades have dropped.

The comments of parents of accelerated students appeared more negative than positive. Observations indicated that parents of high ability students liked the program while the parents of average ability students believed the program to be too accelerated for the capabilities of their children. Grading was a major problem; many parents mentioned that their

child's grade average had dropped since entering the accelerated group. Other comments from the parents were that the students had more homework, more problems, and less time for school activities since participating in the accelerated group. Parents of students in this group were interested in the school, its philosophies, and the reasons for the existence of an accelerated program.

Average group. Comments were collected from parents of students in the average group and also from parents of the students who had been in the accelerated group and had transferred to the average group. The comments that appeared most frequently were the following:

1. Program needs improvement.
2. Still too hard for average student.
3. Didn't seem to be much change.
4. Student should be allowed to work at the level of his ability.
5. Grades have improved.
6. Friends seem to be chosen within sections. They need more association between groups.
7. Child seems to work harder and have greater interest.
8. Challenge to improve to get into the accelerated group.

Some parents of the average group seemed content just for their child to be in school and working to capacity. Friends of their children were important to this group of parents. It appeared that approximately half of the parents of the average group were in favor of the accelerated program and half against the accelerated program. Many parents requested more accurate information concerning the selection of the accelerated groups.

Low group. It was difficult to contact parents of the lower group, as they were seldom, if at all, available for interview. The parents of the low ability student were either very interested in their child or completely disinterested. The following is a list of comments that were obtained.

1. Don't think it helped.
2. I like it.
3. Makes them lazy.
4. Grades improved. Child could work at slower rate and therefore obtain more.
5. More interested in school.
6. No opinion.

Comments of this group indicated that the parents of the lower section neither definitely favored, nor opposed the grouping practices in the Thermopolis school system. Approximately 50% of the parents contacted thought the program had helped their children to become more interested in school and have a better attitude toward education.

To determine the professional attitude toward the accelerated program involved in the study, questionnaires were given to the teachers in the Thermopolis Junior High School. These opinions are summarized in the following section.

Opinions of Thermopolis Junior High School Teachers On Accelerated Program

Questionnaires were given to all seventh and eighth grade teachers in the Thermopolis Junior High School to gain professional opinions concerning the accelerated program. A copy of the questionnaire has been included

in Appendix C. Following are the results of this questionnaire:

1. Do you feel the program is accomplishing the intended results?
No, with qualifications, by 7 to 1.
2. Would you prefer homogeneous grouping with acceleration or heterogeneous grouping with enrichment? Others?

Homogeneous grouping with acceleration-----	0
Heterogeneous grouping with enrichment-----	2
Homogeneous grouping with enrichment-----	3
Homogeneous grouping with acceleration and enrichment-----	1
Undecided-----	1
3. Comments and Suggestions:

The size of our school system does not provide enough exceptional children for an accelerated program.

There is such a range of abilities that we do not have true homogeneous grouping but we do eliminate the very slow.

One-fourth of the fifth grade includes some who are not really capable of acceleration. This also makes the class too large.

Many parents have stated that their child is more interested in school than previously.

It seems to have solved some discipline problems due to lack of challenge.

The practice of heterogeneous grouping with enrichment could be used to an advantage by adding courses in the summer or in the year as the need is recognized.

Some factors which adversely influenced the present program, I feel, are the set of values held by the community, and the amount of activities in which our young people are permitted to participate.

Since we must divide our classes approximately in fourths, we cannot actually get an accelerated group. If we could limit that group to those really academically talented, it would have from six to ten people in it. We are too small a school to have an accelerated program, per se.

Actually, I think that the enrichment should be extended to a literature course and more composition in English. If the homogeneous grouping is to be really effective, the enrichment should not be limited to mathematics and science.

I think that the program has not achieved what we hoped for and should be discontinued in grades five and six. We have always and can still have grouping in the Junior High as described above. The 8th grade arithmetic students (because of so many average students in the accelerated class) have not and cannot reach the time element of taking algebra in the 8th grade. Therefore, if the 8th grade teacher feels he or she has a good class in math and can do the work a program of enrichment can be worked out such as general math of some kind. An enriched program can be used in any class that is better than average--as far as any subject is concerned.

Since we spend so much time on tests it would seem as if they ought to be used to evaluate the program.

It is apparent that the students are not really for the courses to which we are accelerating them. Interest in a field of study cannot be forced; pushing these young people into courses for which they are not ready and for which they lack enthusiasm will tend to kill all interest in that field.

Teachers of the Thermopolis Junior High School were generally against the present accelerated program. They would like some type of grouping with emphasis on enrichment--enrichment in all areas of study, rather than the present program of acceleration in only two areas of study. It appears from the results of the questionnaires and through interviews with the teachers, that it would be advisable to separate the very slow into a group and advance each at his own speed.

Students were asked to respond through written statements and individual interviews. These responses are included in the next section.

Responses of Students In Accelerated, Average And Low Group To The Thermopolis Accelerated Program

Students of the Thermopolis school system who participated in the accelerated program were asked through written statements and individual interviews for their opinions concerning the accelerated program.

Accelerated group. Students in the freshman biology class were asked to write their reactions to the course since it was one of the classes in the accelerated program at the high school level. Of the eleven responses to the request, nine favored continuation of the program, one opposed the continuation, and one was uncertain regarding the benefits of the program. All responses were accompanied by comments, some of which have been included here:

I think that the freshman biology class should be continued because of the opportunities it offers. For one thing it really teaches you to study and keeps you busy all the time. I also think that it is good because of the advancement in the field of science that it offers.

My personal opinion is that I think a freshman who was capable should take freshman biology. I mean capable of understanding the material and being able to pass the course.

In my opinion, a freshman should not take biology unless they plan to use it in future years or go on to more advanced science later. Unless you feel you can hold up under biology with an average grade I don't think it will benefit you in too many ways.

I think that the high school should keep the freshman biology class because in the classes coming up the people have a better background in sciences of all kinds than they had several years ago. However, I do think that the people coming up should have some kind of preview of what the biology course is before they take it. Also, there is always someone who is going to take biology who can't swing it. For those who don't have a good general science background I think they should take general science as a freshman although I think that if you take general science that biology would be easier. But on the whole I am for it.

I, myself, think this is very good, taking biology in the freshman year. The material is very good but that is not all. In all your studies for the first semester it is usually a review from junior high. Biology starts you out studying hard from beginning to end. This gives you good study habits and you'll know how to study other studies when they get harder and more complicated. I like biology but I don't know about taking chemistry next year.

I think this is a very good and interesting program in the school administration. There is one thing I disagree with, and that is,

only honor roll students who are interested and think they can get good grades should have the opportunity to be in it.

Students in the freshman biology class favored the continuation of biology for freshman. This group was the group picked out of the accelerated group by teachers and tests to continue in science by taking biology their freshman year. The accelerated program seemed to be favored by this group of students.

Average group. The students of the average group in the accelerated program were asked their opinions, during personal interviews, about the existing accelerated program. The following is a summary of their responses:

1. I was able to get better grades and the material seemed about the same.
2. Need a better means of determining who gets into the high group.
3. This program presents disadvantages for transfer students. We are behind those in the high group.
4. I like it.
5. I think more is accomplished. I can get an answer once in awhile.
6. Some students in the high group think they are smart.
7. My parents didn't want me in the accelerated group.
8. My parents took me out of the top group. Too much work and too many assignments.

Students in the average group of the accelerated class as a whole were satisfied with the accelerated program. However, transfer students did present a problem as their backgrounds were not always as complete as the backgrounds of the accelerated pupils. The average group expressed the desire to learn of the method of selection of the accelerated grouping.

Low group. Students in the low ability group in the accelerated program were asked through individual interviews for their opinions of the accelerated program. The following is a summary of their responses.

1. Flunked anyhow.
2. Competed with students of equal ability.
3. Seemed a long way to the top.
4. Friends seem to be those that are in my group, however sports help.
5. Yes, it was a challenge to improve.
6. Made me realize if I was going to amount to something I would have to go to work.

Students of this group appeared to lack interest in school, and a few accepted it as a challenge. Low group students were not always low ability students. The very slow appeared to be helped by the accelerated program grouping practices.

High school students of Thermopolis were observed to determine if junior high school grouping had been a factor in selection of friends. This study is reported in the next section.

Junior High School Grouping Practices As A Factor In The Selection Of Friends

The first 25 students names were selected alphabetically, beginning with the letter A, from the ninth, tenth, and eleventh grade class rolls in the Thermopolis High School. One good friend of each student was selected by observation and through interviews with the student. Information from the accumulative record showed that student friends in the ninth grade had been in their junior high ability group 64% of the time. Tenth grade

student friends were from their junior high ability group 44% of the time and the eleventh grade student friends were only 32% of the time from their junior high ability group.

Ability grouping might be a dominate factor in the selection of friends in the ninth grade but the percentage of students whose friends were in their junior high ability group seemed too low to be indicated as a dominate factor in the tenth and eleventh grade students.

The concluding chapter summarizes and presents conclusions concerning the evaluation of the Thermopolis accelerated program from information discussed in Chapter 2 and studies presented in this chapter.

CHAPTER IV

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This study was conducted at the Thermopolis High School with the central purpose of evaluating the educational effectiveness of the accelerated program that had been in operation four years. The general status and the development of grouping practices of accelerated programs in the United States were reviewed. Achievement and I. Q. records of the students were compared. In order to evaluate the accelerated program according to parent, teacher, and pupil attitudes, questionnaires, interviews, and unsolicited responses were gathered. The last phase of the study was conducted through observing and interviewing students in order to determine if grouping was a factor in the selection of friends.

Summary

The review of literature indicated that the status of acceleration has developed from recognition of individual differences, the establishment of grouping practices in the schools, and the desire for the United States to maintain world leadership.

Comparisons of achievement test grade placement scores for the 80-90 I. Q. range group indicated that the longer they participated in the accelerated program the higher their achievement test grade placement score at the eighth grade level. However, the achievement test grade placement scores for the 91-110 and 110-120 I. Q. range groups tended to indicate lower achievement test grade placement scores at the end of grade eight for the longer amount of time spent in the accelerated program.

Selection of the top 25% of each class in the Thermopolis high school would not assure an accelerated group but merely an above average group with a few gifted students. The lower 25% would not provide for merely a low group but for a portion of the average group.

It appeared that as many of the parents of the students in the accelerated, middle, and low groups were in favor of the accelerated program as were opposed to the accelerated program. The teachers were generally against the present accelerated program. Accelerated group students were in favor of the existing program while the low and middle group students were approximately equal in number for the acceptance and rejection of the accelerated program.

Comments from the parents and students indicated that there is a need for a clearer understanding of the methods of selecting students for the accelerated group.

Junior high ability grouping might be a factor in the selection of high school friends in the ninth grade but appeared not to be a dominate factor for grades ten and eleven.

Conclusions

Six conclusions were drawn from the information presented in this study.

1. The study did not indicate that the accelerated group and the regular sections had been improved by the introduction of the accelerated program. Acceleration by section in two areas of study has not appeared to accomplish the results desired for the better students. Interests and

desires of the students should be considered. Regular and further study should be carried out to substantiate needs for improvement.

2. It would appear that some changes in the present program should be considered in an effort to improve it and to make it more workable.

3. The number of truly gifted, or talented, students, as yet, in the Thermopolis school is normally quite limited and, by dividing a grade into equal sections one cannot assume that 20 to 25% of a class is gifted. One would have a section of the better pupils but not necessarily a gifted section.

4. Homogeneous grouping with enrichment in all areas of study through the upper grades and junior high might well be a better plan than to accelerate in two areas of study and enrich in others.

5. Grouping practices of the accelerated program, as yet, does not appear to be a dominate factor in social grouping in the Thermopolis high school.

6. The methods of selecting students for the accelerated group should be made available to parents and students.

Recommendations

Three recommendations for further study of the Thermopolis accelerated program are suggested.

1. A complete curriculum study should be conducted of grades K-12 in the Thermopolis schools to determine if achievement grade placement scores are a valid measure of what is being taught.

2. Additional studies should be conducted to determine criteria of selecting students for ability grouping.

3. Regular studies should be conducted of high school drop-out students and graduates to determine long-range results of the accelerated program.

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BIBLIOGRAPHY

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APPENDIX

APPENDIX A

Original Plan For The Thermopolis Accelerated Program

OFFICE OF SUPERINTENDENT
THERMOPOLIS HIGH SCHOOL AND DISTRICT #9
THERMOPOLIS, WYOMING

Bulletin #12557

Curriculum Changes

The Boards of Trustees of Thermopolis High School and District No. 9 have accepted and approved the recommendations of the administration for an accelerated curriculum for the better students commencing with the 5th grade and carrying on through high school.

The plan as outlined by former Superintendent Bush would take about the top 25% of all classes from this years 5th grade through the 8th grade and place them in a section by themselves in order to allow them to work more nearly to capacity. In addition to an expanded program in all subjects, this group would be required to complete arithmetic in the 7th grade and algebra and general science in the 8th grade. (Of course, this years 7th and 8th grades are not ready for the full program but will still be accelerated.) This same group would try to be maintained through high school giving them an opportunity to cover plane and solid geometry and biology in the 9th grade, advanced algebra and chemistry in the 10th grade, trigonometry, analytical geometry and physics in the 11th grade, differential calculus and integral calculus, nuclear physics and electronics in the 12th grade. In addition to this mathematics and science outline, regular courses in English, social studies, languages, etc., will be included in their courses.

The pressing need at the present time appears to be for more training in mathematics and science and the Boards felt there was no need for delay in launching a program that they believed would do a better job in preparing students in these fields. In addition to the mathematics and science, this group of students would be expected to do a broader job in all other fields. This would also tend to have these students in a better position to qualify for college entrance which will undoubtedly be more rigid in the next few years. It is not intended that all students in the advanced group will necessarily be mathematicians or scientists as they may deviate from the outline after one year of high school.

The above action was taken in an attempt to do something extra for the brighter or gifted children. Exceptional children found in other schools of the county that could qualify on certain tests and desire to enter this program, would be allowed to attend District 9 for the 8th grade as they could ride the buses now operating. The District 9 Board also has a full time special teacher this year to assist slower children.

The division of classes will be made after a study of the I. Q.'s received from the California tests given in the 3rd grade, the Henmon-Nelson tests to be administered to all, Stanford Achievement tests which are given regularly each spring, the student's study habits, and consent of their parents. No attempt will be made at homogeneous grouping other than the upper quartile unless deemed necessary.

The Thermopolis High School Board has also raised the requirements for high school graduation from 16 units to 18 units. However, the requirement for this years class is 17, and 18 units will be required beginning in 1960.

The Federal Government at the present time has a program to train five thousand mathematics and science teachers in order to secure better instructors in these fields in our high schools and colleges. The local faculty at the present time is quite competent and qualified to handle the program as outlined and will be even better prepared as a result of summer schools.

APPENDIX B

Achievement Test Grade Placement Scores
Of 12th Grade Study Group Students
At Five Grade Levels By
Four Ability Ranges

I. Q. Level	Achievement Test Grade Placement Scores of 12th Grade Students At Five Grade Levels				
	4.7A	5.7	6.7	7.7	8.7
80-90	3.0	2.2	4.2	4.6	6.0
	5.1	4.6	5.6	6.1	7.8
	2.6	3.4	4.3	5.0	4.7
Average	3.6	3.4	4.7	5.3	6.2
91-110	6.6	8.2	7.8	9.5	10.9
	3.0	3.3	4.0	5.7	5.0
	4.6	4.8	6.7	8.2	10.2
	6.1	7.1	8.1	8.8	10.6
	6.1	5.5	6.5	8.3	9.5
	5.6	6.0	6.6	8.3	9.3
	6.5	7.3	7.4	9.4	10.7
	5.2	6.2	6.7	8.0	9.5
	4.7	5.7	6.4	7.9	7.4
	3.4	5.2	5.9	8.5	10.4
	5.4	6.6	8.0	8.6	9.8
	5.3	6.0	6.4	6.5	9.4
	4.7	5.6	6.7	7.5	9.3
	6.1	7.4	8.2	10.1	10.6
	4.6	6.7	7.6	9.3	10.3
	7.0	6.6	8.6	9.1	11.1
	5.5	6.6	7.9	8.5	9.8
	4.5	5.3	6.1	6.5	7.7
	4.1	4.8	4.6	6.3	6.0
	5.1	5.4	6.6	7.2	9.1
	6.4	6.4	7.6	9.0	10.3
Average	5.3	6.1	6.9	8.1	9.4
111-120	7.2	8.0	9.6	10.1	11.6
	6.6	8.1	10.1	11.0	11.6
	6.0	7.4	8.6	9.5	11.1
	6.5	6.8	9.7	8.7	10.6
	7.4	8.5	8.0	10.1	11.9
Average	6.2	7.9	10.1	9.4	10.7
	6.7	7.9	9.3	9.8	11.3
120-up	No Students				

A - Achievement tests given during the seventh month of each grade

Achievement Test Grade Placement Scores
Of 11th Grade Study Group Students
At Five Grade Levels By
Four Ability Ranges

I. Q. Levels	Achievement Test Grade Placement Scores of 11th Grade Students at Five Grade Levels.				
	4.7A	5.7	6.7	7.7	8.7
80-90	2.3	3.1	3.3	3.2	5.0
	3.2	4.2	5.2	6.2	7.0
	4.8	5.4	7.1	7.9	8.0
	2.8	3.9	5.1	6.6	7.5
	2.8	3.9	3.7	4.4	4.9
Average	3.2	4.0	4.7	5.5	6.4
91-110	6.6	7.7	8.4	10.2	11.7B
	5.5	6.1	7.8	9.7	10.4B
	5.5	6.3	7.5	8.8	9.5
	4.3	5.2	6.5	6.6	8.0
	6.9	7.5	9.7	11.8	11.9B
	6.2	7.2	7.7	9.9	11.0B
	4.4	5.4	6.6	7.4	8.0
	6.1	6.0	7.0	9.3	10.0B
	5.3	6.0	7.1	8.0	10.8B
	6.2	8.4	8.8	10.4	11.6B
	5.8	5.8	7.2	7.5	9.0
	4.8	5.4	7.1	8.4	9.7
	6.8	7.5	8.5	10.9	11.5B
	5.3	5.4	6.1	6.2	7.4
	3.5	4.2	4.3	6.4	7.1
	5.7	6.5	8.5	9.7	10.5B
	4.0	5.3	6.1	7.4	8.3
	5.8	6.8	7.6	8.5	10.6
	5.8	6.1	6.8	8.5	8.3
	5.9	6.4	7.6	6.1	9.9B
	4.5	5.1	6.8	9.7	9.7
Average	5.1	5.9	7.0	8.3	9.4
111-120	6.6	7.7	8.0	9.8	11.7B
	5.6	6.1	7.6	8.5	9.7B
	5.6	6.2	7.9	8.5	9.9B
Average	5.9	6.7	7.8	8.0	10.4
120-up	9.2	10.2	10.5	12.4	12.9B
Average	9.2	10.2	10.5	12.4	12.9

A - Achievement tests given during the seventh month of each grade

B - Accelerated group

Achievement Test Grade Placement Scores of 10th Grade Study Group
Students At Five Grade Levels By Four Ability Ranges

I. Q. Levels	Achievement Test Grade Placement Scores of 10th Grade Students At Five Grade Levels.				
	4.7A	5.7	6.7	7.7	8.7
80-90	3.9	4.9	4.7	5.3	5.7
	2.9	3.5	3.5	5.2	6.2
	3.3	5.0	5.3	5.2	6.3
	4.0	4.6	5.7	6.7	6.9
	2.5	3.3	4.4	5.2	5.9
	3.0	3.6	4.3	4.4	5.0
	3.6	4.4	4.8	6.6	6.8
	6.4	8.4	8.4	8.4	9.5
	2.7	3.6	5.4	6.2	7.1
	5.2	6.8	7.3	8.0	8.3
Average	3.8	4.8	5.4	6.1	6.5
91-110	4.6	6.2	8.2	9.0B	9.6B
	5.0	6.8	8.4	8.6	9.5
	3.8	5.4	6.9	8.2	8.7
	5.2	6.0	7.6	9.1B	8.7B
	6.0	7.0	9.0	9.1B	9.0B
	5.2	6.4	7.2	8.5	8.6
	5.3	6.6	8.0	8.5	9.4
	5.2	6.5	8.0	8.3	9.4
	5.0	5.6	7.0	8.9	9.5
	4.3	5.4	7.9	7.4	8.6
	3.7	4.3	6.5	5.8	6.6
	5.2	5.9	4.9	7.8	9.2
	5.4	7.6	7.2	9.3B	9.7B
	6.1	6.9	8.5	8.4	9.9
	4.4	6.0	7.5	8.5	9.3
	4.4	5.0	6.7	7.0	7.6
	4.4	5.0	6.7	7.2	9.1
	5.5	7.4	6.4	9.9B	9.8B
	4.4	5.2	8.8	7.1	7.3
	4.9	5.8	6.7	9.0B	9.8B
	4.9	6.4	7.8	9.2	9.5
	4.5	5.6	7.9	8.0	9.1
	4.7	6.1	7.2	8.0	9.3
Average	4.8	5.9	7.3	8.2	9.0
111-120	6.5	8.7	10.0	11.4B	10.0B
	5.8	7.7	9.3	10.4B	9.9B
	6.3	7.3	9.3	10.1B	9.6B
	6.6	8.7	9.8	11.2B	10.0B
	4.8	7.4	8.0	9.5B	9.8
	6.6	8.4	8.8	11.6B	9.9B
Average	6.1	8.0	9.2	10.7	9.9
120-up	6.8	7.7	9.9	10.7B	9.9B
Average	6.8	7.7	9.9	10.7	9.9

A-Achievement tests given during the seventh month of each grade

B-Accelerated group

Achievement Test Grade Placement Scores
Of 9th Grade Study Group Students
At Five Grade Levels By
One Ability Range

I. Q. Levels	Achievement Test Grade Placement Scores of 9th Grade Students At Five Grade Levels.				
	4.7A	5.7	6.7	7.7	8.7
91-110	4.0	5.5	6.7	6.9	8.0
	5.0	5.1	5.5	6.2	8.0
	3.7	4.7	5.7	6.7	7.5
	5.1	8.1	8.6B	8.7B	9.6B
	6.8	8.9	9.9B	9.9B	9.9B
	5.0	6.0	7.6	7.6	9.6
	4.0	4.3	4.8	8.4	6.6
	5.8	6.8	7.4	5.0	8.8
	4.6	5.7	6.1	7.5	8.2
	6.0	8.0	8.6B	7.7	10.+B
	5.1	7.4	7.5	9.9B	10.+B
	6.0	10.8	10.1B	7.9	9.8
	6.2	7.7	10.2B	10.0B	8.0
	6.6	8.1	9.5B	9.9B	9.1
	5.6	7.1	8.2	8.8B	8.9
	4.6	5.0	6.0	8.2	9.5
	4.5	6.1	6.1	6.5	9.4
	4.2	5.2	6.2	6.5	8.4
	5.4	7.4	8.2	8.5	9.6
	4.8	6.2	6.6	8.0	9.6
	4.7	5.7	6.6	6.1	10.+
	5.1	7.4	8.8	8.8	8.3
	5.9	6.2	8.5	9.1	10.0B
	6.5	5.7	8.1	9.4	9.3
	4.7	7.6	6.5	6.1	7.8
	5.7	7.1	9.5B	10.0B	9.6
	4.6	7.8	8.0	8.1	9.8B
	5.0	5.7	6.4	6.7	9.9
	5.0	6.7	7.8	9.3	9.8
	6.5	7.8	9.0B	9.1B	9.9B
	5.5	7.2	8.2	8.9	9.2
	4.2	5.0	7.9	9.1	8.6
	5.7	7.8	8.9B	9.5B	10.+B
	5.6	7.3	8.4	9.1	9.4
	4.6	5.6	6.7	7.6	10.0B
Average	5.2	6.7	7.3	7.8	9.+

A - Achievement tests given during the seventh month of each grade

B - Accelerated group

Achievement Test Grade Placement Scores
Of 9th Grade Study Group Students
At Five Grade Levels By
Three Ability Ranges

I. Q. Levels	Achievement Test Grade Placement Scores of 9th Grade Students At Five Grade Levels				
	4.7A	5.7	6.7	7.7	8.7
80-90	3.1	4.4	4.1	4.8	5.0
	5.1	5.4	6.6	6.4	7.8
	2.9	3.4	4.4	6.0	6.4
	3.4	4.4	5.4	5.7	7.0
	3.5	4.0	3.8	4.7	5.5
	4.3	6.2	6.4	7.0	9.8
	4.5	5.3	5.7	6.8	8.9
	4.4	5.1	6.2	6.6	7.8
Average	4.0	4.8	5.4	6.1	7.3
111-120	6.7	8.9	9.2B	9.0B	10.+B
	6.1	7.8	9.9B	9.5B	9.8B
	5.0	7.1	7.8B	8.9B	9.9B
	5.7	6.8	8.6B	9.3B	9.8B
	6.0	8.6	9.3B	9.6B	10.+B
	4.3	5.3	6.7	6.8	7.6
	6.5	8.6	9.0B	10.5B	10.+B
	6.6	9.3	9.9	10.0B	10.+B
	6.6	9.7	9.9B	9.0	10.+B
	6.3	8.2	9.4B	10.0B	9.9B
	5.3	8.0	9.2	9.7	9.9B
Average	6.6	6.8	8.4	8.9	9.+
120-up	6.6	8.9	10.2B	9.8B	10.+B
	5.2	6.6	8.1	9.6B	10.+B
	6.6	9.8	10.6B	10.0B	10.+B
Average	6.1	8.4		9.8	10.+

A - Achievement tests given during the seventh month of each grade

B - Accelerated group

APPENDIX C

Thermopolis Junior High School Teacher Questionnaire
Concerning The Accelerated Program

Thermopolis High School
Guidance Office
October 18, 1961

Accelerated Program:

1. Do you feel the program is accomplishing the intended results?
2. Would you prefer homogeneous grouping with acceleration or heterogeneous grouping with enrichment? Others?
3. Comments and Suggestions: