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August 8, 1974
COMPARISON OF A SELF-COMPETITIVE METHOD OF TEACHING
FRESHMAN ENGLISH WITH A TRADITIONAL METHOD

by

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I would like to express my thanks to four people who have been very important in my graduate program. First, Dr. G. V. Erickson for his assistance and encouragement upon my entrance to graduate school; secondly, to Mr. Joel LaPray, graduate adviser, who has assisted in the many phases of my graduate work and has painstakingly read this study and made helpful suggestions so that it could be completed in a professional manner; thirdly, to Dr. Eric Strohmeyer for overseeing the statistical analysis of the study; fourthly, to my wife, Carol, to whom I am deeply grateful for the excellent job of typing the manuscript.
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The study was conducted with fifty freshmen in basic English at Shelby High School, Shelby, Montana, during the second semester of the 1973-74 school year. A random sample of thirty-five students from the population was used in the interpretation of the data. In the study, the students were exposed to two teaching methods: (1) a traditional method; and (2) a self-competitive method of instruction. After each method an eighteen-item questionnaire was given the students. The questionnaire items were in three sections: (1) questions on grading; (2) questions on the teacher; and (3) questions on the method. The purpose of the study was to determine if the self-competitive method results in a better student attitude toward learning than a traditional method of instruction this investigator had been using. Face validity was used to determine the validity of the instrument. The reliability measure of internal consistency was determined by the coefficient of correlation between scores on odd and even items and application of the Spearman-Brown formula. The calculated figure was +.53. The significance of difference method between two means for correlated samples was used to describe the data. The critical value of t for significance at the .05 level and 34 degrees of freedom is +2.042. Analysis of the data showed a t value of +1.84 for the grading section of the questionnaire (questions 1-6), +5.92 for the teacher section (questions 7-11) and +3.88 for the methodology section (questions 12-18). These three areas formed the basis for the hypotheses to be tested. Of these three areas the teacher section and methodology section were found to be significant (above the critical value of +2.042). Grading was not significant in the comparison of the self-competitive method and the traditional method.
Chapter 1

PLAN FOR RESEARCH

INTRODUCTION

This study was conducted with fifty freshmen in basic English at Shelby High School, Shelby, Montana, during the second semester of the 1973-74 school term. This researcher taught two sections of the course. From the study insight was gained into student attitudes which are a vital part of the learning process.

STATEMENT OF THE PROBLEM

The problem of this study was to compare student attitudes toward learning after exposure to two teaching methods: (1) self-competitive instruction; and (2) traditional classroom instruction.

PURPOSE OF THE STUDY

This researcher has been excited over the concept of individual learning. In many schools, teachers are teaching large classes (twenty to thirty students) and meet four to seven classes per day. How is individualization possible? The purpose of this study is to explore a teaching method
which is not totally individualized, but provides a more individual approach to learning in the large classroom than do most traditional teaching methods. It is also an attempt to encourage students to achieve academically commensurate with their abilities.

GENERAL QUESTIONS TO BE ANSWERED

Grading

1. Does the grading system provide the student with sufficient information about his performance?

2. Does the grading system provide motivation for the student to perform well?

3. Does the grading system produce anxiety, tension or pressure on the student?

4. Does the grading system serve to encourage or foster creative, novel or imaginative performance?

5. Is the grading system fair to all students?¹

Teacher

6. What is the student's over-all attitude toward

the teacher?

7. Does the teacher make the student feel tense or at ease?

8. Does the student feel the teacher has been fair with him?

9. Does the student feel the teacher treats him as a human being?

10. Has the teacher made the student feel important?

11. Has the teacher been cooperative and helpful in guiding the student through the learning process?

Method

12. How do students respond to a system of self-competition?

13. Which teaching method promotes more self-motivation?

14. In general, which teaching method did the students prefer?

15. Which teaching method made the students feel more at ease in the classroom?

16. How do the students feel about sharing in their final evaluations?

17. Is the student interested in setting some of his
own learning goals?

18. What are the student's feelings toward written comments instead of numerical or letter grades on daily assignments and tests?

GENERAL PROCEDURE

The researcher's first task was to determine ability levels of the fifty students during the first semester of the 1973-74 school year. This was accomplished by a survey of tests and records on file in the school guidance office, together with observation of the students during the first nine weeks of the second semester.

Although the students were not told they were participating in a research study, they were made aware that they were to be learning under two methods of instruction during the year. Immediately prior to the instigation of the teaching methods, the students received written information explaining the procedures to be used and had a chance to ask questions so that the teaching method was thoroughly understood.

The two teaching methods were administered in a definite order. Both sections of students in English 1A (basic English) were instructed by the traditional method
the first nine weeks of the second semester of the 1973-74 school year. During the second nine weeks the students were taught by a self-competitive method.

Self-Competitive Method

Each student was to set a goal toward which he would work--an A, B, C or D. He was informed that his grade would depend on how closely he was working to his ability level. All students received the same instructional materials. Students also worked on extra assignments if they desired. A suggested list of projects was given to the class; however, the students conducted their own projects upon approval of the teacher. All students were expected to complete the class assignments. Students who failed to meet this requirement were evaluated subjectively by the teacher according to their achievement in relation to their abilities.

The student was told that he was to compete with himself and not with the other members of the class. Grades were de-emphasized in anticipation that the students would take more interest in the reward of learning.

The evaluation procedure was a very important factor in this study, directed toward developing each student to the fullest extent of his ability.
Evaluation was objective and subjective, the latter being predominant; it was objective in that objective tests and daily scores were used in the grading process and subjective in that the instructor observed the student and evaluated him as he functioned in relation to his ability level.

A modification of the scoring method suggested by Paul Crafton\(^2\) was utilized on tests and daily assignments. A grade of 100 indicated the student was working at or near the peak of his ability, while a score of 85 would indicate a student working below his ability level. For the purposes of converting the numerical scores to letter grades, the following were used: A, 90-100; B, 80-89; C, 70-79; D, 60-69. F's were given only if the student failed to turn in the assignments and/or had (in the judgment of the teacher) excessive absence.

One of the aims of the self-competitive method was to have the student compete with himself; therefore, scoring was done privately. Only a written evaluation of the student's progress was placed on his daily assignments and

\(^2\)Paul M. Crafton, "This Is the Way Pupils Should Be Marked," The American School Board Journal, CXXX (March, 1955), p. 34.
tests. On objective assignments the correct responses were marked; on essay questions written comments were given. The only place the numerical score for the daily assignment or test appeared was in the teacher's record book. At three-week intervals the student had a conference with the teacher to assess his progress. At this time he saw his numerical score (which is a ratio of his ability to his actual performance).

The student shared in his second nine-week's evaluation by turning in the grade (and related comments) he thought he earned. This student input was an important part of the self-competitive method.

**Traditional Method**

The student set no formal goals for himself. His grade depended upon the rank of his grades in comparison to the whole class. Leniency was given students at the lower levels of achievement. No student failed if he attended class and handed in most of the assignments. Each student received the same instructional materials. Extra credit work was handed in on a voluntary basis. The teacher determined subjectively how much the extra credit counted toward the final grade. Dates were set for the handing in of assign-
ments. Grades were curved with the letter grades (A, B, C, D and F) marked on the daily assignments and tests. All final grades were determined by the instructor. Basically, all assignments were identical for each section of students participating in the study. Each section of students worked simultaneously under the same teaching method.

To facilitate grade reporting letter grades were used with both teaching methods. This is in harmony with the reporting procedures at Shelby High School.

LIMITATIONS OF THE STUDY

1. The results of test scores in the student's file may inaccurately represent the student's ability level. The human element in recording and interpreting data, both on the part of others and by this researcher, must be kept in mind when interpreting the findings of this study.

2. The method of instruction in closest proximity to the time of the filling out of the questionnaire may bias the results as the method nearest in time will be most remembered.

3. Some knowledge of student progress may be transmitted to other students despite the efforts of the researcher to keep the study strictly self-competitive.
DELIMITATIONS OF THE STUDY

1. The fact that final grades in the self-competitive method were determined by the teacher leaves room for much subjectivity in comparison to the traditional method.

2. Student behavior is a known factor in grading. This is a possible source of bias since the teacher reviewed each child in his own behavior pattern.

3. No attempt was made to impose any special controls on the study such as trying to avoid the Hawthorne effect. The researcher was interested in letting the student-teacher relationship develop as it would.

4. By using only high school freshmen in the study, generalizations to students of other ages and abilities were restricted.

DEFINITION OF TERMS

1. Ability - The inherent or developed capacity to acquire behavioral patterns, attitudes, and methods of responding to stimuli through exercise of the mental and physical processes (memory, reasoning, neuromuscular activity, etc.) which are relevant to stimulation of new responses,
2. Attitude - A readiness to react toward or against some situation, person, or thing, in a particular manner, for example, with love or hate or fear or resentment to a particular degree of intensity.

3. Learning process - A process involving a change in response or behavior caused partly or wholly by experience, such "experience" being in the main conscious, but sometimes including significant unconscious components, as is common in motor learning or in reaction to unrecognized stimuli; includes behavior changes in the emotional sphere, but more commonly refers to the acquisition of symbolic knowledge or motor skills; does not include physiological changes, such as fatigue or temporary sensory resistance or nonfunctioning after continued stimulation.

4. Motivation - The practical art of applying incentive and arousing interest for the purpose of causing a pupil to perform in a desired way.\(^3\)

5. Self-Competitive Method - a method of teaching where the student's grade is the ratio of his performance to his ability. Refer to pages 5-7.

6. Traditional Method - a method of teaching using the normal curve for grading and traditional lecture-discussion methodology.

SUMMARY

This chapter has outlined the plan used for conducting a research project comparing a self-competitive teaching method with a traditional method. The study was conducted with high school freshmen in this researcher's basic English classes at Shelby High School, Shelby, Montana, during the second semester of the 1973-74 school term. It was an attempt to find an individualized teaching method practical in classrooms containing twenty to thirty students. In applying the self-competitive system, a new marking system was initiated which represented the ratio of the student's actual performance to his ability. A major delimitation of the study was the great amount of subjectivity needed by the teacher to evaluate student progress. It is expected that the study will provide useful information to aid others, as well as this researcher, in implementing an individual approach to instruction in the larger classes of today's schools.
Chapter 2

REVIEW OF LITERATURE

INTRODUCTION

In education there has been considerable emphasis on the individual. The authors whom this researcher quotes in this chapter indicate that the student needs to be evaluated by other than traditional methods, and that traditional classroom methodology and grading procedures are inadequate. The research that follows demonstrates proof of a definite need to take action to reform the present antiquated practices.

This chapter will present current thinking on the meaning of grades, non-grading, the student as an individual, student prediction of success, and the value of individual competition.

MEANING OF GRADES

The research and observations of many notable men in education reflect the deep thinking of the modern educator on the value of grades. Robert A. DiSibio states, "Grades are mostly irrelevant. Parent conferences, report cards, and letters to parents are frequently meaningless. For example,
no one really understands the meaning of a grade! The grade is too broad in meaning. Does the grade of an A mean the student has an A in relation to past or present performance? Is this A an A in relation to one's own ability and achievement, or does the A relate to the ability and achievement of the entire class?"¹ Paul F. Cummins maintains that there is a tremendous emotional and psychological difference to a student between a B- and a C+; it signifies the difference between success and failure. Any English teacher realizes that a B- or C+ on a theme is indistinguishable.²

Palmer DePue³ rebels against the notion that we make every student learn seventy percent of what he ought to know. He advocates using fifty as the average performance figure, corresponding more closely with a normal distribution of pupil achievement. Teachers should be able to construct tests that would approach this norm. He attacks teachers who take pleasure in flunking a great number of pupils.


"If a school, or department within a school, decides that one third of its pupils are failing, then it should also decide that it is failing almost to the same degree."

NON-GRADING

Non-grading, or at least a move toward it, has been advocated by some educators. Tradition-bound schools find it almost impossible to rise out of the traditional rut. DiSibio maintains that students, parents, and colleges do not need grades. Students do not need grades to feel rewarded; parents do not need them to indicate the intellect of their offspring; and colleges do not put great emphasis on high school grades but rely more on the College Entrance Examination.4

Paul Cummins is just as emphatic.5 He sees no need for letter grades, K-8. His only reason for their use in high school is their requirement for college transcripts, and the trend is fast shifting away from their importance in this realm. He would like to see high school developing more individualistic and less materialistic means of evaluating

4DiSibio, p. 34
5Cummins, pp. 188-191.
the students' progress. If grades, as educators have known them, are inadequate, why keep them? He advocates that some schools just stop grading. Then, and only then, may the crisis precipitate action. He sees that if grades are abolished, far more is going to have to be done in the way of better counseling programs, individual conferences between teacher and student, and a far more sensible student-teacher ratio. Recommendation is made that schools begin grading at the tenth grade, since most colleges are primarily concerned with the final years of high school.

STUDENT AS AN INDIVIDUAL

Betty Miner's study, "Three Factors of School Achievement,"\(^6\) cites several facts pertinent to the author's own study. The purpose of the above study was to examine the structure of achievement measures used in a public school system with 671 students. Twenty-one achievement variables yielded a three-factor structure. The following factors emerged from this analysis: "(1) Objective Achievement was defined by all the intelligence measures and most of the

standard achievement test scores; (2) Early Citizenship was
defined by early measures of citizenship and marks; and
(3) High School Achievement defined primarily by ninth and
twelfth grade marks. From this analysis, it would appear
that children are assessed relatively independently on each
of these three factors as they proceed through their school
career."

The foregoing study indicates a close relationship
between behavior and student marks. Also, the relationship
between early school marks and later high school achievement
is low. This information proved to be very valuable to the
researcher in his study. Care in marking had to be taken to
escape the influence of behavior, and early school records
had to be judged with regard to the possible inaccurate pre-
dictions that may have resulted from school records from
earlier grades.

If a grade is assigned the student, what should it
represent? Paul Crafton has a suggestion.⁷ He maintains
that the grade should be based on both the child's innate
capacity to succeed and the success he experiences. He

⁷Paul M. Crafton, "This Is the Way Pupils Should Be
Marked," The American School Board Journal, CXXX (March,
1955), p. 34.
proposes that a grade of 100 indicates a child working at capacity (the child's capacity can be determined through the use of guidance services and interpretation of standardized tests). The bright child will not suffer under this system for he can still maintain his high record of scholastic achievement. If an A student receives a score of 85, this would indicate to him and his parents that he is only working to eighty-five percent of his potential. The less able student who receives a grade of 75 would understand, that in the teacher's judgement, he is learning only three-fourths as well as he could be.

Crafton's plan places extreme responsibility upon the teacher. His judgement of student potential, ability and success requires that he accurately interpret, insofar as possible, every facet in the progress of learning of each individual student.

PREDICTION

In the present study this researcher was interested in having students predict their own success. Alfred D. Garvin's study reveals pertinent information about high and
low students and the times of predictions.\textsuperscript{8}

Garvin used sixty-three graduate education students, predicting their final quintile rank in a course during its first session and again half way through the course without opportunity for feedback of relative achievement. Generally it was found that the high third of the group tended to underestimate their final achievement while the low third overestimated considerably in all predictions. A major finding of the study showed that both the high and low students tended to lower their predictions by the same amount as the end grew near. Both groups also tended to make lower predictions regarding the immediate task than the remote task. The study indicates that some counseling may be useful in guiding student expectations.

INDIVIDUAL COMPETITION

This researcher has been interested for some time in students competing with themselves for knowledge. John Ohles denounces the old A-F system and group competition.

"Society will require that the educational potential of each person should be attained....Concern for individual learning requires individual evaluation. Learning efficiency is defined as 'the ratio between aptitude and achievement.' Seventy-five per cent might be the learning efficiency of both Richard and George where Richard had an A on the same material as George's D." Max S. Marshall states that the real purpose of the teacher is to teach rather than appraise. The student is in school to learn. "No teacher at all interested in his profession overlooks the individuality of his students, despite the fact that grades turn students into units in a homogeneous group." The students must not be made to compete with others and their abilities. Less emphasis on grading would be a step in the right direction according to Marshall.

Private grading is a step toward self-competition. John Holt stated he graded only because he had to. If this is so, then teachers should mark privately so that only the


teacher and the student, not the other children, know what mark he is getting. James B. VanHoven recommends that a noncompetitive system of measuring a child's progress in achieving behavioral objectives is defensible in the light of recent theories of intellectual growth and learning. In motivational research we see two trends at present: the humanization of the curriculum and the individualization of instruction which aids self-actualization.

SUMMARY

Recent research and opinion held by educators indicate that the meaning of grades no longer reflects the importance they have had traditionally. Meaning is at best relative. Moving toward less grading and more individual attention to behavioral objectives is justified in view of recent findings. The student must be evaluated as an individual, not as one cog in a wheel. Students have a sense of their own achievement and should be permitted to share in the


evaluation process. The student need compete only with himself to achieve and accomplish the learning objectives set forth with his participation. Every professional educator must consider the student as the focal point of his teaching.
Chapter 3

PROCEDURES

INTRODUCTION

This chapter presents the procedural outline for the study. The discussion includes the population description and sample of students used in the study, an explanation of the experimental treatments, the method of data collection, organization of the data, statements of the statistical hypotheses and the methods used in analyzing the data.

POPULATION DESCRIPTION AND SAMPLING PROCEDURE

The total population for the study consisted of fifty freshmen in basic English at Shelby High School during the second semester of the 1973-74 school year. The group used in the study consisted of a sample of thirty-five students selected by a table of random numbers.

EXPERIMENTAL TREATMENTS

The control treatment (traditional classroom instruction) was administered during the first nine weeks, and the experimental treatment administered during the
second nine weeks to the fifty students comprising the two sections of basic English. After each treatment the students were asked to fill out a questionnaire evaluating the teaching method to which they were exposed.

There is no attempt in this study to control the contaminating variables outlined in the "Limitations" and "Delimitations" sections of Chapter 1. The researcher desires as normal a student-teacher relationship as possible in this study.

METHOD OF DATA COLLECTION

A very important source of information was the student's permanent file. The investigator used these files to obtain information helpful in determining the ability levels of the students. The success of the experimental treatment depended upon a close analysis of the student's past achievement as an indicator of his potential future success. Marking the students taught by the self-competitive method required the "ability level" in measuring student performance on daily assignments and tests. The researcher established this "ability level" during the first semester and the first nine weeks of the second semester as he became acquainted with the students abilities while using the
traditional method in conjunction with consulting the students' permanent records.

The questionnaire (see Appendix B) was the instrument used in the study. It contains eighteen questions answering the problems posed by the study in Chapter 1. The same questions were asked the students after exposure to each method of instruction. The investigator explained, orally, questions regarding the instrument prior to its administration. It was given at the end of each treatment after final grades were compiled; this helped to ensure that students would not hesitate to express themselves honestly because of fear that their final grade would be placed in jeopardy.

Face validity was used to determine the validity of the questionnaire. Selected members of the graduate faculty (Department of Education, Montana State University) reviewed the questionnaire. Reliability was determined by using the coefficient of correlation between the scores for odd and even items and applying them to the Spearman-Brown formula.

METHOD OF ORGANIZING DATA

Data for the study are presented in graphs, tables,
and written form. Student responses to the questionnaire appear in Appendix A, Table 2. The questionnaire is found in Appendix B. A graph is used to illustrate the means of student responses to the eighteen items on the questionnaire for both the pre and post test administration of the instrument. T scores for the significance of difference between the two means of the pre and post questionnaire will be reported in three areas: (1) questions on grading (1-5 on the questionnaire); (2) questions on the teacher (6-11 on the questionnaire); and (3) questions on the teaching method (12-18 on the questionnaire). Face validity was used (see previous paragraph). The reliability is reported in terms of the internal consistency of the students' responses to questionnaire items.

STATISTICAL HYPOTHESES

Three hypotheses examined in this study are:

1. There will be no significant difference in the perceptions of the students with regard to the system of grading used during the two methods of instruction after exposure to each treatment.

2. There will be no significant difference in the perceptions of the students in their attitudes toward the
teacher during the two methods of instruction after exposure to each treatment.

3. There will be no significant difference in the perceptions of the students with regard to the method of instruction used during the two methods of instruction after exposure to each treatment.

The null hypotheses are stated below by \( H_1, H_2 \) and \( H_3 \). The population mean of the traditional method will be represented by \( \mu_1 \), and the population mean of the self-competitive method by \( \mu_2 \).

Statistically, the null hypotheses are represented as follows:

1. \( H_1: \mu_1 - \mu_2 = 0 \)
2. \( H_2: \mu_1 - \mu_2 = 0 \)
3. \( H_3: \mu_1 - \mu_2 = 0 \)

**ANALYSIS OF DATA**

The significance of the difference\(^1\) between two means for correlated samples was used to describe the data. The paired measurements on the pre and post administration

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of the questionnaire were studied using the difference method. The mean difference in the paired observations was tested to see if the variance of the mean difference was significantly different from zero. This was accomplished by dividing the mean difference by its standard error.

An unbiased estimate of the variance of the D's is given by:

$$s_D^2 = \frac{\sum(D - \bar{D})^2}{N - 1}$$

where N is the number of paired observations. Using this unbiased estimate, the sampling variance of $\bar{D}$ is given by:

$$s_{\bar{D}}^2 = \frac{s_D^2}{N}$$

To test whether $\bar{D}$ is significantly different from zero, $\bar{D}$ is divided by its standard error to obtain:

$$t = \frac{\bar{D}}{s_{\bar{D}}}$$

The computational formula this investigator used is:

$$t = \frac{\sum D}{\sqrt{[N D^2 - (D)^2]/(N - 1)}}$$

The hypotheses were tested at the .05 level of significance. This confidence level was chosen to provide a reasonable balance in chances of obtaining a Type I or
Type II error.

The reliability of the questionnaire was tested using the responses of students on the odd and even items to find internal consistency.\(^2\) A correlation coefficient was calculated on scores from the odd and even items using the following formula:

\[
r = \frac{\sum xy}{\sqrt{\sum x^2 \cdot \sum y^2}}
\]

where \(x\) and \(y\) are deviations from the means \(\bar{x}\) and \(\bar{y}\) respectively. Then the Spearman-Brown formula was used to provide an estimate of the reliability of the whole test. The formula is:

\[
r_{xx} = \frac{2r_{hh}}{1 + r_{hh}}
\]

where \(r_{hh}\) is the reliability of half test. This formula provides an estimate of the reliability on the whole test. It estimates what the reliability would be if each test half were made twice as long.

**SUMMARY**

This chapter has described the procedures used to

---

\(^2\text{Ferguson, pp. 101-102, 367.}\)
organize and analyze the data. The data was analyzed in three sections: (1) questions on grading; (2) questions on the teacher; and (3) questions on the teaching method. The significance of difference between means was used to arrive at a significance of difference at the .05 level of significance. Reliability has been determined by using the coefficient of correlation between the scores for odd and even items and applying this correlation to the Spearman-Brown formula.
Chapter 4

FINDINGS OF THE STUDY

INTRODUCTION

This chapter will present and interpret the findings of the study. It will begin with the results of the research on the three major phases of the self-competitive method. Then a graph of the mean responses of the students to the eighteen items on the questionnaire will be interpreted. Finally, face validity and the reliability coefficient of correlation for internal consistency are discussed.

FINDINGS AND INTERPRETATION

Three Phases of the Self-Competitive Method

This investigator tested the critical value of t for the significance of difference at the .05 level on the two-tailed test. The critical value of t at 34 degrees of freedom is +2.042.

The absolute value of t on the grading section of the questionnaire (questions 1-6) was +1.84. Since this is below the critical value of +2.042 no significant difference exists between the two systems of grading with the self-
Table 1
Computed Values of $t$ Compared to the Critical Value of $t$ for the Hypotheses Tested

<table>
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<th>Computed $t$ value</th>
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<td>2. Teacher</td>
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<td>3. Method</td>
<td>+2.042</td>
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</table>

competitive method or the traditional method. Students were asked to put comments on the questionnaire if they so desired. Some of the comments seemed very much in line with the statistics just mentioned (see Appendix C). Some students wanted both written remarks and a numerical score on tests and assignments. Some indicated they didn't care which method was used (see data in Appendix A). Still others favored the teacher scoring in his grade book only and putting written comments on papers.

The $t$ value for the teacher section of the questionnaire (questions 7-11) shows an absolute value of +5.92, which is significant compared to the critical value of +2.042. The study indicates that the student-teacher relationship is strengthened by having the teacher work more
closely with students as described in the self-competitive method. The attitude toward the teacher definitely seems to be strengthened. The self-competitive method seems to complement the humanistic approach to education.

The area of methodology (questions 12-18) produced a t score with an absolute value of +3.88, compared to the critical t of +2.042, which is significant. As a method of instruction, this research would indicate that the students favored the self-competitive approach over the traditional approach described in this paper. This means that in general students favored competing with themselves over competing with the group for grades.

Item Analysis Results

Graph 1 shows the relationship of the mean response by students to each item on the questionnaire for the pre and post administration of the instrument.

Student responses on the questionnaire were coded as follows: 1 - strongly agree; 2 - agree; 3 - undecided; 4 - disagree; and 5 - strongly disagree. The graph that follows shows that the mean student response to the self-competitive method was more favorable on every item except item 10. Item 10 states, "The teacher makes the student feel
Item Comparison of Student Responses to the Self-competitive and Traditional Methods

important." The mean value shows the average response to be undecided. Students who commented on this question indicated (after both treatments) that student opinion needs to be given more consideration.

A large difference in method on the graph is in item 3. Item 3 on the questionnaire reads, "The grading system does not produce anxiety, tension or pressure upon the student." Even though the average response on the self-competitive method was close to a 3, it was a great improve-
ment from the near 4 in the traditional method. This would indicate that the students in the study saw the grading system as a little more relaxing on their anxieties over grades although the grading method (items 1-6) did not show a significant over-all difference in this study.

The reader can see for himself the quantity of difference in the two methods of instruction by looking at the graph. Few major differences exist. On item 1 the two teaching methods show no difference in the mean response after the two treatments.

Reliability Coefficient

The reliability coefficient of correlation to show internal consistency shows a correlation of +.36; when applied to the Spearman-Brown formula the result is an estimate of +.53 for the whole test. These statistics show that the students were not completely consistent in answering the questionnaire, but a degree of reliability is present so that the instrument is worthwhile in drawing conclusions about the study.

Validity

The instrument was considered a valid measuring device by selected members of the Education Department
graduate faculty at Montana State University.
Chapter 5

SUMMARY, RECOMMENDATIONS AND CONCLUSIONS

SUMMARY

The study was conducted with fifty freshmen in basic English at Shelby High School, Shelby, Montana, during the second semester of the 1973-74 school year. A random sample of thirty-five students from the population was used in the interpretation of the data. In the study, the students were exposed to two teaching methods: (1) a traditional method; and (2) a self-competitive method of instruction. After each method an eighteen-item questionnaire was given the students. The questionnaire items were in three sections: (1) questions on grading; (2) questions on the teacher; and (3) questions on the method. The purpose of the study was to determine if the self-competitive method results in a better student attitude toward learning than a traditional method of instruction this investigator had been using. Face validity was used to determine the validity of the instrument. The reliability measure of internal consistency was determined by the coefficient of correlation between scores on odd and even items and application of the Spearman-Brown formula. The calculated figure was +.53.
The significance of difference method between two means for correlated samples was used to describe the data. The critical value of t for significance at the .05 level and 34 degrees of freedom is +2.042. Analysis of the data showed a t value of +1.84 for the grading section of the questionnaire (questions 1-6), +5.92 for the teacher section (questions 7-11) and +3.88 for the methodology section (questions 12-18). These three areas formed the basis for the hypotheses to be tested. Of these three areas the teacher section and methodology section were found to be significant (above the critical value of +2.042). Grading was not significant in the comparison of the self-competitive method and the traditional method.

RECOMMENDATIONS

This investigator would recommend several things as a result of this study:

(1) Be flexible. Help the student feel at ease by not using harsh and demanding rules and methods. The teacher should try to make each student feel important. Make an attempt to reduce students' anxieties about learning.

(2) The teacher should take as much time as possible to guide each student through the learning process.
(3) Students in the study felt they should be allowed to share in determining their final evaluations in a conference with the teacher or by expressing on paper what they felt their grade should be and why they should receive that grade.

(4) The study indicates the students favored a conference with the teacher every three weeks to assess their progress. This was a unique feature of the self-competitive method.

(5) Be genuine and honest with every student.

CONCLUSIONS

From the study this researcher learned a few points about being a better teacher. It is necessary to work at making students feel important. More time needs to be taken to work individually with students. Students want both a numerical score and written comments on their papers. Time must be taken to adequately assess their progress.

This study was very worthwhile from a practical standpoint to this investigator. Others should find it equally helpful to them in furthering their professional careers, thus, furthering the overall progress of education.
LITERATURE CITED


APPENDIX A

Table 2. Student Scores for the Thirty-five Students Used in the Analysis of the Data (See the Questionnaire in Appendix B for Number Coding)

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<sup>a</sup>Scores on questionnaire after the traditional method.

<sup>b</sup>Scores on questionnaire after the self-competitive method.
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APPENDIX B

QUESTIONNAIRE

Please complete the questionnaire by indicating with a circle whether you strongly agree (SA), agree (A), are undecided (UN), disagree (D) or strongly disagree (SD) with the written statements.

1. The grading system gives the student adequate information about his performance.

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<th>SA</th>
<th>A</th>
<th>UN</th>
<th>D</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>Agree</td>
<td>Undecided</td>
<td>Disagree</td>
<td>Strongly Disagree</td>
</tr>
</tbody>
</table>

2. The grading system encourages the student to perform well.

<table>
<thead>
<tr>
<th>SA</th>
<th>A</th>
<th>UN</th>
<th>D</th>
<th>SD</th>
</tr>
</thead>
</table>

3. The grading system does not produce anxiety, tension or pressure upon the student.

<table>
<thead>
<tr>
<th>SA</th>
<th>A</th>
<th>UN</th>
<th>D</th>
<th>SD</th>
</tr>
</thead>
</table>

4. The grading system serves to encourage creative, novel or imaginative performance by the student.

<table>
<thead>
<tr>
<th>SA</th>
<th>A</th>
<th>UN</th>
<th>D</th>
<th>SD</th>
</tr>
</thead>
</table>

5. The grading system is fair to the student.

<table>
<thead>
<tr>
<th>SA</th>
<th>A</th>
<th>UN</th>
<th>D</th>
<th>SD</th>
</tr>
</thead>
</table>
QUESTIONNAIRE (continued)

6. As a student I have a good over-all attitude toward the teacher.
   SA A UN D SD

7. The teacher makes the student feel at ease in the classroom.
   SA A UN D SD

8. The teacher is fair with the student.
   SA A UN D SD

9. The student feels the teacher treats him as a fellow human being.
   SA A UN D SD

10. The teacher makes the student feel important.
    SA A UN D SD

11. The teacher has been cooperative and helpful in guiding the student through the learning process.
    SA A UN D SD

12. A class where one competes with the group is superior to a class where one competes with himself.
    SA A UN D SD
13. This teaching method promotes a high degree of self-motivation on the part of the student.

SA   A   UN   D   SD

14. The student considers the teaching method he has just experienced a very good one.

SA   A   UN   D   SD

15. This teaching method aids the student in feeling at ease in the classroom.

SA   A   UN   D   SD

16. Students should have a part in sharing in their final evaluations.

SA   A   UN   D   SD

17. The student is interested in setting some of his own learning goals.

SA   A   UN   D   SD

18. The student prefers numerical or letter grades to written comments on tests and assignments.

SA   A   UN   D   SD
Grading
1. I think students do worry a lot about their grades.
2. The grading system serves to encourage creative, novel or imaginative performance by the student if this system is well applied (self-competitive grading system).
3. Why not both grades and written comments?
4. It (self-competitive system of grading) has made me work for a higher grade and work harder.
5. I'm always excited to see what the comments are and what my grade is.
6. You should be graded on "your own" abilities.
7. Conferences inform the student (on grades with the self-competitive method).

Teacher
1. He talks with you and makes sure you understand.
2. The teacher is fair with the student most of the time.
3. He kicks them out because of some little joke. He's not always fair.
4. I have a poor attitude toward the teacher because I hate English grammar of any kind.
5. It (attitude) has gotten better through the weeks.
6. My attitude has improved (under the self-competitive method).
7. The teacher makes the student feel like an individual.

Method

1. The student should have a part in sharing in his final evaluation, if he is honest.

2. The student is interested in setting some of his own learning goals in writing stories and imaginative things.

3. This way (self-competitive method) a person is learning more and living up to his goals; and if a person is above average, he won't be just getting A's on easy assignments, but will be growing and working to his ability instead of the abilities of others around him.