

ADVANTAGES OF TEACHING A STRUCTURED
COURSE IN INDUSTRIAL ARTS

By

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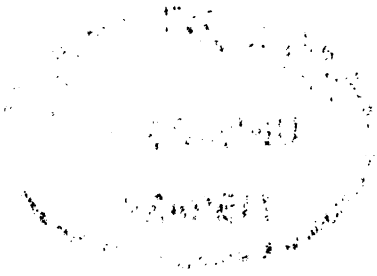
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For much assistance, encouragement and sacrifice of time, this work is dedicated to the writer's wife, Ellen.

TABLE OF CONTENTS

Chapter	Page
I. INTRODUCTION	1
Statement of the Problem	1
Purpose of the Study	2
Hypotheses	3
II. REVIEW OF LITERATURE	4
III. METHODOLOGY	9
Collection and Analysis of Data	9
Limitation of the Study	10
Definition of Terms	11
IV. PRESENTATION AND ANALYSIS OF DATA	12
Introduction	12
Percentages of Achievement Levels Performed by Students on Job Assignments	12
Attitudes of Students Relating to Structured and Unstructured Classes	18
V. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS	34
Summary	34
Conclusions	36
Recommendations	37
SELECTED BIBLIOGRAPHY	39
APPENDIX A - THE QUESTIONNAIRE	40
APPENDIX B - PROGRESS CHART	43

LIST OF TABLES

Table	Page
I. Students Who Felt That They Benefited From the Class . . .	19
II. Students Who Felt That they Could Frame a Real House Similar to the Model Assigned in Class	20
III. Students Who Felt That They Could Build a Model House Without Help	21
IV. Students Who Felt They Could Benefit a Carpenter in a Work Situation	22
V. Students Who Enjoyed the Class	23
VI. Students Who Felt Certain of Their Assignments	24
VII. Students Who Were Sure of Their Assignments Each Day	24
VIII. Students Who Felt They Were Graded Fairly on Their Houses	25
IX. Students Who Were Aware of Their Grades at All Times	26
X. Students Who Preferred Being Graded Daily Rather Than at the End of the Course	27
XI. Students Who Preferred Being Graded at the End of the Course Rather Than Daily	28
XII. Students Who Were Often Uncertain About Their Daily Assignments	29
XIII. Students Who Felt They Would Be Certain of Their Grade Even If They Failed To See Their Daily Grades	29
XIV. Students Who Felt They Did Not Have Enough Time to Complete Their Project	30
XV. Students Who Felt They Should Have Had a Higher Final Grade	31

Table	Page
XVI. Students Who Thought They Had Sufficient Time to Complete Their Assignments	32
XVII. Students Who Felt They Should Have Had Less Time to Complete Their Project	33

LIST OF FIGURES

Figure	Page
1. Example of a Plan Sheet	7

LIST OF GRAPHS

Graph	Page
1. Percentage of A's in Structured and Unstructured Classes	14
2. Percentage of B's in Structured and Unstructured Classes	15
3. Percentage of F's in Structured and Unstructured Classes	16
4. Passing Grades Given for Jobs in Structured and Unstructured Classes	17
5. Percent of Final Grade Categories in Structured and Unstructured Classes	18

CHAPTER I

INTRODUCTION

For many years psychologists and educators have been searching for effective methods of teaching. Many learning theories advocated by experts in the field of education are hotly argued, debated and denied by other experts also in the field of education. To further complicate the problem, none of the educators or psychologists have been proven to be correct on every occasion. It is apparent that a single theory is difficult to apply to a given situation in different environments. It is very important for any teacher to be aware of this interchange of ideas. It is by applying these ideas in various combinations that the teacher discovers the most effective means of presenting the ideas he hopes his students will internalize. This study, teaching an industrial arts unit, presents an effective method of teaching in the environment described.

Statement of the Problem

An effective means is sought by all concerned teachers for presenting their course to their students. Industrial arts and vocational education teachers are no exception. There are teachers who advocate strict curriculum planning and there are teachers who allow a freedom of choice concerning the students' work and the work methods.

Many times teachers do not have the opportunity to experiment with effective means to present their subject to students. They do not know the best method of teaching and happen into a routine of teaching and then continue in this manner whether or not it is effective.

Students cannot do an effective job of learning without the professional guidance of their instructor. The varied performance of students, whether it is a particular marching band, football team, or class of beginning carpentry students, is partially the result of the ability of the instructor.

Purpose of the Study

This study dealt with the differences in a structured class and unstructured class. Any area of study may be taught with either method or with a combination of the two. It was the purpose of this study to point out the advantages each has to offer and show the disadvantages one might have over the other. Also it is important to discover the advantages and/or disadvantages resulting from each method if the method is not varied somewhat on special occasions. An example of a special occasion is a student who is behind for reasons such as absenteeism or slowness. To be specific, the primary purpose of this study was to find the most efficient method of teaching scale model house building. Teaching methods and techniques were examined and the results revealed which of these was the most suitable.

Hypotheses

Based on the review of literature these hypotheses have been developed for the study pertaining to different methods used in implementing a planned curriculum.

1. Students in structured class situations will achieve higher grades than those in unstructured classes.
2. In a structured class students are more likely to perceive the teacher's precise expectations.
3. The student feels that he has been graded more fairly in a structured class than in an unstructured class.
4. Students feel that they are more confident about what they have learned in a structured class, than students in an unstructured class.
5. Students prefer a structured class over an unstructured class.
6. Students feel that in a structured class they make better use of their time than they would if enrolled in an unstructured class.
7. Students in a structured class are more aware of their class standing than students in an unstructured class.

CHAPTER II

REVIEW OF LITERATURE

One of the primary considerations in teaching any course is to have definite goals set for the course.

Many industrial arts teachers fail to realize the importance of writing down a set of objectives for each of their classes, often arguing that "objectives are just so many words that have been written to impress people and nothing is done about them anyway."

The truth is that many teachers fail in their responsibility because they do not know what ends they wish to obtain, and therefore, have no means of knowing the extent to which their teaching efforts have borne fruit. Because of this dilemma some industrial arts teachers merely have their students make projects and grade them accordingly, not realizing that projects are a means to an end and that the broad field of industrial arts includes other values as important as manipulative dexterity.

Fryklund states that the purpose of course objectives are:

First, they should indicate the end toward which instruction in the subject should move. They help the teacher to determine the proper direction and to keep instruction within bounds. Second, they should help the teacher to determine when the desired end of instruction in the subject is reached. Third, they should serve as a guide in determining what content shall be chosen, which when accompanied by good instruction, will make the best contribution to the realization of the aims. Any content that would not contribute to the desired end should be rejected. It is difficult to determine what content to accept or reject unless aims are definitely stated. Fourth, the aims of a subject should help to determine what method of instruction should be employed to teach the content. Proper instructional emphasis in terms of

¹William A. Bakamis, Improving Instruction in Industrial Arts (Milwaukee, 1947), pp. 145-146.

desired ideals, attitudes, appreciations, and skills would be difficult without subject aims. Fifth, they should indicate the nature of the testing or appraisal procedures that should be employed in evaluating results. Tests are important for determining when the aims have been obtained.²

The amount of instruction to be taught each day should be determined.

Generally it would not be possible nor desirable to teach all instruction planned for a project in one day. It is necessary, therefore, to divide this instruction so that a part of it may be taught at each class period over a period of several days. It is also recommended that the teacher present as much each day as the average student would do in following through on his instruction.

So the teacher may know how much instruction to plan for the entire term, an estimate for the standard time for each unit is needed. An estimate for a unit of instruction built around a typical project is based on the number of school periods or clock hours used by a typical student as he:

1. Listens and participates in the class demonstrations and instruction presented by the teacher.
2. Does individual planning.
3. Secures his assignment for the project.
4. Constructs the job at the work station.
5. Reads references and completes other related assignments.
6. Participates in evaluation procedures.

By considering these factors a teacher may make a rough estimate of the standard time. This may be adjusted later as the instruction and work are carried out in the shop.³

It is obvious that in order to accomplish the task of giving the right amount of instruction at the right time the instructor must have a schedule of jobs. These jobs should be scheduled so that the average

²Verne C. Fryklund, Trade and Job Analysis (Milwaukee, 1947), p. 193.

³G. Harold Silvius and Estill H. Carry, Teaching Multiple Activities in Industrial Arts (Bloomington, Ill., 1956), pp. 134-135.

student can finish in the allotted time. Therefore, the type of instruction needed for a particular job can be given at the time that it is needed by the students. "Demonstrate and plan only those steps necessary to get the basic jobs in each of the major activities under way."⁴ Use should be made of some type of planning sheet to enable each student to carefully plan and record the step as he proceeds with his project. An example of such a plan sheet used by the students observed for this study is presented below. Notice that all the steps to the project are listed and the allotted time is given for every step.

As progress of the project advances an evaluation of the student's progress should be made. Since the work of students is subject to errors, it should be checked at intervals. Through the inspections of designated steps in the procedure, projects may be corrected before advanced stages are completed and corrections are more difficult. Nothing is more discouraging for a student than to find that he needs to start a project over; students have often refused to do this; in fact, they have been known to refuse to do any more work in a school shop after such an experience.⁵

There are certain steps in a procedure for a project that need to be checked by the teacher--not only for the objective of seeing that the work is satisfactorily completed and up to standard, but to maintain necessary personal contacts with the students. When the teacher designates checking levels that are to be brought to his attention, students can then see that he is intensely interested in their individual progress.⁶

When official grades are required, whether at the finish of the semester or at shorter intervals, many teachers find that their records are very meager. A meager grading system does not allow the teacher to provide feedback for a student who is uncertain about the fairness of

⁴Silvius and Carry, p. 86.

⁵Ibid.

⁶Fryklund, p. 151.

DAILY ASSIGNMENTS

<u>Days</u>	
1	Foundation
1	Sill
1	Header
1	Floor Joist (cut)
2	Install Joist
2	Install Sub Floor
1	Build Tees
1	Build Corner Posts
2	Build Windows
2	Build Doors
1	Build Wall #1
1	Build Wall #2
1	Build Wall #3
1	Build Wall #4
1	Build Wall #5
1	Build Wall #6
1	Build Wall #7
1	Build Wall #8
1	Build Wall #9
1	Install Top Plate
2	Cut Truss Parts -
	1 day cut rafters
	1 day cut joist & braces
2	Assemble Trusses -
	Allow 2 days due to lack
	of staple guns
<u>2</u>	Install Roof Decking
Total:	30 Days

Six weeks to build house complete. To be graded each day. Extra days may be taken at the end of six weeks to finish house. No credit will be given for anything done on house after the allotted time.

Figure 1. Example of a Plan Sheet

his grade. It is possible that the teacher may be placed in a defensive position if he has graded on impressions rather than on systematic data. Particularly this is true if items such as attention, reliability, care of equipment and speed are considered an integral part of the grade.

A student who loafed away a period or two last month has probably forgotten it by grading time, even if the instructor remembers it well. Another problem is the student who in the end does finish a project, after much patching and many mistakes, that is similar in appearance to a project that is superior in quality. This student may have difficulty understanding the discrimination involved unless shown step by step from the first why his project could not be considered as well done. Efficient grading is a distinct factor in efficient teaching. Ericson suggests these criteria are important when selecting a grading scheme:

1. It should consume a minimum of the teacher's time.
2. It should be based upon a wide scope of student responses and attainment.
3. The grading should be frequent.
4. A uniform standard for grading should be applied.
5. Students should have access to their grades.
6. Grades should be permanent.⁷

⁷Emanuel E. Ericson, Teaching the Industrial Arts (Peoria, Illinois, 1946), p. 190.

CHAPTER III

METHODOLOGY

Collection and Analysis of Data

Information used in this study was collected through the joint use of observation and a written questionnaire. Each subject was given the same number of tasks to perform and was then graded on a daily basis according to the quantity and quality of work accomplished. The results were tabulated on progress charts identical to the one shown on page 44. The grading system was as follows:

1. Four points were given a subject for a job done correctly and neatly.
2. Three points were given a subject for performing a task correctly even though the subject lacked the ability or the patience to do a neat project.
3. Two points were given a subject for performing a task neither neatly nor correctly.
4. No points were given to subjects for failing to do the project.

Information was collected from four groups on a daily basis, while four other groups were graded only at the course's conclusion. The results from the progress charts were graphed for each group according to percentage of grades made by structured classes and unstructured classes, pages 14-17. Also, graphed were percentages of passing grades made by both class types for each job assignment, page 18. A bar

graph was made to reveal the percent of different grade categories for the two class types on their final averaged grades. These graphs were used collectively to discover which teaching method resulted in better grades and fewer non-productive work periods.

A questionnaire was given to each student in eight Coordinated Vocational Education and Training classes. It was developed specifically to test the hypotheses. Help in administering the questionnaire was requested and received of the other three members of the teaching group. The other three teachers were assigned at the same four schools as the researcher and had the same students. Each of the four teachers administered the questionnaire in his current location. Completed questionnaires provided a medium for testing the percentage of positive and negative responses. From the tabulated results, the hypotheses were tested leading to conclusions and recommendations by the researcher.

Limitation of the Study

This study was limited to students enrolled in Coordinated Vocational Education and Training classes in four junior high schools in Tulsa. Tulsa schools are located in Tulsa School District Number One, Tulsa County, Oklahoma. The four junior high schools were Wright Junior High School, Anderson Junior High School, Lewis and Clark Junior High School and Foster Junior High School. The Coordinated Vocational Education and Training classes at these four schools were taught on a nine weeks schedule. Each quarter a different course of study was offered to the same group of students with a different teacher. The course of study with which the study was concerned was construction.

Each school had two classes of students enrolled in Coordinated Vocational Education and Training; classes were taught in two hour blocks. A maximum of eighteen students were enrolled in each class. The enrollment varied from eleven to eighteen students throughout the year and from school to school.

Definition of Terms

Teaching Technique - resources or procedures used to give variety to the teaching process and used to stimulate and maintain interest in it.⁸

Teaching Method - broad, basic, coordinated procedures, each one sufficient in scope to be used exclusively for teaching segregated learning units.⁹

Structured Class - a class in which the students followed a daily schedule of jobs to perform and be graded at the completion of each task.

Unstructured Class - a class in which the student was given a general task to perform and graded only at the completion of the task and/or term.

¹Emanuel E. Ericson, Teaching the Industrial Arts (Peoria, Illinois, 1946), p. 190.

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

Introduction

The purpose of this study was to determine if there are significant advantages to teaching courses by means of a structured class rather than an unstructured class. The students investigated were those enrolled in Coordinated Vocational Education and Training classes in four junior high schools in Tulsa, Oklahoma.

Data for the study were collected by means of progress charts on which were recorded grades for the job assignments. Also a questionnaire was administered to each student.

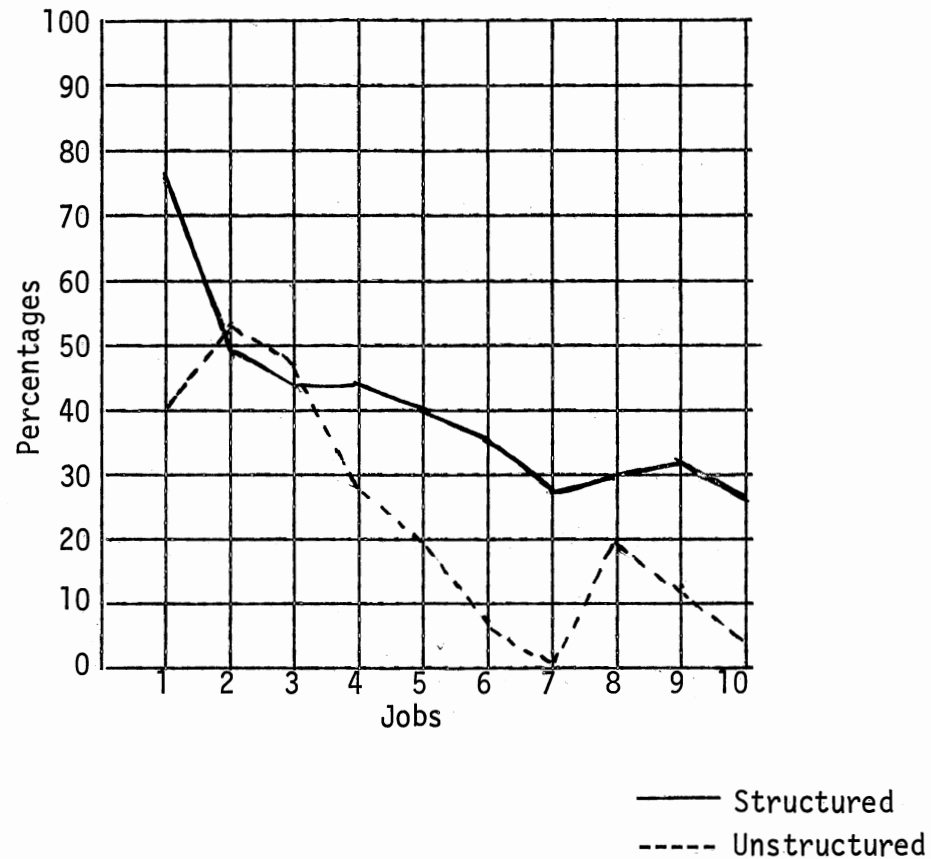
Graphs were made to show the percentages of students making different grades in all job assignments (pp. 14-17). Tables were developed to compare percentages of positive responses to questions asked on the questionnaire (pp. 19-33).

Percentages of Achievement Levels Performed by Students on Job Assignments

Graph 1 is a comparison of A's achieved by students in structured and unstructured classes for ten jobs. The comparison is by percentages of students from both class types who made A's. The graph shows that on job one, 77 percent of students in structured classes made A's, while in the unstructured classes, 40 percent made A's. On the second

job, 47 percent of the students in structured classes made A's and 52 percent of the unstructured classes made A's. On job three, 43 percent of students in structured classes made A's and 44 percent of students in unstructured classes made A's. On job four, 43 percent of students in structure classes made A's and 28 percent in the unstructured classes made A's. On job five, 40 percent of students in the structured classes made A's and 20 percent in the unstructured classes made A's. On job six, 37 percent of students in structured classes made A's and 8 percent in unstructured classes made A's. On job seven, 30 percent of students in structured classes made A's and 0 percent in unstructured classes made A's. On job eight, 20 percent of the students in both class types made A's. On job nine, 21 percent of the students in the structured classes made A's and 16 percent in unstructured classes made A's. On job ten, 17 percent of students in structured classes made A's and 4 percent in unstructured classes made A's. A chi square value of 27.3 was obtained from Graph 1 which was significant at the .05 level. Therefore, the research hypothesis was accepted.

Graph 2 is an analysis of percentages of B's made on each of the ten assigned jobs by structured and unstructured classes. The graph reveals that, of the students in structured classes, 10 percent, 37 percent, 20 percent, 17 percent, 10 percent, 13 percent, 17 percent, 7 percent, 7 percent and 14 percent scored B's on jobs one through ten, respectively. The percentage of students in unstructured classes scoring at the B level was 40 percent, 24 percent, 28 percent, 40 percent, 20 percent, 20 percent, 28 percent, 4 percent, 8 percent and 8 percent on jobs one through ten, respectively. A chi square value of 47.18 was obtained from Graph 2 which was significant at the .05 level. Therefore the research hypothesis was accepted.



Graph 1. Percentage of A's in Structured and Unstructured Classes

Graph 3 is an analysis of the percentage of students in structured and unstructured classes who made failing grades on their ten assigned jobs. The graph shows that the students in structured classes made 15 percent, 15 percent, 17 percent, 20 percent, 39 percent, 45 percent, 50 percent, 64 percent, 67 percent and 77 percent failing grades, respectively, on jobs one through ten. In the unstructured classes the students made 12 percent, 12 percent, 12 percent, 16 percent, 16 percent, 24 percent, 64 percent, 68 percent, 76 percent and 80 percent failing grades, respectively, on jobs one through ten. A chi square value of

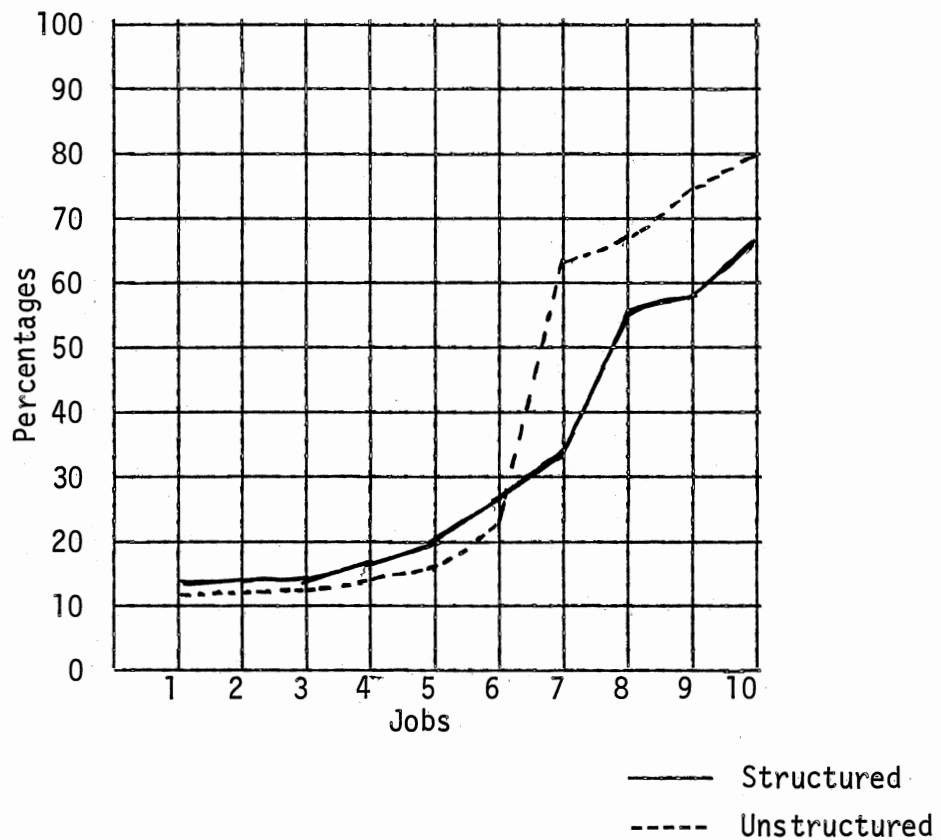
18.13 was obtained for Graph 3 which was significant at the .05 level. Therefore, the research hypothesis was accepted.



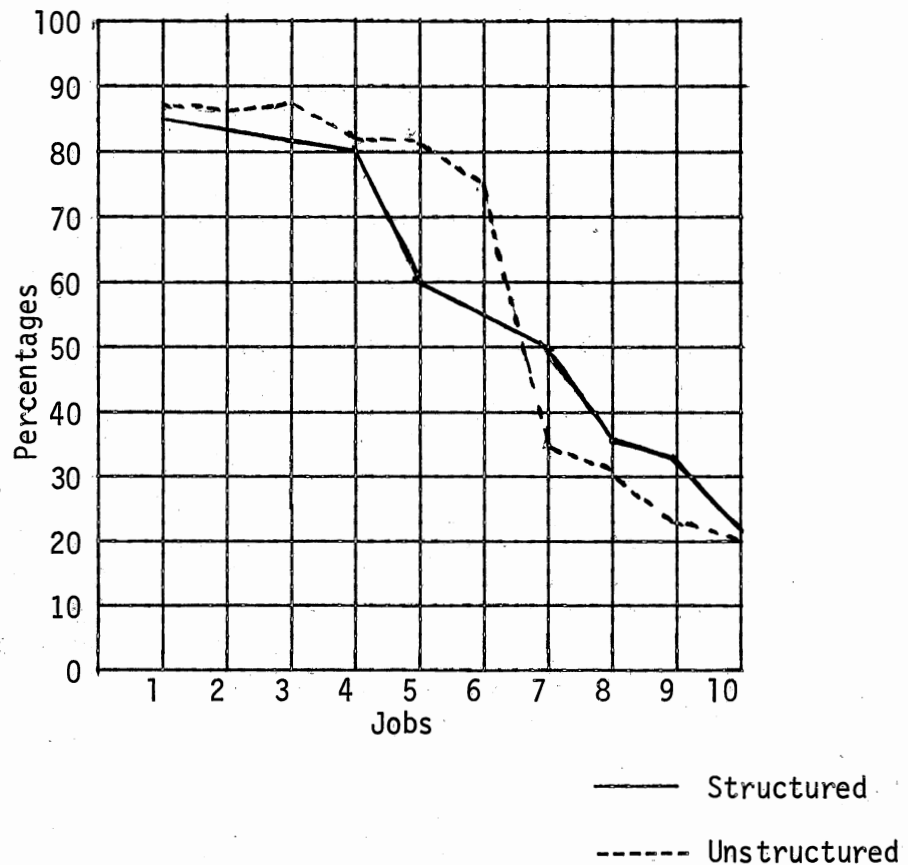
Graph 2. Percentage of B's in Structured and Unstructured Classes

Graph 4 is an analysis of percentages of passing grades made on each of the ten assigned jobs. The graph reveals that of the students in structured classes, 85 percent, 85 percent, 83 percent, 80 percent, 61 percent, 55 percent, 50 percent, 36 percent, 33 percent, and 23 percent on jobs one through ten, respectively, made passing grades. The percentage of students in the unstructured classes who made passing grades was 88 percent, 88 percent, 88 percent, 84 percent, 84

percent, 76 percent, 36 percent, 32 percent, 24 percent, and 20 percent, respectively, on jobs one through ten. A chi square value of 8.59 was obtained from Graph 4 which was not significant at the .05 level. Therefore, the research hypothesis was rejected.



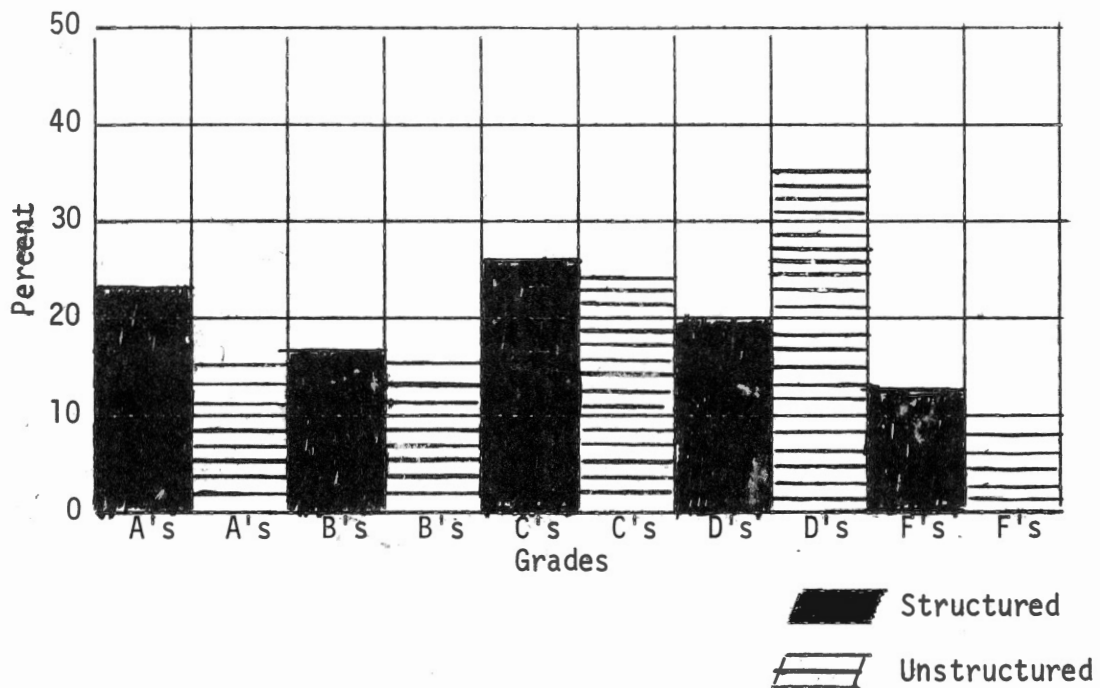
Graph 3. Percentages of F's in Structured and Unstructured Classes



Graph 4. Passing Grades Given for Jobs in Structured and Unstructured Classes

Graph 5 is an analysis of the percentages of different grades in structured and unstructured classes. The graph shows that 23 percent of the students in structured classes made A's compared to 16 percent in the unstructured classes. Seventeen percent of the students in structured classes made B's compared with 16 percent for the unstructured classes. Twenty-seven percent of the students in structured classes made C's compared to 24 percent in the unstructured classes. The percentage of students scoring on level D in the structured classes was 20 percent and in the unstructured classes the percentage was 36 percent. Thirteen

percent of the students in structured classes made F's compared to eight percent for the unstructured classes. A chi square value of 5.54 was obtained from Graph 5 which was not significant at the .05 level. Therefore, the research hypothesis was rejected.



Graph 5. Percent of Final Grade Categories in Structured and Unstructured Classes

Attitudes of Students Relating to Structured and Unstructured Classes

Tables I through XVII present an analysis by achievement level classification of the attitudes of students toward the classes. The tables are divided into two groups, structured and unstructured. Each table reveals the number of students at each achievement level

and the percentage of positive responses from each of the achievement levels.

Table I is an analysis of students who felt they had benefited from the course. Of the students in the structured classes, 89 percent of the A level, 93 percent of the B level, 72 percent of the C level, 50 percent of the D level and 0 percent of the F level felt that they benefited from the class. In the unstructured classes the percentages of students who felt that they benefited from the class were 100 percent of the A level, 86 percent of the B level, 71 percent of the C level, 44 percent of the D level and 100 percent of the F level. A chi square value of 2.59 was obtained from Table I which was not significant at the .05 level. Therefore, the research hypothesis was rejected.

TABLE I
STUDENTS WHO FELT THAT THEY
BENEFITED FROM THE CLASS

Class	Achievement Level									
	A		B		C		D		F	
	N*	%	N	%	N	%	N	%	N	%
Structured	9	89	14	93	18	72	6	50	2	0
Unstructured	5	100	7	86	7	71	9	44	1	100

*Signifies number of students in each achievement level.

Table II presents an analysis of students who felt themselves capable of framing a real house similar to the model house assigned in class.

Of the students in the structured classes, 100 percent of A level, 57 percent of B level, 50 percent of C level, 50 percent of D level, 0 percent of F level felt that they could frame a real house similar to the model assigned in class. Of the students in the unstructured classes, 100 percent of A level, 86 percent of B level, 71 percent of C level, 44 percent of D level, and 0 percent of F level felt they could frame a real house similar to the model assigned in class. A chi square value of 6.48 was obtained from Table II which was not significant at the .05 level. Therefore, the research hypothesis was rejected.

TABLE II
STUDENTS WHO FELT THAT THEY COULD
FRAME A REAL HOUSE SIMILAR TO
THE MODEL ASSIGNED IN CLASS

Class	Achievement Level									
	A		B		C		D		F	
	N	%	N	%	N	%	N	%	N	%
Structured	9	100	14	57	18	50	6	50	2	0
Unstructured	5	100	7	86	7	71	9	44	1	0

Table III presents an analysis of students who felt capable of building a model house without supervision. Of the students in the structured classes, 89 percent of A level, 71 percent of B level, 61 percent of C level, 67 percent of D level and 0 percent of F level

felt capable of building a model unsupervised. Of students in unstructured classes, 100 percent of A level, 100 percent of B level, 86 percent of C level, 67 percent of D level and 100 percent of F level felt competent to build a model house with no supervision. A chi square value of 3.47 was obtained from Table III which was not significant at the .05 level. Therefore, the research hypothesis was rejected.

TABLE III
STUDENTS WHO FELT THAT THEY COULD BUILD
A MODEL HOUSE WITHOUT HELP

Class	Achievement Level									
	A		B		C		D		F	
	N	%	N	%	N	%	N	%	N	%
Structured	9	89	14	71	18	61	6	67	2	0
Unstructured	5	100	7	100	7	86	9	67	1	100

Table IV presents an analysis of students who felt themselves capable of being useful to a carpenter in a work situation. Of the students in structured classes, 78 percent of A level, 56 percent of B level, 78 percent of C level, 83 percent of D level and 0 percent of F level felt that they would be useful to a carpenter while building a house. Of the students in the unstructured classes, 100 percent of A level, 88 percent of B level, 88 percent of C level, 67 percent of D level and 0 percent of F level felt that they could be of use to a carpenter. A chi

square value of 3.14 was obtained from Table IV which was not significant at the .05 level. Therefore, the research hypothesis was rejected.

TABLE IV
STUDENTS WHO FELT THEY COULD BENEFIT
A CARPENTER IN A WORK SITUATION

Class	Achievement Level									
	A		B		C		D		F	
	N	%	N	%	N	%	N	%	N	%
Structured	9	78	14	56	18	78	6	83	2	0
Unstructured	5	100	7	88	7	88	9	67	1	0

Table V is an analysis of students who stated that they enjoyed the classes. Of the students in the structured classes, 78 percent of A level, 86 percent of B level, 78 percent of C level, 33 percent of D level and 0 percent of F level enjoyed the class. Of students in the unstructured classes, 100 percent of A level, 100 percent of B level, 100 percent of C level, 44 percent of D level and 0 percent of F level enjoyed the way the class was presented. A chi square value of 6.42 was obtained from Table V which was not significant at the .05 level. Therefore, the research hypothesis was rejected.

TABLE V
STUDENTS WHO ENJOYED THE CLASS

Class	Achievement Level									
	A		B		C		D		F	
	N	%	N	%	N	%	N	%	N	%
Structured	9	78	14	86	18	78	6	33	2	0
Unstructured	5	100	7	100	7	100	9	44	1	0

Table VI is an analysis of students who felt certain of their assignments. Of students in the structured classes, 56 percent of A level, 72 percent of B level, 72 percent of C level, 76 percent of D level and 0 percent of F level felt certain of their daily assignments. Of students in unstructured classes, 100 percent of A level, 86 percent of B level, 100 percent of C level, 56 percent of D level and 0 percent of F level felt certain of their daily assignments. A chi square value of 3.56 was obtained from Table VI which was not significant at the .05 level. Therefore, the research hypothesis was rejected.

Table VII presents an analysis of students who felt they were sure of their assignments each day. Of students in structured classes, 67 percent of A level, 64 percent of B level, 56 percent of C level, 16 percent of D level and 0 percent of F level felt sure of their daily assignments. Of students in unstructured classes, 100 percent of A level, 57 percent of B level, 57 percent of C level, 56 percent of D level and 100 percent of F level felt sure of their daily assignments.

A chi square value of 22.05 was obtained from Table VII which was significant at the .05 level. Therefore, the research hypothesis was accepted.

TABLE VI
STUDENTS WHO FELT CERTAIN
OF THEIR ASSIGNMENTS

Class	Achievement Level									
	A		B		C		D		F	
	N	%	N	%	N	%	N	%	N	%
Structured	9	56	14	72	18	72	6	76	2	0
Unstructured	5	100	7	86	7	100	9	56	1	0

TABLE VII
STUDENTS WHO WERE SURE OF THEIR
ASSIGNMENTS EACH DAY

Class	Achievement Level									
	A		B		C		D		F	
	N	%	N	%	N	%	N	%	N	%
Structured	9	67	14	64	18	56	6	16	2	0
Unstructured	5	100	7	57	7	57	9	56	1	100

Table VIII is an analysis of students who felt they were graded fairly on their houses. Of students in structured classes, 100 percent of A level, 93 percent of B level, 67 percent of C level, 33 percent of D level and 50 percent of F level. Of students in unstructured classes, 100 percent of A level, 87 percent of C level, 78 percent of D level and 100 percent of F level felt that they had been fairly graded. A chi square value of 10.12 was obtained from Table VIII which was significant at the .05 level. Therefore, the research hypothesis was accepted.

TABLE VIII
STUDENTS WHO FELT THEY WERE GRADED
FAIRLY ON THEIR HOUSES

Class	Achievement Level									
	A		B		C		D		F	
	N	%	N	%	N	%	N	%	N	%
Structured	9	100	14	93	18	67	6	33	2	50
Unstructured	5	100	7	87	7	87	9	78	1	100

Table IX is an analysis of students who felt they were aware of their grades at all times. Of students in the structured classes, 67 percent of A level, 57 percent of B level, 44 percent of C level, 0 percent of the D level and 50 percent of F level felt that they were aware of their grades at all times. Of students in the unstructured classes, 40 percent of A level, 29 percent of B level, 43 percent of C level, 33

percent of D level and 100 percent of F level felt that they were aware of their grades at all times. A chi square value of 4.33 was obtained from Table IX which was not significant at the .05 level. Therefore, the research hypothesis was rejected.

TABLE IX
STUDENTS WHO WERE AWARE OF THEIR
GRADES AT ALL TIMES

Class	Achievement Levels									
	A		B		C		D		F	
	N	%	N	%	N	%	N	%	N	%
Structured	9	67	14	57	18	44	6	0	2	50
Unstructured	5	40	7	29	7	43	9	33	1	100

Table X is an analysis of students who stated a preference for being graded daily rather than at the completion of their project. Of students in the structured classes, 73 percent of A level, 43 percent of B level, 56 percent of C level, 50 percent of D level and 50 percent of F level preferred being graded daily. Of students in the unstructured classes, 60 percent of A level, 29 percent of B level, 71 percent of C level, 33 percent of D level and 0 percent of F level preferred being graded daily. A chi square value of 8.77 was obtained from Table X which was not significant at the .05 level. Therefore, the research hypothesis was rejected.

TABLE X
STUDENTS WHO PREFERRED BEING GRADED DAILY
RATHER THAN AT THE END OF THE COURSE

Class	Achievement Level									
	A		B		C		D		F	
	N	%	N	%	N	%	N	%	N	%
Structured	9	73	14	43	18	56	6	50	2	50
Unstructured	5	60	7	29	7	71	9	33	1	0

Table XI is an analysis of students who preferred being graded at the end of the course rather than daily. Of students in structured classes, 27 percent of the A level, 57 percent of B level, 44 percent of C level, 50 percent of D level and 50 percent of F level preferred to be graded at the end of the course rather than daily.

Of the students in the unstructured classes, 40 percent of A level, 71 percent of B level, 29 percent of C level, 67 percent of D level and 100 percent of F level preferred to be graded at the end of the course.

A chi square value of 7.39 was obtained from Table XI which was not significant at the .05 level. Therefore, the research hypothesis was rejected.

Table XII is an analysis of students who were often uncertain about their daily assignments. Of the students in structured classes, 67 percent of A level, 64 percent of B level, 89 percent of C level, 83 percent of D level and 0 percent of F level were often unsure of daily assignments. Of students in unstructured classes, 20 percent of A level,

71 percent of B level, 71 percent of C level, 78 percent of D level and 0 percent of F level were often unsure of their daily assignments. A chi square value of 2.95 was obtained from Table XII which was not significant at the .05 level. Therefore, the research hypothesis was rejected.

TABLE XI
STUDENTS WHO PREFERRED BEING GRADED AT THE
END OF THE COURSE RATHER THAN DAILY

Class	Achievement Level									
	A		B		C		D		F	
	N	%	N	%	N	%	N	%	N	%
Structured	9	27	14	57	18	44	6	50	2	50
Unstructured	5	40	7	71	7	29	9	67	1	100

Table XIII is an analysis of students who felt they would be certain of their grade even if they failed to see their daily grades. Of students in structured classes, 89 percent of A level, 21 percent of B level, 21 percent of C level, 16 percent of D level and 50 percent of F level felt they would be certain of their grade even if they failed to see their daily grade. Of students in unstructured classes, 100 percent of A level, 86 percent of B level, 71 percent of C level, 44 percent of D level and 100 percent of F level felt they would be certain of their grade if they failed to see their daily grade. A chi square

value of 55.47 was obtained from Table XIII which was significant at the .05 level. Therefore, the research hypothesis was accepted.

TABLE XII
STUDENTS WHO WERE OFTEN UNCERTAIN
ABOUT THEIR DAILY ASSIGNMENTS

Class	Achievement Level									
	A		B		C		D		F	
	N	%	N	%	N	%	N	%	N	%
Structured	9	67	14	64	18	89	6	83	2	0
Unstructured	5	20	7	71	7	71	9	78	1	0

TABLE XIII
STUDENTS WHO FELT THEY WOULD BE CERTAIN OF THEIR
GRADE EVEN IF THEY FAILED TO SEE
THEIR DAILY GRADES

Class	Achievement Level									
	A		B		C		D		F	
	N	%	N	%	N	%	N	%	N	%
Structured	9	89	14	21	18	17	6	16	2	50
Unstructured	5	100	7	86	7	71	9	44	1	100

Table XIV is an analysis of students who felt they did not have enough time to complete their project. Of the students in structured classes, 22 percent of A level, 43 percent of B level, 89 percent of C level, 100 percent of D level and 50 percent of F level felt that they were not allowed enough time to finish their projects. Of students in unstructured classes, 40 percent of A level, 14 percent of B level, 86 percent of C level, 78 percent of D level and 100 percent of F level felt that they did not have enough time to complete their projects. A chi square value of 2.13 was obtained from Table XIV which was not significant at the .05 level. Therefore, the research hypothesis was rejected.

TABLE XIV
STUDENTS WHO FELT THEY DID NOT HAVE ENOUGH
TIME TO COMPLETE THEIR PROJECT

Class	Achievement Level									
	A		B		C		D		F	
	N	%	N	%	N	%	N	%	N	%
Structured	9	22	14	43	18	89	6	100	2	50
Unstructured	5	40	7	14	7	86	9	78	1	100

Table XV is an analysis of students who felt they should have had a higher final grade. Of the students in structured classes, 0 percent of

A level, 50 percent of B level, 45 percent of C level, 83 percent of D level and 0 percent of F level felt their final grade was too low. Of the students in unstructured classes, 0 percent of A level, 43 percent of B level, 43 percent of C level, 33 percent of D level and 0 percent of F level felt that their final grade should have been higher. A chi square value of 3.42 was obtained from Table XV which was not significant at the .05 level. Therefore, the research hypothesis was rejected.

TABLE XV
STUDENTS WHO FELT THEY SHOULD HAVE
HAD A HIGHER FINAL GRADE

Class	Achievement Level									
	A		B		C		D		F	
	N	%	N	%	N	%	N	%	N	%
Structured	9	0	14	50	18	45	6	83	2	0
Unstructured	5	0	7	43	7	43	9	33	1	0

Table XVI is an analysis of students who thought they had sufficient time to complete assignments. Of the students in structured classes, 70 percent of A level, 50 percent of B level, 21 percent of C level, 17 percent of D level and 0 percent of F level felt that they had had sufficient time to complete their assignments. Of students in unstructured classes, 80 percent of A level, 71 percent of B level, 29 percent of C level, 22 percent of D level and 0 percent of F level felt that they had had

sufficient time to complete their assignments. A chi square value of 2.89 was obtained from Table XVI which was not significant at the .05 level. Therefore, the research hypothesis was rejected.

TABLE XVI
STUDENTS WHO THOUGHT THEY HAD SUFFICIENT
TIME TO COMPLETE THEIR ASSIGNMENTS

Classes	Achievement Level									
	A		B		C		D		F	
	N	%	N	%	N	%	N	%	N	%
Structured	9	70	14	50	18	21	6	17	2	0
Unstructured	5	80	7	71	7	29	9	22	1	0

Table XVII is an analysis of students who felt they should have had less time to finish their projects. Of the students in structured classes, 0 percent of A, 7 percent of B level, 0 percent of C level, 0 percent of D level and 0 percent of F level felt their time should have been shorter. Of students in unstructured classes, 0 percent of A level, 0 percent of B level, 0 percent of C level, 11 percent of D level and 0 percent of F level felt that they should have had less time to complete their projects. A chi square value of 0 was obtained from Table XVII which was not significant at the .05 level. Therefore, the research hypothesis was rejected.

TABLE XVII

STUDENTS WHO FELT THEY SHOULD HAVE HAD
LESS TIME TO COMPLETE THEIR PROJECT

Class	Achievement Level									
	A		B		C		D		F	
	N	%	N	%	N	%	N	%	N	%
Structured	9	0	14	7	18	0	6	0	2	0
Unstructured	5	0	7	0	7	0	9	11	1	0

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Presented in this chapter is a review of the purposes and need for the study and a review of the hypotheses. The design and conduct is also summarized. Conclusions and recommendations will be presented based upon the analysis of data collected.

Summary

Purpose of the Study

The purpose of this study was to determine whether a student will benefit more from a structured class than an unstructured class.

Specific Objectives of the Study

The following hypotheses were formulated to determine the specific objectives of the study:

1. Students in structured class situations will achieve higher grades than students in unstructured classes.
2. Students in a structured class are more likely to perceive the teacher's precise expectations than students in an unstructured class.
3. In a structured class more students feel that they have been graded fairly than the students in an unstructured class.

4. Students in structured classes feel that they have gained confidence about what they have been learning more than students in an unstructured class.
5. Students prefer a structured class over an unstructured class.
6. Students feel that in a structured class they make better use of their time than they would if enrolled in an unstructured class.
7. Students in a structured class are more aware of their class standing than students in an unstructured class.

Need for the Study

Students need professional guidance in their school work in order to do an effective job of learning. A study of this type is important because teachers need to become aware of more effective means for presenting their course to their students.

Design and Conduct of the Study

After a review of literature was prepared data were gathered from the population and a questionnaire was developed and administered to each subject. The population consisted of all students enrolled in Coordinated Vocational Education and Training classes in four junior high schools in Tulsa, Oklahoma.

Summary of Findings

The findings of this study were designed to answer the hypotheses which in turn were formulated to direct the purpose of the study. Graphs 1 through 4 demonstrated that there were no statistically

significant differences in grade achievement between students in structured and unstructured classes. Tables IX and XIII revealed that there was no statistically significant differences between students in structured and unstructured classes in awareness of their class standing. Tables VI and XII demonstrated no statistically significant differences between students in structured and unstructured classes in their ability to perceive the teacher's precise expectations. Tables VIII and XV revealed no statistically significant differences between students in structured and unstructured classes in their belief that they had been graded either fairly or unfairly. Tables I, II, III and IV demonstrated that there was no statistically significant difference in the confidence gained between students in structured and unstructured classes. Tables V, X and XI demonstrated that there was no statistically significant difference between students' preference for structured or unstructured classes. Tables XIV, XVI and XVII showed that there was no statistically significant difference between students from structured and unstructured classes in their feelings about making better use of their time.

Conclusions

Based on the findings in this study the following conclusions were drawn:

1. A structured class at higher achievement levels improves the grade level on individual tasks but does not improve the overall grade average.
2. Students in structured classes were no more likely to perceive the teacher's precise expectations than students in unstructured classes.

3. There was no significant difference in the percentage of students in structured and unstructured classes who felt that they had been fairly graded.
4. Students in structured classes did not exhibit more confidence about the trade in which they had studied than students in unstructured classes.
5. Students in general had no preference for either structured or unstructured classes.
6. Students in structured classes did not feel that they had made better use of their time than students in unstructured classes.
7. Students in general were not more aware of their class standing if enrolled in a structured class. However, students in the higher achievement levels did tend to be more aware of their class standing if they were in a structured class.
8. Awareness of grades, feelings of being graded fairly, feelings of benefiting from the class, enjoyment of the class, feelings of sufficient time to complete the assignment and certainty of assignments will be higher for students with higher achievement level regardless of class type.

Recommendations

In view of the findings and conclusions, the following recommendations are offered:

1. The findings of this study should be considered by any teacher before he or she selects the teaching method which is to be implemented in the classroom.

2. Further study should be conducted on each of the hypotheses to determine to what extent structured and unstructured classes effect students.

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APPENDIX A

THE QUESTIONNAIRE

Information for Administering Questionnaire

The purpose of this survey is to acquire from students some important information. This is not a test. Please encourage each student to answer each question as thoughtfully and truthfully as possible. Please ask the students to put their name at the top of the questionnaire. No person's name will be mentioned about any part of the survey nor will any school be mentioned concerning the questionnaire. Read each question aloud. Allow enough time to permit the students to respond. Each question is to be answered with a "yes" or "no".

QUESTIONNAIRE

1. Do you feel that you know more about carpentry now than you did when you entered this class?
2. Do you feel that you could frame a real house similar to the one that you built in this class?
3. Do you think that you could build a model house like the one you built in class?
4. Do you think that you could benefit a carpenter more now than before you took this course?
5. Did you enjoy this carpentry class?
6. Did you like the way that it was presented to you?
7. Were you sure of your assignments each day?
8. Do you think that you were graded fairly on your house?
9. Did you know what grades you were making at all times?
10. Would you have rather been graded daily on your house?
11. Would you have enjoyed the course more if you would have had a daily assignment?
12. Did you know what assignments to do on your house each day?
13. Were you many times uncertain about what you should do next on building your house?
14. If you did not see the grading chart would you still be as sure about your grades in this class?
15. Did you have enough time to finish your house?
16. Do you think you should have had more time for building your model house?
17. Do you think you should have had less time for building your model house?
18. Do you think you should have made a higher grade on your report card?

APPENDIX B

PROGRESS CHART

PROGRESS CHART

Student	Foundation	Sill	Header	Floor Joist (Cut)	Install Floor Joist	Sub Floor	Tees	Corner Post	Windows	Doors	Wall #1	Wall #2	Wall #3	Wall #4	Wall #5	Wall #6	Wall #7	Wall #8	Wall #9	Trusses	Roof Assembly	Top Plate	Nine Week Test	
Student 1																								
Student 2																								
Student 3																								
Student 4																								
Student 5																								
Student 6																								
Student 7																								
Student 8																								
Student 9																								
Student 10																								
Student 11																								
Student t 12																								
Student t 13																								

VITA

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