A STATISTICAL ANALYSIS OF THE EFFECT OF THE INCLUSION OF A JOB READINESS TRAINING CLASS INTO A HIGH SCHOOL TRANSITION CLASS

THESIS

Submitted to the Graduate Committee of the

Department of Education and Human Development

State University of New York

College at Brockport

in Partial Fulfillment of the

Requirements for the Degree of

Master of Science in Education

by

Alan M. Greene

State University of New York

College at Brockport

Brockport, New York

April, 1995

SUBMITTED BY:

Alan M. Greene 4/5/95
Candidate Date

APPROVED BY:

Robert B. Gable 4/5/95
Thesis Advisor Date

J. M. B. L. 4/6/95
Second Faculty Reader Date

Katherine E. Baker 4/7/95
Director of Graduate Studies Date

Table of Contents

Chapter I

Introduction

Introduction

As most job seekers, both past and present, will tell you, knowing job search techniques, and job retainment skills, is essential in the employment area. Unfortunately, most of us are not aware of the most efficient ways to get and keep a job. If, by chance, we do know of these techniques, we have learned them by the use of trial and error. While we have been learning from this method, we probably have lost out on a relatively large number of good positions.

Along these same lines, many of us have depended on our diplomas and degrees to open career doors for us. We believed, because we studied hard and earned our credentials, that we deserved to be given good jobs. We also believed that our credentials would be enough for us to advance in our careers, and lead us to a comfortable retirement.

Unfortunately, in todays job market, just having the right diploma, or degree, is not enough to earn us the key to our new career. For us to be successful in our careers, we need to have the knowledge that it takes to compete in today's ever changing job market.

We need the tools necessary to find, obtain, advance, and retain our jobs.

It is never too late to learn the job search techniques, and job skills, that will lead us to our chosen careers. Whether we are changing career fields, trying to advance in our current position, or just trying to get more satisfaction from our jobs, these tools will always play an important part in our career success.

In a perfect world, we would all have the knowledge that we need to be successful, in our careers; before we entered the job market for the first time. Unfortunately, for those of us who have been in the job market, for a number of years, this time has come and went. However, for a group of future career seekers, this time is at hand.

A group of future job hunters will be pounding the pavement as soon as a few months, or perhaps in a few years.

This group of job hunters that I am referring to is high school students. Many of these students will be continuing on to college for their degrees; but, more and more of these students will begin looking for jobs.

Will these students be prepared to accept employment, not to mention find employment.

Until recently, many high school students didn't have an option of learning career skills, other than by trial and error. These students didn't know what employers wanted in an employee. Even if they did, they weren't sure if they could meet these requirements. On the flip side, employers were getting more and more frustrated with the teenagers that they did hire. They were finding that these students didn't have the abilties, or the attitudes, to make it in their companies.

Employers have gotten so frustrated that they have asked the schools for their help in developing not just the academic skills of students, but the skills and attitudes of these students for future employment. To meet this need of the employers, schools have asked employers, both large and small, to list the abilities and attitudes that they would like most to see in their future employees.

This questioning is what led me to the development of a class called Job Readiness Training. Based on the needs of our high school transition class in the area of job search skills, and at the request of many

employers that I have interviewed, I created a class that provides instruction to students, in job readinss, for our high school transition program.

I have developed the idea of including in the curriculum of the high school transition class the class called Job Readiness Training. The Greece Central School District-Community Education Services Council is concerned that the inclusion of this class will have a detrimental effect on the high school transition students' preparation for taking the GED exam.

To provide evidence to the council that the inclusion of the Job Readiness Training class would not be detrimental to the preparation of the students for the GED exam, I conducted a statistical analysis of the results of a class that took the JRT class, and of those who didn't. Before I present the details of the findings from my analysis, I would like to first describe to the reader what the high school transition class is, and what the current objectives of this class are.

After the description of the high school transition class, I will present the mechanics and course objectives of the class Job Readiness Training.

After detailing the workings of the JRT class, I will explain how I conducted the research for my statistical analysis and present the results of this analysis. Based on these results, I will provide my recommendations concerning the inclusion of the Job Readiness Training class into the high school transition curriculum.

Chapter II

Subjects

GED Predictor Test

Student Placement

JRT Class

Community Education Council

Statistical Analysis

Subjects

I thought it would be benficial to the reader if I provide a brief background of the high school transition class, and its objectives. The high school transition class is provided for high school students, 16 or 17 years of age, who for whatever reason not finding success in a traditional high school setting. The majority of students who are placed in this class come because of behavioral problems or academic concerns.

Test for Writing Skills, Science, Social Studies, Math, Interpreting Literature and Arts

Before students are placed in the high school transition class, there must be a recommendation by the students' school counselor, with the approval of the students' parent or guardian. After this recommendation and approval have been received, the student still needs to achieve an acceptable score on a GED predictor test.

The GED predictor tests in the areas of writing skills, science, social studies, literature and the

arts, and mathematics. The test is divided into these five parts.

In each part, students are asked to answer 28 multiple choice questions based on the academic area tested. In the writing part of the test, the student is asked to write a 200 word essay, based on a preselected topic. The scores on the GED predictor test can range from 0 to 400. For students to be accepted into the transition class, they must achieve a score of 200.

Student Placement

Once the student earns the acceptable score, he is placed into a transition class. The class limit of a transition class is fifteen, providing for more individual instruction for the student. The students attend class Monday through Friday, from 8:00 a.m. to 1:00 p.m. They receive instruction in the areas of writing skills, science, social studies, literature and arts, and mathematics. The class is conducted for about three months. During this time, the students are preparing to take the GED exam.

When the three month period of instruction is complete, the students are given another GED predictor test, to determine readiness for the actual GED exam.

To be considered ready to take the GED exam, students must achieve a score of 250 on the GED predictor test. Once this score is achieved the student is enrolled for the next scheduled GED exam. Once the students take the exam, they must wait for about four weeks for exam results.

If the students pass the exam, they can go on to college, post secondary training, or look for a job. This is where my concern came in. At no time during the instruction of the high school transition class were the students provided any job readiness training. As a result, I developed a Job Readiness Training class to be incorporated into the transition class.

Job Readiness Training Class

The JRT class has been taught to one transition class, since its development. The class was taught Monday, Wednesday, and Friday from 8:30 a.m. to 11:30 p.m. The class provided instruction to students in the areas of self assessment, job searching skills, cover letter/resume writiing, interviewing skills, job search follow up, job advancment skills, and job retainment skills.

The class used such instructional tools as: lecture, round table, videos, audio tapes, guest speakers, and field trips. Even though the class was directed towards the employment field, included in the instruction were excercises that incorporated the areas of writing,
reading, oral communication, and math. These areas were included not only for GED preparation, but because many job tasks that we do in our careers use these skills.

The objectives of the JRT class, are to provide students the tools necessary to compete in the job market,
prepare students to handle career crises as they arise, and to get more satisfaction from their careers. Once the students complete their GED requirements, and the requirements of the JRT class, they are offered job placement services, through a career couselor. This career counselor provides services in the areas of job openings, individual career planning, and job readiness training follow up.

Community Education Council Study

With me wanting to offer this class on a regular basis to the high school transition students, the Community Education Council was concerned that the JRT class would interfere with the students' preparation for the GED exam. They asked for some evidence that would support my theory that the JRT class would not hinder the progress of the transition students. This led me to my statistical analysis of transition students who completed the Job Readiness Training class, and those who did not.

Statistical Analysis

The next part of this paper will describe how I conducted this study, and present the results of my statistical analysis. This study uses terms that are complicated, but necessary, in conducting this study.

The basis for my study is that there will be no significant difference between the academic success on the GED exam between the students who received the JRT instruction and those who didn't. One reason that I believe this is that the students are still receiving some academic instruction while they are participating in the Job Readiness Training class. Also, I believe

that the students are recieving enough direct GED instruction in combination with the JRT instruction.

For the study, I used the scores of 15 students who did not take the JRT class. This was my control group. Then, I used the scores of 15 students who did participate in the JRT class. This was my test group. The scores I used for this comparison were acheieved on Pre GED predictor tests and Post GED predictor tests. The GED predictor test is one of the most accurate measuring devices to predict success on the GED exam. The test manual's overall estimate of the predictive validity was .83, and the total reliability was .91.

The GED predictor test is divided into five sections: writing skills, science, social studies, literature and arts, and mathmetics. These are the same topics that are tested on the actual GED exam. The scores on the GED predictor test range from 0 to 400. The passing score on the GED predictor is 225. The students must also earn a score of 40 on each section, with an overall average score of 45 for each section.

A confidence level of 95% was used in calculating the results of this study, and the outcome of those results will determine how they are used. If there is

no statistically significant difference of the post-test means of the two groups, then a recommendation will be made to include the Job Readiness Training class in the curriculum of the high school transition class, to the council.

If, however, there is a statistically significant difference between the post-test means of the two groups, then some other vehicle of presentation will be developed.

If the results indicate that there is no significant statistical difference between the two groups; and, the JRT inclusion is accepted, the incorporation of this course will be very minimal in cost to the school district. Also, the inclusion of the JRT material, into the existing transition curriculum has already been completed.

I will only recommend to the council the JRT inclusion if there is less than a 10 point difference in the post-test means of the control group and the test group. This is the criterion of importance that I have set for this study based on .5 of the average standard deviation for the two post-tests.

Chapter III

Results

Conclusions

Recommendations

Table 1

Raw Scores

Student	Control Group Pre-test X_1	Control Group Post-test X_2	Test Group Pre-test Y_1	Test Group Post-test Y_2
1	226	276	230	288
2	223	280	227	283
3	219	273	223	279
4	219	276	219	254
5	214	268	213	260
6	214	270	212	254
7	214	253	212	263
8	213	260	212	251
9	212	264	210	264
10	209	252	210	263
11	205	263	208	253
12	205	251	206	261
13	203	257	204	252
14	201	256	202	264
15	201	251	202	253
Means	211.87	263.33	212.67	262.80

HO_1 : PRE-TEST

Null Hypothesis (HO_1): There will be no statistically significant difference between the pre-test means of the control group (no JRT class) and the test group (received JRT class).

Table 2

Pre-Test Raw Scores

Student	Control Group X_1	Test Group Y_1
1	226	230
2	223	227
3	219	223
4	219	219
5	214	213
6	214	212
7	214	212
8	213	212
9	212	210
10	209	210
11	205	208
12	205	206
13	203	204
14	201	202
15	201	202

Table 3

HO_1 (CONTINUED)

Control Group X_1	Test Group Y_1
n = 15	n = 15
$\bar{x}$ = 211.87	$\bar{y}$ = 212.67
$\tilde{x}$ = 213	$\tilde{y}$ = 212
sd. = 7.83	sd. = 8.61
sk. = -0.43	sk. = 0.23

t required at a 95% confidence level = $\pm$2.048

t calculation obtained = -.27

Findings

Since the t required for 28 degrees of freedom at the 95% confidence level is $\pm$ 2.048, and since the t obtained when comparing the pre-test means for the two groups was -.27, we must retain the null hypothesis. This shows that we have established equivalence between the two groups.

Note: The longhand t calculation can be found in attached Appendix A.

HO_2 : PRE-TEST AND POST-TEST CONTROL GROUP

Null Hypothesis (HO_2): There will be no statistically significant difference between the pre-test and post-test means of the control group.

Table 4

Student	Pre-test X_1	Post-test X_2	Difference	Differ.^{2}
1	226	276	-50	2500
2	223	280	-57	3249
3	219	273	-54	2916
4	219	276	-57	3249
5	214	268	-54	2916
6	214	270	-56	3136
7	214	253	-39	1521
8	213	260	-47	2209
9	212	264	-52	2704
10	209	252	-43	1849
11	205	263	-58	3364
12	205	251	-46	2116
13	203	257	-54	2916
14	201	256	-55	3025
15	201	251	-50	2500

$\Sigma D = -772$ $\Sigma D^2 = 40170$

Table 5

HO_2 (Continued)

Control Group

Pre-test X_1	Post-test X_2
n = 15	n = 15
$\bar{x}_1$ = 211.87	$\bar{x}_2$ = 263.33
sd.= 7.83	sd.= 10.01

t required at a 95% confidence level = $\pm$ 2.145

t calculation obtained = -35.74

Findings

Since the t required for 14 degrees of freedom at the 95% confidence level is $\pm$ 2.145, and since the t obtained when comparing the pre-test and post-test means for the control group was -35.74, we must reject the null hypothesis and conclude that there is a statistically significant difference between the pre-test and post-test means.

Note: The longhand t calculation can be found in attached Appendix B.

HO 3: PRE-TEST AND POST-TEST TEST GROUP

Null Hypothesis (HO_3): There will be no statistically significant difference between the pre-test and post-test means of the test group.

Table 6

Student	Pre-test Y_1	Post-test Y_2	Difference	Differ.^{2}
1	230	288	-58	3364
2	227	283	-56	3136
3	223	279	-56	3136
4	219	254	-35	1225
5	213	260	-47	2209
6	212	254	-42	1764
7	212	263	-51	2601
8	212	251	-39	1521
9	210	264	-54	2916
10	210	263	-53	2809
11	208	263	-45	2025
12	206	261	-55	3025
13	204	252	-48	2304
14	202	264	-62	3844
15	202	253	-51	2601
			$\Sigma D = -752$	$\Sigma D^2 = 38480$

Table 7

HO_3 (CONTINUED)

Test Group

Pre-test Y_1	Post-test Y_2
n = 15	n = 15
$\bar{y}_1$ = 212.67	$\bar{y}_2$ = 262.80
sd.= 8.61	sd.= 11.72

t required at a 95% confidence level = $\pm$ 2.145

t calculation obtained = -25.97

Findings

Since the t required for 14 degrees of freedom at the 95% confidence level is $\pm$ 2.145, and since the t obtained when comparing the pre-test and post-test means for the test group was -25.97, we must reject the null hypothesis and conclude that there is a statistically significant difference between the pre-test and post-test means.

Note: The longhand t calculation can be found in attached Appendix C.

HO_4 : POST-TEST

Null Hypothesis (HO_4): There will be no statistically significant difference between the post-test means of the control group and the test group.

Table 8

Post-test Raw Scores

Student	Control Group X_2	Test Group Y_2
1	276	288
2	280	283
3	273	279
4	276	254
5	268	260
6	270	254
7	253	263
8	260	251
9	264	264
10	252	263
11	263	253
12	251	261
13	257	252
14	256	264
15	251	253

Table 9

HO_4 (CONTINUED)

Control Group X_2	Test Group Y_2
n = 15	n = 15
$\bar{x}$ = 263.33	$\bar{y}$ = 262.80
$\tilde{x}$ = 263	$\tilde{y}$ = 261
sd.= 10.01	sd.= 11.72
sk.= .10	sk.= .46

t required at a 95% confidence level = $\pm$ 2.048

t calculation obtained = + .13

Findings

Since the t required for 28 degrees of freedom at the 95% confidence level is $\pm$ 2.048, and since the t obtained when comparing the post-test means for the two groups was +.13, we must retain the null hypothesis and conclude that there is no statistically significant difference between the post-test means.

Note: The longhand t calculation can be found in attached Appendix D.

Conclusion

This study was both interesting and informative. To summarize the findings, the pre-test results of both the control group and the test group strongly supported a retention of the first null hypothesis at the 95% confidence level. This provided evidence that the study could be continued successfully because it established equivalence between the two groups.

When we compared the results from the pre-test and post-tests, of the GED Predictor Test, we rejected the second and third null hypotheses. The means of both the control group and the test group increased significantly from the pre-test score to the post-test scores. Although this study was carried out at the 95% confidence level, the second and third null hypotheses would have been rejected at the 99.9% confidence level.

The post-test means showed no statistically significant difference, thus, supporting a retention of the forth null hypothesis at the 95% confidence level. In other words, the students scores, of the class that did not take the Job Readiness Training class, did not improve significantly over the scores of the students who took the JRT class.

These statistics indicate that the students who did receive the Job Readiness Training, and the students who did not attend the class, were successfully prepared to take the GED exam. The students scores, of the class that attended the JRT class, were very similar to the scores of those who did not.

Recommendations

Due to the results of this study, I will recommend, to the Greece Community Education Council, that the Job Readiness Training class should be included in the curriculum of the High School Transition class. Becauase the curriculum materials have already been developed, and because there is already a JRT Instructor in the school, the cost of the inclusion of this program will bw very minimal.

As a result of the inclusion of the Job Readiness Training class into the High School Transition Program, I firmly believe that we will be graduating more well rounded and job ready students. Even though these students will not have learned all there is about competing in the job market, I am convinced that these students will leave school with the tools they will

need to find careers that will be both challenging and satisfying.

References

Materials for the Job Readiness Training Class that were used, and not created by the author, were selected from the textbook vendors mentioned below.

1. CFKR Career Materials, 11860 Kemper Road, Unit 7, Auburn, California 95603, 1994.

2. Edits Career Guidance Catalog, P.O. Box 7234, San Diego, California 92167, 1994.

3. JIST- The Job Search People, 720 North Park Avenue, Indianapolis, Indiana 46202-3431, 1994.

4. Steck-Vaughn- Adult Education Catalog, P.O. Box 26015, Austin, Texas 78755, 1994.

Appendix

1. Independent and Dependent T Test Calculations For Null Hypothesis

Appendix A

Independent t-test calculation for HO_1

$$t = \frac{\bar{x}_1 - \bar{y}_1}{\sqrt{\frac{(n_x-1) \times sd_x^2 + (n_y-1) \times sd_y^2}{n_x + n_y - 2} \times \left(\frac{1}{n_x} + \frac{1}{n_y}\right)}}$$

$$t = \frac{211.87 - 212.67}{\sqrt{\frac{14(61.31) + 14(74.13)}{28} \times \left(\frac{1}{15} + \frac{1}{15}\right)}}$$

$$t = \frac{-.8}{\sqrt{\frac{1896.16}{28} \times .13}}$$

$$t = \frac{-.8}{\sqrt{8.80}}$$

$$t = -0.27$$

Appèndix B

Dependent t test calculation for HO_2

$$t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{n \times \sum D^2 - (\sum D)^2}{n^2 \times (n-1)}}}$$

$$t = \frac{211.87 - 263.33}{\sqrt{\frac{15 \times 40170 - (-772)^2}{15^2 \times 14}}}$$

$$t = \frac{-51.46}{\sqrt{\frac{602530 - 595984}{3150}}}$$

$$t = \frac{-51.46}{\sqrt{2.08}}$$

$$t = -35.74$$

Appendix C

Dependent t test calculation for HO_3

$$t = \frac{\bar{y}_1 - \bar{y}_2}{\sqrt{\frac{n \times \Sigma D^2 - (\Sigma D)^2}{n^2 \times (n-1)}}}$$

$$t = \frac{212.67 - 262.80}{\sqrt{\frac{15 \times 38480 - (565504)}{225 \times 14}}}$$

$$t = \frac{-50.13}{\sqrt{\frac{11696}{3150}}}$$

$$t = \frac{-50.13}{1.93}$$

$$t = -25.97$$

Appendix D

Independent t calculation for HO_4

$$t = \frac{\bar{x}_2 - \bar{y}_2}{\sqrt{\frac{(n_x - 1) \times sd_x^2 + (n_y - 1) \times sd_y^2}{n_x + n_y - 2} \times \left(\frac{1}{n_x} + \frac{1}{n_y}\right)}}$$

$$t = \frac{263.33 - 262.80}{\sqrt{\frac{14(100.2) + 14(137.36)}{15 + 15 - 2} \times \left(\frac{1}{15} + \frac{1}{15}\right)}}$$

$$t = \frac{.53}{\sqrt{\frac{1402.8 + 1923.04}{28} \times (.13)}}$$

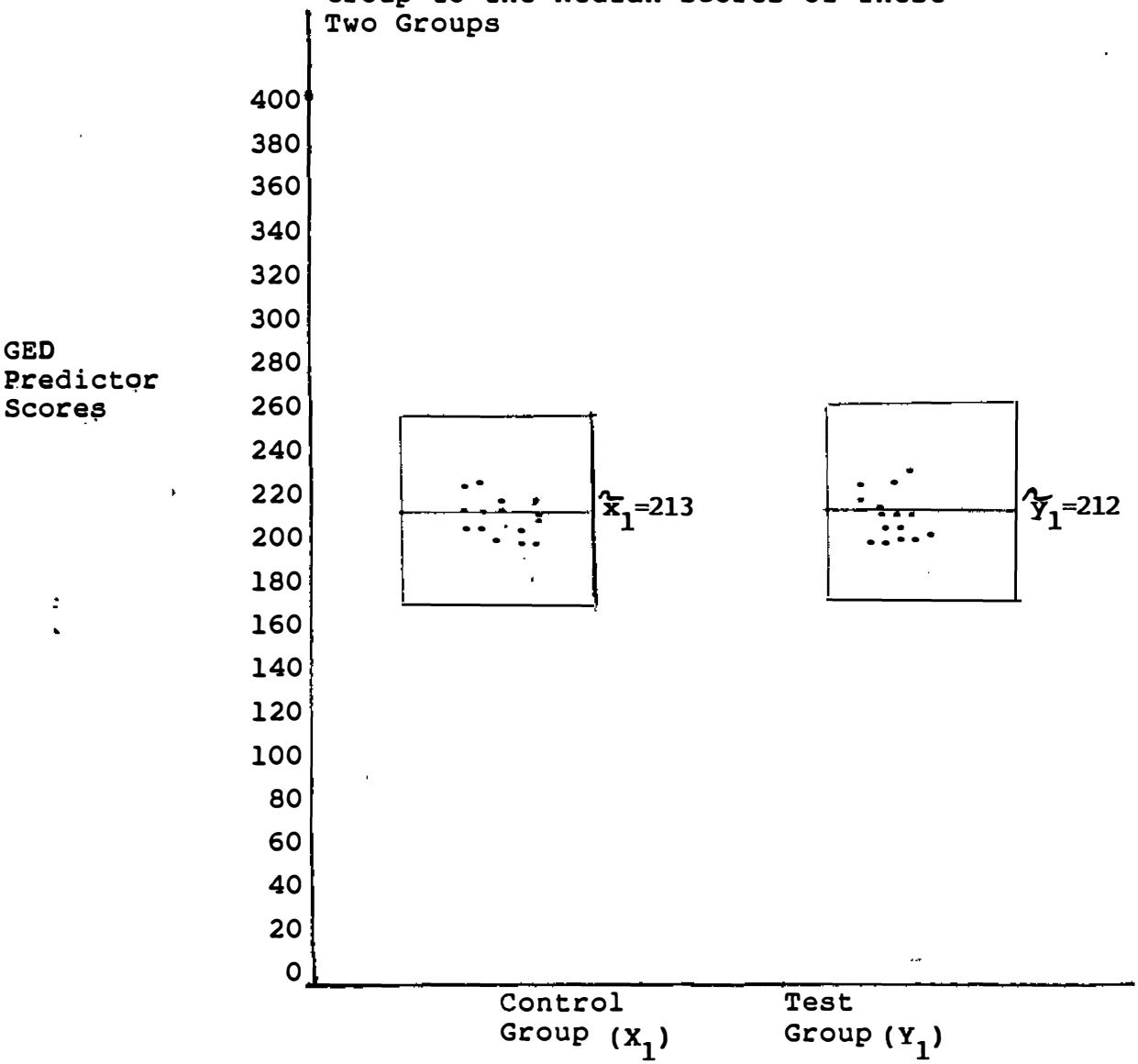
$$t = \frac{.53}{\sqrt{15.44}}$$

$$t = \pm .13$$

2. Graphs

APPENDIX E

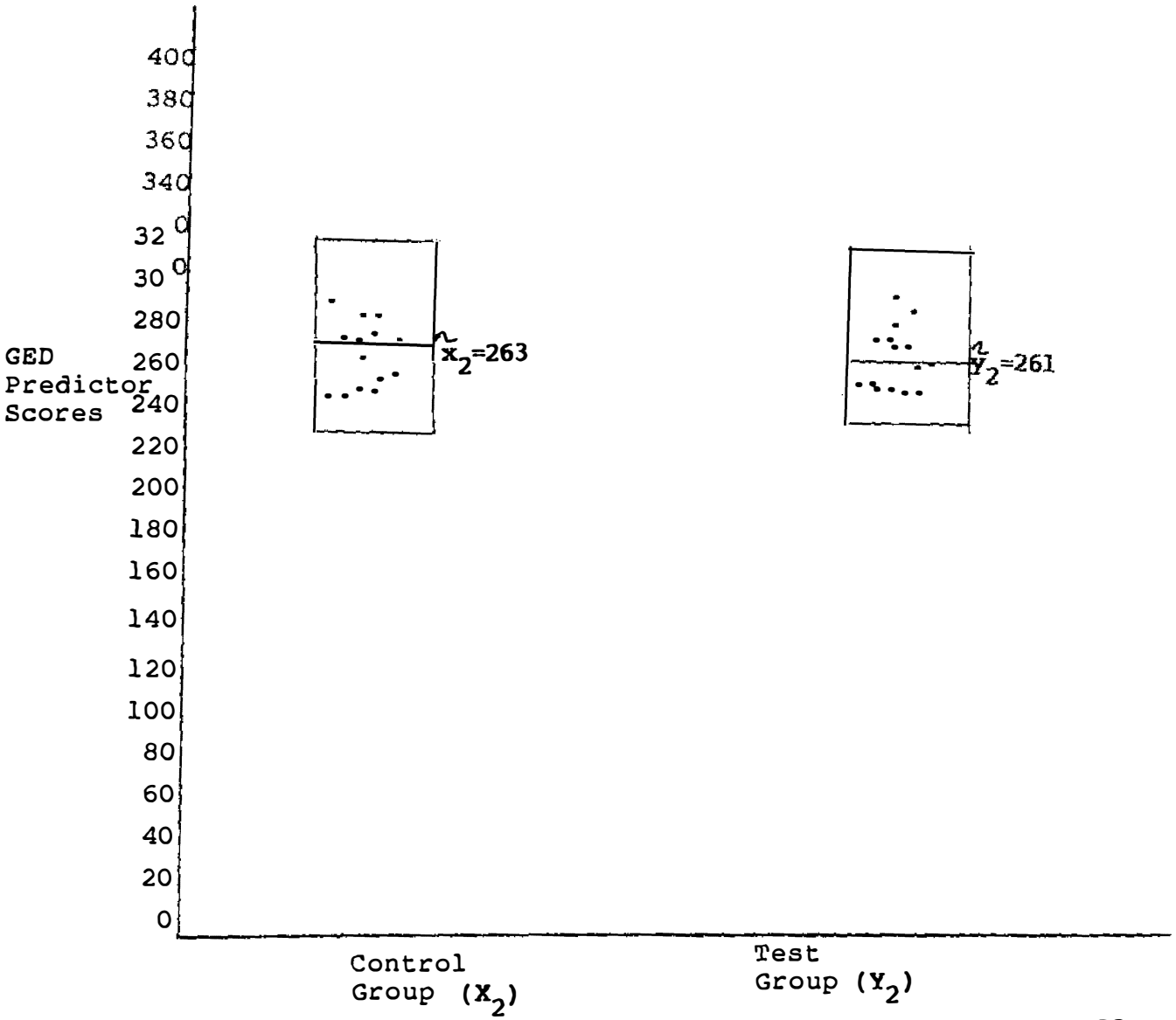
Box and Whisker Diagram Indicating the Relationship of the Pre-test Scores of the Control Group and Test Group to the Median Scores of These Two Groups



This diagram provides further evidence that there was no statistically significant difference between the scores of the control group and the test group, in relationship to their respective medians.

APPENDIX F

Box and Whisker Diagram Indicating the Relationship of the Post-test Scores of the Control Group and Test Group to the Median Scores of These Two Groups



This diagram provides further evidence that there was no statistically significant difference between the post-test scores of the control group and the test groups. In other words, the preparation programs for both of these groups were equivalent.