

DOCUMENT RESUME

ED 412 992

JC 970 548

AUTHOR Hogan, Robert  
TITLE Analysis of Student Success in Distance Learning Courses Compared to Traditional Courses.  
INSTITUTION Technical Coll. of the Lowcountry, Beaufort, SC.  
PUB DATE 1997-07-25  
NOTE 8p.; Paper presented at the Annual Conference on Multimedia in Education and Industry (6th, Chattanooga, TN, July 23-25, 1997).  
PUB TYPE Reports - Research (143) -- Speeches/Meeting Papers (150)  
EDRS PRICE MF01/PC01 Plus Postage.  
DESCRIPTORS Community Colleges; Comparative Analysis; \*Course Evaluation; \*Distance Education; \*Grades (Scholastic); Program Effectiveness; Success; Two Year Colleges; \*Withdrawal (Education)

ABSTRACT

A study was conducted at South Carolina's Technical College of the Lowcountry to compare the success rates of students enrolled in distance education courses to those of students in traditional courses. Average grades, completion rates, and withdrawal rates were analyzed for students in 11 courses, with outcomes compared for students enrolled in distance sections in fall 1996, and traditional sections taught by the same instructor the previous fall. Results indicated that distance students' average grades were .27 points higher than those received by students in traditional courses. Students in distance courses also had higher completion rates than traditional students, with 75% of the 220 distance students and 72% of the 457 traditional students successfully completing the course. Withdrawal rates, however, were higher for distance students, with 21% withdrawing, compared to 19% of the traditional students. Data tables showing average grades, success rates, and withdrawal rates by section; grade distributions; and grade distribution percentages are included. (BCY)

\*\*\*\*\*  
\* Reproductions supplied by EDRS are the best that can be made \*  
\* from the original document. \*  
\*\*\*\*\*

# Analysis of Student Success in Distance Learning Courses Compared to Traditional Courses

Presented at:

Sixth Annual Conference on Multimedia in Education & Industry  
Chattanooga, TN  
July 25, 1997

By:

**Dr. Robert Hogan**  
**Director of Research and Planning**

Technical College of the Lowcountry  
Beaufort, SC 2990  
Tel: (803) 525-8233  
E-mail: rhogan@tcl.tec.sc.us

U.S. DEPARTMENT OF EDUCATION  
Office of Educational Research and Improvement  
EDUCATIONAL RESOURCES INFORMATION  
CENTER (ERIC)

This document has been reproduced as received from the person or organization originating it.

Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

R. Hogan

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

2 970 548

## Introduction

The Research Office at the Technical College of the Lowcountry analyzed student success in Fall 1996 distance learning courses. Eight courses were broadcast from the college; French (FRE101) was received from another college; MAT102 was taught via videocassettes. Average grades, completion rates, and withdrawal rates for students in distance learning courses were compared with traditional courses taught by the same instructor during the previous Fall semester.

## Results

Results on shown in Table 1.

TABLE 1  
Course Grades and Student Success Rates

Course	Average Grade/(N <sup>1</sup> )		Completion Rate <sup>2</sup>		Withdrawal Rate <sup>3</sup>	
	Fall 1995 Traditional	Fall 1996 Distance	Fall 1995 Traditional	Fall 1996 Distance	Fall 1995 Traditional	Fall 1996 Distance
CRJ115	2.57 (23)	3.15 (14)	78%	93%	0%	7%
EVT101	3.80 (5)	3.25 (9)	100%	88%	0%	22%
FRE101	( <sup>4</sup> )	2.75 (8)		50%		50%
LEG233	2.94 (19)	3.30 (24)	79%	96%	21%	4%
MAT51	2.56 (79)	2.67 (8)	61%	38%	24%	13%
MAT101	2.09 (111)	2.31 (32)	70%	75%	16%	19%
MAT102	2.48 (38)	1.90 (23)	71%	26%	18%	57%
MGT101	2.46 (44)	1.83 (28)	75%	71%	9%	14%

Course	Average Grade/(N <sup>1</sup> )		Completion Rate <sup>2</sup>		Withdrawal Rate <sup>3</sup>	
	Fall 1995 Traditional	Fall 1996 Distance	Fall 1995 Traditional	Fall 1996 Distance	Fall 1995 Traditional	Fall 1996 Distance
OST137	2.88 (30)	3.77 (17)	70%	76%	17%	12%
PSC201	2.90 (15)	2.95 (26)	60%	77%	33%	23%
PSY201	2.51 (93)	2.81 (39)	80%	92%	13%	5%

<sup>1</sup>N=Total number of students enrolled  
<sup>2</sup>Completion Rate = Grades [(A-D)/N] \* 100  
<sup>3</sup>Withdrawal Rate =Withdrawals/N \* 100  
<sup>4</sup>FRE101 was received via T1 and had not been offered in Fall 1995

A t-test for independent samples showed that average grades were .27 points higher in distance learning courses compared with the traditional control courses. Referring to Table 2, the difference is significant at  $p < 0.05$ .

Table 2  
T-tests for Independent Samples Comparing Mean Grade Achieved in Traditional Versus Distance Learning Formats

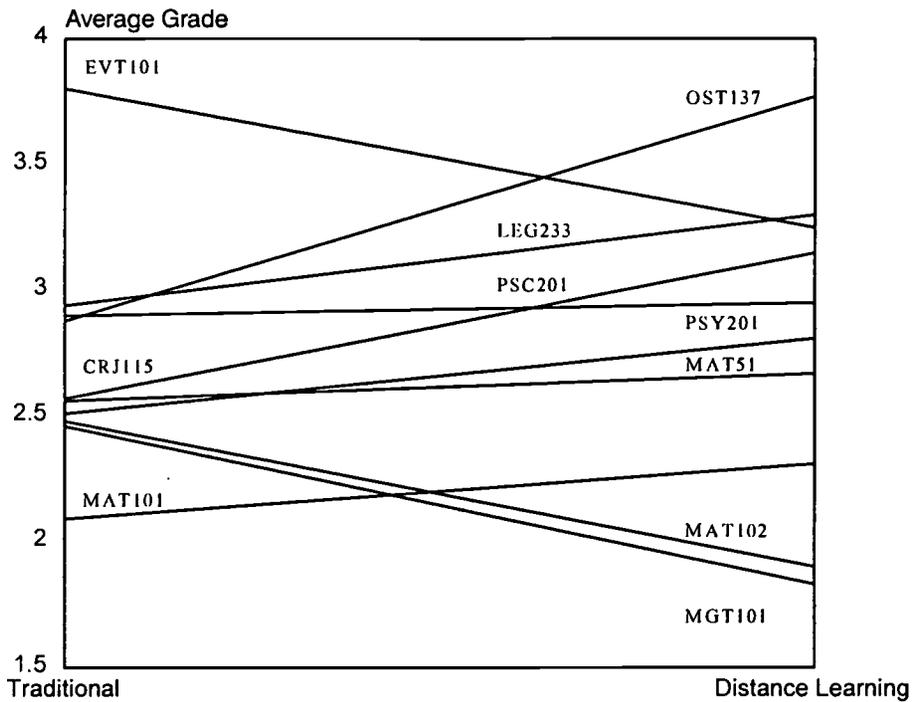
Variable	Number of Cases	Mean	SD	SE of Mean
TRADITIONAL	386	2.4793	1.375	.070
DISTANCE EDUCATION	177	2.7458	1.176	.088

Mean Difference = -.2665

t-test for Equality of Means		95%			
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-2.23	561	.026	.119	(-.501, -.032)
Unequal	-2.36	394.88	.019	.113	(-.488, -.045)

Although performance in distance learning courses was on the average higher, students in

EVT101, MAT102, and MGT101 did less well in distance learning sections, as shown in Figure 1, and FRE101, a telecourse received via T1, had an unusually high withdrawal rate of 50%. Because of the small sample sizes in certain courses and large variations in class size, the use of analysis of variance was not appropriate. The differences for EVT101 may be explained by the small number of students sampled ( $N_1=5$ ,  $N_2=9$ ), the discrepancies for MAT102 and MGT101 suggest the need for further evaluation.



**Figure 1.** Average Grade in Traditional Versus Distance Learning Courses

The grade distributions for the distance learning and control courses are shown in Tables 3 and 4. Table 3 shows the number of students receiving particular grades in each course. Table 4 shows the grade distributions as the percentage of students receiving particular grades.

TABLE 3  
Grade Distribution for Distance Learning (96.1) and Control Courses (95.1)

COURSE	A	B	C	D	F	W F	C F	I	W
CRJ115 95.1	8	7	3	0	5	0	0	0	0
CRJ115 96.1	8	0	4	1	0	0	0	0	1
EVT101 95.1	4	1	0	0	0	0	0	0	0
EVT101 96.1	4	3	0	1	0	0	0	0	1
FRE101 96.1	2	0	1	1	0	0	0	0	4
LEG233 95.1	7	6	2	0	0	2	0	0	2
LEG233 96.1	9	12	2	0	0	0	0	0	1
MAT51 95.1	12	26	10	0	1	8	11	0	11
MAT51 96.1	0	2	1	0	0	0	4	0	1
MAT101 95.1	21	17	26	14	15	15	0	0	3
MAT101 96.1	3	7	13	1	2	0	0	0	6
MAT102 95.1	9	9	5	4	4	2	0	0	5
MAT102 96.1	2	3	1	0	4	0	0	0	13
MGT101 95.1	11	12	6	4	6	0	0	0	5
MGT101 96.1	1	6	9	4	4	0	0	0	4
OST101 95.1	15	3	0	3	4	0	0	0	5
OST101 96.1	11	1	1	0	0	0	0	2	2
PSC201 95.1	3	5	1	0	1	0	0	0	5
PSC201 96.1	10	4	4	2	0	1	0	0	5
PSY201 95.1	20	27	20	7	7	2	0	0	10
PSY201 96.1	11	11	10	4	0	0	0	1	2

**TABLE 4**  
**Grade Distribution Percentages for Distance Learning (96.1) and Control Courses (95.1)**

<b>COURSE</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>F</b>	<b>WF</b>	<b>CF</b>	<b>I</b>	<b>W</b>
CRJ115 95.1	35%	30%	13%	0%	22%	0%	0%	0%	0%
CRJ115 96.1	57%	0%	29%	7%	0%	0%	0%	0%	7%
EVT101 95.1	80%	20%	0%	0%	0%	0%	0%	0%	0%
EVT101 96.1	44%	33%	0%	11%	0%	0%	0%	0%	11%
FRE101 96.1	25%	0%	13%	13%	0%	0%	0%	0%	50%
LEG233 95.1	37%	32%	11%	0%	0%	11%	0%	0%	11%
LEG233 96.1	38%	50%	8%	0%	0%	0%	0%	0%	4%
MAT51 95.1	15%	33%	13%	0%	1%	10%	14%	0%	14%
MAT51 96.1	0%	25%	13%	0%	0%	0%	50%	0%	13%
MAT101 95.1	19%	15%	23%	13%	14%	14%	0%	0%	3%
MAT101 96.1	9%	22%	41%	3%	6%	0%	0%	0%	19%
MAT102 95.1	24%	24%	13%	11%	11%	5%	0%	0%	13%
MAT102 96.1	9%	13%	4%	0%	17%	0%	0%	0%	57%
MGT101 95.1	25%	27%	14%	9%	14%	0%	0%	0%	11%
MGT101 96.1	4%	21%	32%	14%	14%	0%	0%	0%	14%
OST101 95.1	50%	10%	0%	10%	13%	0%	0%	0%	17%
OST101 96.1	65%	6%	6%	0%	0%	0%	0%	12%	12%
PSC201 95.1	20%	33%	7%	0%	7%	0%	0%	0%	33%
PSC201 96.1	38%	15%	15%	8%	0%	4%	0%	0%	19%
PSY201 95.1	22%	29%	22%	8%	8%	2%	0%	0%	11%
PSY201 96.1	28%	28%	26%	10%	0%	0%	0%	3%	5%

## Conclusions

Students received on the average higher grades ( $\Delta = 0.26$ ) in distance learning sections. Students in distance learning sections also had higher completion rates — In the traditional classes 72% of the 457 enrolled students were successful completers; in the distance learning classes 75% of the 220 students enrolled students were successful. Withdrawal rates were, however, higher in distance learning courses (21% versus 19%).



**U.S. Department of Education**  
Office of Educational Research and Improvement (OERI)  
Educational Resources Information Center (ERIC)

**ERIC**  
JC 970.548

## REPRODUCTION RELEASE

(Specific Document)

### I. DOCUMENT IDENTIFICATION:

Title: <i>Analysis of Student Success in Distance Learning Courses Compared to Traditional Courses</i>	
Author(s): <i>Hogan, Robert</i>	
Corporate Source:	Publication Date: <i>7-25-97</i>

### II. REPRODUCTION RELEASE:

In order to disseminate as widely as possible timely and significant materials of interest to the educational community, documents announced in the monthly abstract journal of the ERIC system, *Resources in Education* (RIE), are usually made available to users in microfiche, reproduced paper copy, and electronic/optical media, and sold through the ERIC Document Reproduction Service (EDRS) or other ERIC vendors. Credit is given to the source of each document, and, if reproduction release is granted, one of the following notices is affixed to the document.

If permission is granted to reproduce and disseminate the identified document, please CHECK ONE of the following two options and sign at the bottom of the page.

↑

**Check here**  
**For Level 1 Release:**  
Permitting reproduction in microfiche (4" x 6" film) or other ERIC archival media (e.g., electronic or optical) and paper copy.

The sample sticker shown below will be affixed to all Level 1 documents

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY

*Sample*

---

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

Level 1

The sample sticker shown below will be affixed to all Level 2 documents

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL IN OTHER THAN PAPER COPY HAS BEEN GRANTED BY

*Sample*

---

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

Level 2

↑

**Check here**  
**For Level 2 Release:**  
Permitting reproduction in microfiche (4" x 6" film) or other ERIC archival media (e.g., electronic or optical), but *not* in paper copy.

Documents will be processed as indicated provided reproduction quality permits. If permission to reproduce is granted, but neither box is checked, documents will be processed at Level 1.

*"I hereby grant to the Educational Resources Information Center (ERIC) nonexclusive permission to reproduce and disseminate this document as indicated above. Reproduction from the ERIC microfiche or electronic/optical media by persons other than ERIC employees and its system contractors requires permission from the copyright holder. Exception is made for non-profit reproduction by libraries and other service agencies to satisfy information needs of educators in response to discrete inquiries."*

Sign here →  
please

Signature: <i>Robert P. Hogan</i>	Printed Name/Position/Title: <i>Director, Research &amp; Planning</i>
Organization/Address: <i>Technical College of the Lowcountry P.O. Box 1288 Beaufort SC 29901-1288</i>	Telephone: FAX: E-Mail Address: Date:

### III. DOCUMENT AVAILABILITY INFORMATION (FROM NON-ERIC SOURCE):

If permission to reproduce is not granted to ERIC, or, if you wish ERIC to cite the availability of the document from another source, please provide the following information regarding the availability of the document. (ERIC will not announce a document unless it is publicly available, and a dependable source can be specified. Contributors should also be aware that ERIC selection criteria are significantly more stringent for documents that cannot be made available through EDRS.)

Publisher/Distributor:
Address:
Price:

### IV. REFERRAL OF ERIC TO COPYRIGHT/REPRODUCTION RIGHTS HOLDER:

If the right to grant reproduction release is held by someone other than the addressee, please provide the appropriate name and address:

Name:
Address:

### V. WHERE TO SEND THIS FORM:

Send this form to the following ERIC Clearinghouse:	Jonathan Kelly ERIC Clearinghouse for Community Colleges 3051 Moore Hall Box 951521 Los Angeles, CA 90095-1521
---	---

However, if solicited by the ERIC Facility, or if making an unsolicited contribution to ERIC, return this form (and the document being contributed) to: