

**Table 1: Predicting Membership in JiTT or non-JiTT Group from Exam Scores  
Glendale Community College, Fall, 2002**

<b>Course</b>	<b>Exam 1</b>	<b>Exam 2</b>	<b>Total (Both Exams)</b>
<b>Principles of Microeconomics (2 sections)</b>	Correct prediction: 21/38 = 55.3% No prediction for 16 students.	Correct prediction: 25/40 = 62.5% No prediction for 15 students.	Correct prediction: 46/78 = 59.0% No prediction for 31 students.
<b>Principles of Macroeconomics (2 sections)</b>	Correct prediction: 6/16 = 37.5% No prediction for 20 students.	Correct prediction: 11/21 = 52.4% No prediction for 21 students.	Correct prediction: 17/37 = 45.9% No prediction for 41 students.
<b>Both courses</b>			Correct prediction: 63/115 = 54.8% No prediction for 72 students.

**Table 2: Student Characteristics, Sample Means for JiTT and Non-JiTT Groups, By Exam  
North Carolina A&T State University, Fall, 2002**

	Exam 1 Groups		Exam 2 Groups		Exam 3 Groups	
	JiTT (A)	Non-JiTT (B)	Non-JiTT (A)	JiTT (B)	JiTT (A)	Non-JiTT (B)
Number of Observations	26	31	20	20	18	19
% Female	38.5	41.9	45.0	50.0	38.9	52.6
Class (Fresh.=1, Soph.=2, ...)	2.12	2.29	2.25	2.35	2.28	2.37
SAT Score – Verbal	498.18	443.85	491.67	450.59	498.13	442.50
SAT Score – Math	474.09	446.54	475.56	440.59	470.63	439.38
SAT Score – Total*	956.38	890.79	966.32	895.41	967.65	887.80
Grade Point Average (GPA) at start of semester	2.55	2.39	2.67	2.45	2.73	2.47
Credit Hours Completed	50.77	56.68	54.40	58.65	54.00	57.26
Age	20.96	21.00	21.10	20.80	21.33	20.95
Exam Score (out of 100)	62.54	50.57	60.1	54.18	82.36	61.42
Exam Score JiTT-related Questions**	14.00	11.74	11.18	11.50	11.39	8.37
Distribution Across Sections***	50/50	55/45	50/50	60/40	50/50	58/42
Exam 1 Score			66.98	52.58	69.89	51.03
Exam 2 Score					61.59	55.24

\* Total SAT score does not equal the sum of the verbal and math sections because some students only have their total SAT score reported.

\*\*Exam 1 includes 2 JiTT-related questions worth a maximum of 20 points; exam 2 includes 2 JiTT-related questions worth a maximum of 27 points; exam 3 includes 1 JiTT-related question worth a maximum of 15 points.

\*\*\*The sample includes students from two sections. The numbers indicate the percentage of students in each JiTT/non-JiTT group in each of the two sections.

**Table 3a: Regression Results - Exam #1  
North Carolina A&T State University, Fall, 2002**

	Model and Estimated Coefficients (p-values in parentheses)						
	Dependent Variable: Exam 1 Total Score				Dependent Variable: Exam 1 JiTT-related Questions		
Variables Included	1	2	3	4	6	7	8
Constant	50.56 (0.000)	-20.169 (0.061)	21.02 (0.059)	-34.16 (0.068)	11.74 (0.000)	1.00 (0.768)	7.21 (0.016)
JiTT Group Dummy	11.97 (0.012)	5.567 (0.115)	8.85 (0.061)	6.70 (0.054)	2.26 (0.055)	1.43 (0.203)	2.19 (0.078)
SAT (Total)		0.08 (0.000)		0.08 (0.000)		0.01 (0.002)	
GPA			12.46 (0.006)				1.80 (0.127)
Credits				0.12 (0.123)			
Age				0.64 (0.366)			
Gender (female=1)				-4.92 (0.158)			
Number of Obs.	57	56	53	56	57	56	53
R <sup>2</sup>	.107	.518	.218	.579	.066	.220	.118

**Table 3b: Regression Results - Exam #2**  
**North Carolina A&T State University, Fall, 2002**

	Model and Estimated Coefficients (p-values in parentheses)								
	Dependent Variable: Exam 1 Total Score					Dependent Variable: Exam 1 JiTT-related Questions			
Variables Included	1	2	3	4	5	6	7	8	
Constant	60.1 (0.000)	-10.78 (0.458)	15.94 (0.207)	-6.10 (0.817)	-0.03 (0.999)	11.18 (0.000)	-10.13 (0.048)	-1.98 (0.645)	
JiTT Group Dummy	-5.93 (0.287)	0.15 (0.973)	-3.99 (0.413)	0.27 (0.954)	3.74 (0.442)	0.33 (0.856)	2.03 (0.196)	0.79 (0.638)	
SAT (Total)		0.07 (0.000)		0.07 (0.000)	0.04 (0.087)		0.02 (0.000)		
GPA			16.74 (0.001)					5.04 (0.002)	
Credits				-0.02 (0.871)	-0.04 (0.697)				
Age				-0.15 (0.880)	-0.35 (0.708)				
Gender (female=1)				-1.58 (0.739)	2.82 (0.574)				
Exam 1 Score					0.45 (0.051)				
Number of Obs.	40	39	37	39	39	40	39	37	
R <sup>2</sup>	.030	.421	.329	.425	.490	.001	.348	.241	

**Table 3c: Regression Results - Exam #3**  
**North Carolina A&T State University, Fall, 2002**

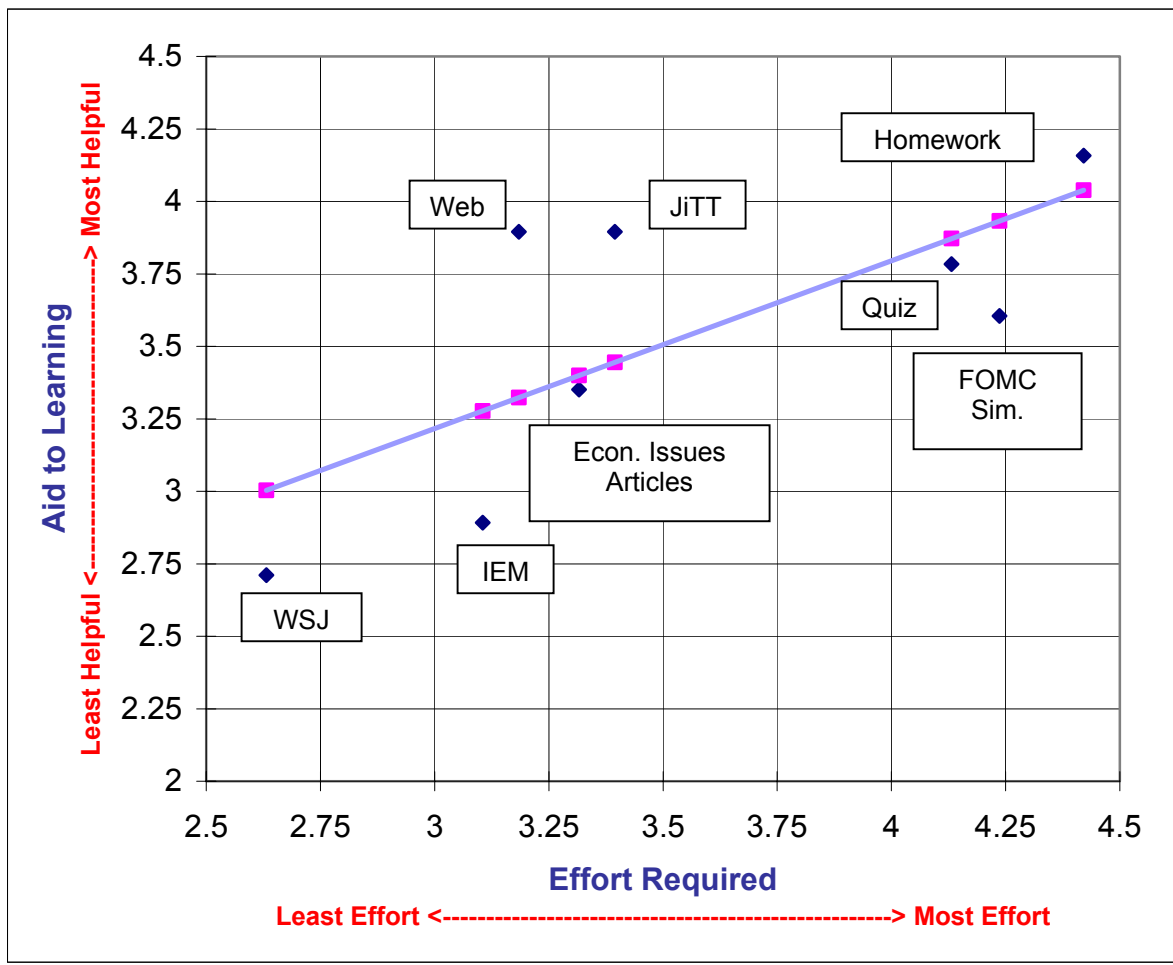
	Model and Estimated Coefficients (p-values in parentheses)							
	Dependent Variable: Exam 1 Total Score					Dependent Variable: Exam 1 JiTT-related Questions		
Variables Included	1	2	3	4	5	6	7	8
Constant	61.42 0.000	-27.16.9 0.118	7.04 0.659	-15.25 0.603	7.36 0.806	8.37 0.000	-0.06 0.985	2.17 0.409
JiTT Group Dummy	20.94 0.006	11.88 0.041	16.14 0.018	11.73 0.000	6.93 0.258	3.02 0.007	2.23 0.037	2.48 0.026
SAT (Total)		0.10 0.000		0.10 0.045	0.03 0.337		0.01 0.009	
GPA			21.31 0.002					2.46 0.021
Credits				0.15 0.210	0.13 0.251			
Age				-0.58 -0.583	-0.95 0.363			
Gender (female=1)				-9.23 0.107	-4.13 0.500			
Exam 1 Score					0.49 0.133			
Exam 2 Score					0.30 0.164			
Number of Obs.	37	36	35	36	35	37	36	35
R <sup>2</sup>	.197	.562	.427	.612	.678	.191	.339	.319

**Table 4: Mean Responses to End-of-Semester Student Questionnaire  
Ranking Various Course-Related Activities  
North Carolina A&T State University, Fall, 2002**

<b>Aid to Learning</b>	<b>(1=least helpful, 5=most helpful)</b>
Homework assignments	4.16
Class lectures	3.95
In-class activities (e.g. market trading experiment)	3.92
Just-in-Time Teaching (JiTT) questions	3.89
Use of the web, including Blackboard course site	3.89
Quizzes	3.78
FOMC simulation assignment	3.61
Economic Issues article analysis	3.35
Iowa Electronic Markets (IEM) trading	2.89
<i>Wall Street Journal</i>	2.71
<b>Effort Required</b>	<b>(1=least effort, 5 =most effort)</b>
Studying for exams	4.58
Homework assignments	4.42
FOMC simulation assignment	4.24
Quizzes	4.13
Just-in-Time Teaching (JiTT) questions	3.39
Economic Issues article analysis	3.32
Use of the web, including Blackboard course site	3.18
Iowa Electronic Markets (IEM) trading	3.11
<i>Wall Street Journal</i> , current events reading	2.63

Note: Number of Responses = 38

**Figure 1**  
**Relationship Between Student Perceptions of Effort and Learning Benefits for Various Course Activities**  
**North Carolina A&T State University, Fall, 2002**



Note: actual observations are represented by black diamonds and are labeled individually; the line represents the regression line that best fits the data.