The Value of Learning Communities in the Economics Classroom

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Abstract

Learning communities represent a novel way to adapt interdisciplinary studies to higher education, to improve student learning, and to positively affect retention rates. This paper reports the findings of a learning community study at Western Carolina University where student attitudes appeared to have been positively influenced by this new paradigm. Attitudes of learning community students were measured against their non-learning community counterparts. The findings of this research suggest that by using an Expeditionary Learning Outward Bound (ELOB) model—a paradigm, that while stressing a theme, also involves fieldwork and community service—learning communities can be an effective way of improving student attitudes toward learning, especially attitudes concerning the importance of excellence in writing and group study as a significant component of success in the field of economics. In addition, this study lays the groundwork for establishing a "best practice" for teaching in learning communities, especially as it applies to the discipline of economics.

In recent years, colleges and universities have begun to institute "learning communities" in an effort to increase retention; to foster coherence in the academic, social, and residential arenas; and to inspire a rigorous pursuit of knowledge. Lenning and Ebbers (1999) have noted that "the two primary challenges in higher education today are to meet the public's demand for maximizing students' learning and being accountable for what students learn" (p. 15). The emergence of learning communities is one attempt to meet these twin challenges.

Several educators have claimed that such environments positively affect student success in regards to achievement, learning, persistence, and retention (Astin, 1993; Kuh, Schuh, & Whitt, 1999; Matthews & Smith, 1996; Tinto, 1987). In addition to these researchers, Parker J. Palmer (2000) has advocated the concept of connection in the academy when he notes that "it is connectedness that allows us [teachers] to best pursue our mission, the mission of knowing, teaching, and learning" (p. 1). Is connectedness, as Palmer has suggested—especially as it pertains to learning communities—a viable framework for structuring the college experience? If connectedness allows university professors to best pursue our mission, then what happens when we strive to make connections among disciplines, among faculty and students, and among students and their community?

Moreover, if connectedness allows university professors to best pursue their mission, then what happens when we strive to make connections between economics and English composition? Our research suggests that learning communities can revolutionize the college classroom and, specifically, the economics and English composition classrooms in the following ways: colleagues share ideas and teaching practices;

students learn the importance of writing in the research process and in the discipline of economics; and fieldwork serves as the primary source of research, service, and learning.

Learning Communities at Western Carolina University

In the academic year 1998-1999, Western Carolina University piloted its own learning community program in an effort to increase retention rates and promote interdisciplinary education. During its four years of existence, from academic year 1998-1999 through academic year 2001-2002—when learning communities became mandatory for all incoming freshmen—the program grew from eight learning communities to fifty-four such groups. At the time of this writing, the learning community program at WCU is in a moratorium. The Liberal Studies Oversight Committee is presently considering whether or not to continue the program and if so in what form.[1] Fred Hinson, Associate Vice Chancellor of Academic Affairs, thought that although there was not a big increase in grade point average (GPA) from learning community participation, learning communities were beneficial because learning community students were believed to be more social and more connected (Hinson, Personal communication, September 12, 2002).

The learning community paradigm can be adapted to several designs. For example, the paradigm may be focused around freshman interest groups (FIG), general education, gateway courses, developmental and basic studies; and honors programs (Matthews & Smith, 1996, pp. 1-3). Western Carolina University adopted a learning community design that linked courses. The courses that were linked were USI 130, a one-credit class designed to help incoming freshmen acclimate to college life; a three-credit course in English composition; and another academic course—in our case, an introductory survey course, Economics 104. There were two basic variations of the learning community model employed at Western Carolina University. One arrangement was focused around a theme—similar to the FIG model—and the other design had no such theme. It is our contention that those learning communities that are theme-based not only increase intellectual interaction between faculty and students, and thereby enhance learning, but also may, if properly structured, foster connections between the university and the local community.[2]

Regardless of its structure, theme or non-theme related, each learning community consisted of eighteen to twenty students who were housed in the same dormitory, perhaps even the same hall, and who shared two to three academic classes. In the theme-based paradigm, a team of professors and Student Affairs representatives selected a theme for academic study as well as for extra-curricular activities. Meetings were held before each semester to ensure that each learning community teaching team had the time and resources to plan an effective semester. Furthermore, each learning community had access to

funds that the faculty team could spend at their discretion; for instance, funds could be used for the travel that was necessary for extra-curricular activities that complemented the theme. These students also benefited from a peer mentor, an upperclass student assigned to a particular learning community to act as a liaison between faculty and students, as well as a person to guide and counsel students through their transition period from a high school environment to a university milieu.

While the learning community paradigm was a primary component of the freshman curriculum at Western Carolina University, statistics have revealed that students in learning communities did not show significant differences in GPA, or retention rates when compared with their non-learning community counterparts. However, if one examines particular learning communities, specifically those that involve a theme, the evidence, at least in our experience, reveals a different story. For example, all twenty students in our theme-based learning community returned for the spring semester; this is a highly unusual statistic for a university that, as Chancellor Bardo noted, historically loses one-third of its freshmen every winter (Bardo, 2000, p.1). Furthermore, all twenty students passed Composition 101, Economics 104, and USI 130 with a minimum grade of "C." To provide an explanation for these apparent successes, a description of our particular learning community involvement may offer some insight.

The Southern Appalachian Experience: Finding A Sense of Value

During the spring of 2000 each learning community was asked to select a theme that would guide course content, class discussion, and social activities for the upcoming fall semester. The Expeditionary Learning Outward Bound model (ELOB) is a curriculum model used in elementary and high schools that employs interdisciplinary learning, combined classes and, moreover, has elements of fieldwork and community service. We chose to use a variation of that paradigm on the university level. Leah Rugen & Scott Hartl (1994) have presented the idea of a learning expedition. In their article "What are we Learning about Learning Expeditions?" they suggest that at the "organizing center of the expedition is an intriguing and open-minded theme or topic, which defines the territory and also generates questions" (p. 20). Such a theme feeds student curiosity and leads students to answers that can only be found outside the classroom (p. 20). In addition to a theme, learning expeditions are marked by extensive research, such as fieldwork and interviews, and experiences that require students to make use of community resources, people, and places. These activities are integral components of the ELOB model because they immerse students in a topic while leading them to make "meaningful contributions" to the community and they bring the "outside world to the classroom" (p. 20).

The ELOB paradigm is the basic approach that we employed in our learning community. We established the theme "The Southern Appalachian Experience: Finding A Sense of Value." In economics, the question morphed into "How does one determine the value of something when its monetary worth is not decided in a market?" Based on the ELOB model, we sculpted a theme that would motivate our students to inquiry, and during the semester our students were taught the basic economic principles and techniques used to value public goods.

In implementing our design, we scheduled our classes back-to-back, with Composition 101 from 8:00 to 9:15 and Economics 104 from 9:30 to 10:45. During the first portion of the semester, we allocated time in our respective classes for laying the foundation of our proposed study, while outside of class we scheduled group activities that coalesced around our theme. Essentially, we provided experiences for students that would help them to better understand the unique value of this particular locality—the Southern Appalachian region. For instance, we took our students whitewater rafting on the Nantahala River and we hiked a local mountain trail. Also, the class visited the school's Mountain Heritage Museum to learn more about the unique culture of Southern Appalachia.

While serving a social function, these activities also fulfilled an academic purpose; not only did these ventures inform students about our theme, but they also helped break the traditional stereotypes about the unapproachable college professor. It seemed to us that because of these undertakings and our participation in them, learning community students were more apt to respond to class discussions and felt more comfortable in the classroom setting than traditional first semester undergraduates. Also, they engaged more actively in academic group study than is normally the case for new freshmen. During the second half of the semester, we immersed our students in our theme by setting a specific project before them that would combine both writing and economic skills.

The Greenway Project

A central element in economics is the determination of value. In the market for private goods and services, consumers “reveal their preferences” through the prices they pay. Public goods, such as clean air, clean water, a lighthouse, and a greenway, certainly have worth, but they are not produced and exchanged in a market. Consequently, the determination of their benefits creates a challenge to economists, as well as a concomitant problem for those policy-makers who are trying to decide the proper allocation of resources for the production of these goods.

Economists have developed methods for estimating the value of these important resources. One such technique used extensively in the field of environmental economics is the contingent valuation method.[3] This technique uses a survey to estimate the value of public goods. The heart of the questionnaire contains the demand questions in which respondents are asked to "state their preferences" for the good being valued in a hypothetical market. It is this approach that students used to calculate the value of the proposed Jackson County Greenway.

The learning community students developed and refined the interview instrument with our guidance and the invaluable assistance of Professor Susan Kask. The final version of the document contained three distinct sections. The first part of the survey contained the warm-up questions, which were designed to identify respondents' outdoor activities and their potential interest in using the greenway. The second segment of the questionnaire, the portion containing the demand questions, was aimed at estimating people's "willingness-to-pay," that is, their demand for this amenity. The final portion of the document contained the demographic questions. The survey instrument is illustrated in Appendix A.

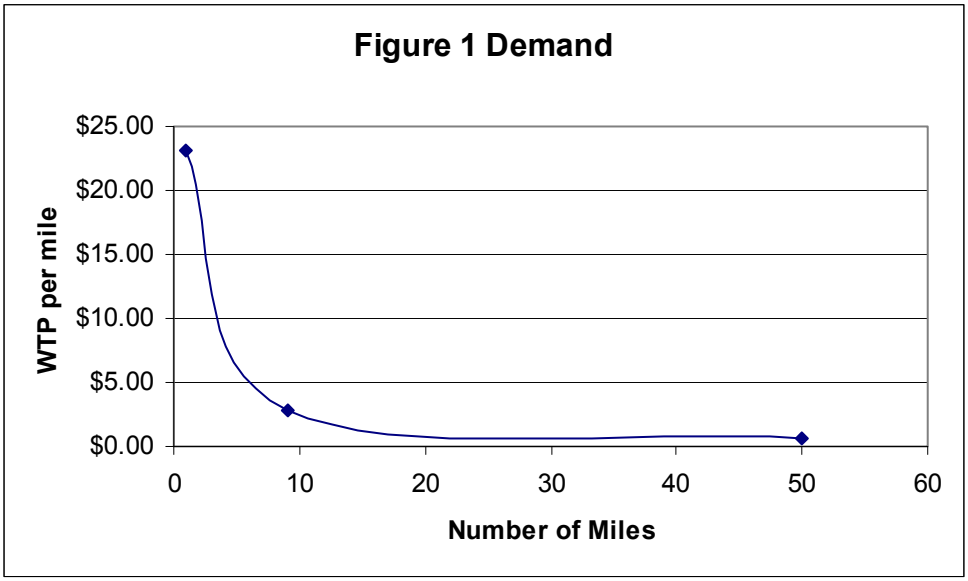
The actual interviews were conducted at Wal-Mart (the proverbial town square of Cullowhee/Sylva) between 3:00 and 7:00 p.m. on a weekday afternoon. Students asked for and received permission from Wal-Mart management before the actual interviews were conducted. Each undergraduate student interviewed approximately ten people during this period of time. Out of the 413 individuals who were approached for an interview, 207 people completed the survey for a response rate of roughly fifty percent.

Once the work in the field was completed, the primary data was entered on a spreadsheet and examined. The crucial analysis involved the willingness-to-pay questions in the demand section of the study. Two problems are common when estimating value using the contingent valuation method. Inconsistent answers can occur because of both the hypothetical nature of the questions and the inexperience of respondents in trying to value a public good. For example, respondents may indicate that they are not willing to pay either $10 or $25 in question 8a or 8b, and then reply that they are willing to donate $100 in 8c. There were ten interviews that contained inconsistent responses and therefore these observations were excluded from the analysis.

The second difficulty concerns "protest zeros" (Mitchell & Carson, 1989, pp. 166-167, 268). In this case, people give a response of zero in 8c, not because they don't value the proposed greenway, but rather because they are protesting concerns about other issues such as high taxes or dissatisfaction with local government. These answers result in too low an approximation of the willingness-to-pay and consequently

must be dropped from the analysis. Twenty-two of these surveys were identified, which left us with a working data set of 175 observations.

The completed surveys were almost equally divided in number between questionnaires that were estimating the willingness-to-pay for greenway distances of one, nine, and fifty miles. These distances (quantities) were chosen because they represent the proposed lengths of the first segment of the greenway, the first entire link of the project, and the entire greenway, respectively. The willingness-to-pay was $23.08 for one mile, $25.59 for nine miles, and $29.59 for fifty miles. The mean willingness-to-pay per mile for each of the three distances is depicted in Figure 1.



While students worked collaboratively to draft the questionnaire, they worked individually to compile their own reports on the project. The fieldwork provided all the necessary empirical information to make a thorough analysis of the value of the proposed greenway in Jackson County. Furthermore, this project served a myriad of purposes. In the English composition classroom, it showed the value of revision. Most students were not ready to hand in the first draft and wanted time to play with words and modify organization in order to have a clear and comprehensible paper. In Economics 104, the undertaking applied key economic principles and fostered collaborative learning. Also, the project connected students to their community by introducing them to residents in the area. Through fieldwork, students learned about the geographic locale and the environmental aesthetics of the Southern Appalachians, and their research provided valuable data that was given to both the Mayor of Sylva and Jackson County Greenway Network, Inc. All in all, the learning expedition model provided a framework for a substantive and meaningful

experience, one which allowed us to fulfill our mission as teachers and one that helped our students discover a sense of connectedness to their new environment.

Student Attitude Analysis

At the end of the semester, a study was undertaken to ascertain whether student attitudes toward economics, English, and education in general differed between learning community participants and non-learning community participants. One sample consisted of students who were enrolled in Professor Ullmer's conventional survey course in economics; the other sample was made up of students who were taught the survey course as part of the learning community. Thirteen non-learning community students and sixteen learning community respondents completed the interview instruments. All students were first semester freshmen at Western Carolina University.

The essential part of the interview instrument was a series of opinion questions that asked students to assess their attitudes on a scale from 1 (strongly agree) to 5 (strongly disagree). A copy of the questionnaire is included in Appendix B. The raw data generated from each of the questions in the survey is presented in Appendix C. The descriptive statistics are presented below in Table 1 and indicate, through the lower mean scores recorded on each question by learning community students, that learning community participants had a more favorable opinion than their non-learning community counterparts on each measured criterion.

Table 1

Questions	NLC No. of Observations	NLC Mean	NLC Variance	LC No. of Observations	LC Mean	LC Variance
Question 4	13	2.0000	.5000	16	1.8750	.7833
Question 5	13	2.0000	.5000	16	1.7500	.6000
Question 6	13	2.3077	.7308	16	2.1875	.9625
Question 7	13	3.6923	1.2308	16	3.3125	1.8292
Question 8	13	3.3077	.7308	16	2.3125	.4958
Question 9	13	2.1538	.8077	16	1.5625	.7958

A chi-square test was employed to determine whether or not student attitudes were independent of participation in the learning community. The hypotheses for the test of independence were the following:

H_O: Student attitudes are independent of learning community participation
H_a: Student attitudes are not independent of learning community participation

As part of the trial, contingency tables were developed to summarize both the observed and expected frequencies for the two samples on each of the questions in the survey. The tables are displayed in Appendix D. The results of the chi-square test for independence are illustrated below in Table 2.

Table 2

Questions	df	X^2	p-value
Question 4	2	2.636045	.267664
Question 5	2	1.381361	.501235
Question 6	2	1.727187	.421644
Question 7	3	2.267890	.518700
Question 8	1	5.087557	.024098
Question 9	2	4.451577	.102982

Although attitudes among learning community students were consistently more favorable than their non-learning community counterparts, the only question that demonstrated statistical significance at the .05 level of risk was question eight, which dealt with the ability to write well as being important for success in the economics course. Other economic professors have often noted that their students are seldom able to articulate economic principles either orally in class or in written responses on exams or papers. Question nine, concerning the importance of group study to success in the survey course, was almost significant at the .10 level of risk, showing a p-value of approximately .102. This result is not surprising in that these attitudes are most closely related to the central element of the learning community—the research project. The relationship between writing and group effort and success in economics was ostensibly more tangible to students in these two instances.

A second test, a t-test on the difference between sample means, was then conducted. The use of this parametric test involves the assumption of normality, which may or may not be true in this case. However, the test appears fairly robust in that "[s]o long as the sample size is even moderate for each group, quite severe departures from normality seem to make little difference in the conclusions reached" (Hays, 1981, p. 287).

People tend to be "cognitive conservatives" in that they resist changing attitudes that conflict with existing beliefs (Zimbardo & Lippe, 1991, p. 205). Consequently, learning community members may be expected to exhibit more variation in attitude because of the new pedagogy being used. That is, some may adapt to the new paradigm, while others, who are "cognitive conservatives," may not. The computed variances between the two samples seem to bear this out. In questions four through seven learning community students exhibited a higher variance, though in questions eight and nine the non-learning community students had a higher variance. With that in mind, a t-test assuming unequal variances was used. Furthermore, a one-tailed test was conducted because it was assumed that the learning community students would have more favorable attitudes.

The following hypotheses were tested:

H_O: $\mu_1 - \mu_2 \geq 0$
H_a: $\mu_1 - \mu_2 < 0$

where: μ_1 = non-learning community mean.
μ_2 = learning community mean.

The critical t for this one-tail test at a level of risk of .05 is 1.7033. The results are given below in Table 3.Table 3

Question	NLC Mean	NLC Variance	LC Mean	LC Variance	t-Stat	p-value
Question 4	2.0000	.5000	1.8750	.7833	.4228	.3379
Question 5	2.0000	.5000	1.7500	.6000	.9071	.1862
Question 6	2.3077	.7308	2.1875	.9625	.3523	.3637
Question 7	3.6923	1.2308	3.3125	1.8292	.8308	.2067
Question 8	3.3077	.7308	2.3125	.4958	3.3701	.0013
Question 9	2.1538	.8077	1.5625	.7958	1.7680	.0444

The t-tests yielded results that seemed to reinforce the chi-square tests for independence. For example, in questions eight and nine, where student attitudes seemed most dependent on participation in the learning community, statistically significant differences in opinions between the two groups were observed. Specifically, students in the learning community had a more positive attitude than their counterparts concerning the relationship between good writing and success in economics, as well as the importance of working together as a group. The p-value for questions eight and nine, the only questions that displayed statistical significance at an alpha of .05, were .001 and .044, respectively.

Conclusion

In *Best Practice: New Standards for Teaching and Learning in America's Schools*, Zemelman, Daniels, & Hyde (1998) have borrowed the concept of "best practice," as it is meant in the medical and law professions, and applied it to an educational setting. Ultimately, best practice is "a shorthand emblem of serious, thoughtful, informed, responsible, state-of-the-art teaching" (Zemelman, Daniels & Hyde, 1998, p. viii). The writers acknowledge that identifying the best practice in the field of education is not as clear-cut as it is in professions such as law or medicine because quantifying results is more nebulous. However, it is still important that the profession should, to the extent possible, identify successful methods of teaching.

The learning community paradigm as described above—an adaptation of the ELOB model—may be the best practice for reaching freshmen undergraduate students. The interdisciplinary method featured a theme around which extracurricular as well as academic activities revolved and also involved students in

fieldwork and community outreach. Moreover, this theme highlighted a central issue concerning economics—the determination of value. A sophisticated technique was employed to value a proposed greenway for Jackson County. Results from the study were shared with the appropriate public officials, which revealed to students the importance of economic theory in the formulation of public policy. Furthermore, through the process of writing and revising their papers, students came to understand—as evidenced in the student attitude analysis—the importance of good writing skills as a necessary component of being an effective economist.

Feedback from pupils was positive and was reinforced by the return of all members of our learning community for the spring semester. This outcome was especially surprising in the face of retention rates of approximately 67 percent when all first semester freshmen at Western Carolina University are considered. The descriptive statistics revealed that learning community undergraduates had more favorable attitudes than their counterparts regarding English composition, economics, and education in general. Two statistical analyses, a chi-square test and a t-test, were employed to gauge whether empirical evidence indicated that the learning community was influential in a statistically significant way to this positive outcome. While learning community participation did not appear statistically significant in all of the observed student attitudes, the inferential statistics reveal that those aspects of the project that required writing skills and group work were statistically significant factors in determining more positive student attitudes.

Endnotes

[1] When the new Liberal Studies Program at Western Carolina University made learning community participation mandatory, some incoming freshmen, as well as some faculty members, balked at participating in the learning community program. Consequently, wheb the program is brought back in the upcoming Fall, 2003, semester, participation will be voluntary (F. Hinson, personal communication, September 12, 2002).

[2] Vincent Tinto and Anne Goodsell (1993) conducted both a qualitative and quantitative study of the effectiveness and outcomes of freshmen interest groups at the University of Washington. The study involved 442 FIG students and 1818 students in a control group.

[3] For a detailed discussion of the contingent valuation method, refer to *Using Surveys to Value Public Goods: The Contingent Valuation Method* (Mitchell & Carson, 1989).

[4] Cells with a value of zero were not used in calculating the chi-square statistics for the various questions. Also, the test will be weak if the E_{ij} are less than one. Conover's suggestion of combining categories where the E_{ij} were less than one was followed (Conover, 1972, p.152). The actual values used for the chi-square calculations are shown in the respective contingency tables for observed and expected values.

Appendix A

Jackson County Greenway
Western Carolina University
Economics 104

Thank you for participating in our survey. This survey is designed to gather information on what you think about a potential greenway in Jackson County. Greenways are corridors of protected open space managed for conservation and recreational purposes. They are open to the general public and may also serve as modes of transportation connecting commercial, educational, recreational, and employment centers.

PART I: Introduction.
In this section, we would like to ask you about your recreational activities and interests in the outdoors. Second, we want to ask you about your interest in using the greenway as an alternative route to get to work or school.

1) What activities do you enjoy doing outdoors? (Circle all that apply)
   a) Walking/Jogging/Hiking (on foot)
   b) Roller-blading/Bike Riding/Skate Boarding (on wheels)
   c) Swimming/Rafting/Kayaking (in the water)
   d) Hunting/Fishing/Trapping (sportsmanship)
   e) Reading Books/Magazines/Relaxing (non-interactive)
   f) Gardening/Yard-work (in your yard)
   g) Not interested at all in the outdoors

2) How much time do you spend participating in outdoor activities each week?

   a) 1-3 hours
   b) 4-6 hours
   c) 7-10 hours
   d) more than 10 hours
   e) none

3) Would you use a greenway as a place for recreational opportunities?
   a) Yes
   b) No
   c) Don't know

4) How many times a week would you use the greenway for recreational purposes?
   a) 1-2 times per week
   b) 3-5 times per week
   c) more than 5 times per week
   d) once or twice per month
   e) a few times per year
   f) none

5) If the greenway included a biking or walking path would you be willing to use the greenway as an alternative mode of transportation?
   a) Yes
   b) No (go to question 7)
   c) Not sure

6) How many times a week would you be willing to use the greenway as an alternative mode of transportation?
   a) 1-3 days a week
   b) 3-5 days a week

c) 5-7 days a week
d) Don't know

7) What portion of the greenway are you most likely to use for either recreational purposes or travel?
   a) Dillsboro to Webster
   b) Western Carolina University to Sylva
   c) Sylva to Dillsboro
   d) Western Carolina University to Forest Hills
   e) Don't know

PART II: Demand.
In this section, we want to better understand your demand for a potential greenway in Jackson County, **whether or not** you actually plan to use the greenway. ***All questions are hypothetical, and we are not collecting money.**

8) Greenways are corridors of protected open space managed for conservation and recreational purposes. They are open to the general public and also serve as modes of transportation connecting commercial, educational, recreational, and employment centers. At a recent town meeting, the idea of developing a greenway for Jackson County received overwhelming and unanimous support from those in attendance to proceed with the beginnings of a greenway.

   The *Jackson County Greenway Network, Inc.*, a non-profit organization, is developing a greenway linking Dillsboro, Webster, Sylva, WCU, and Forest hills. The project will be funded through grants from the transportation department and donations from the general public. In the questions below we ask you to tell us how much you are willing to support a greenway in Jackson County. The questions refer to a *hypothetical* one-time payment. Please consider your current income and expenses when you answer these questions, and please answer as if you were actually going to pay the amounts given.

a) Would you be willing to make a one-time donation **this year** of $10.00 to the *Jackson County Greenway Network, Inc.* to support **1 mile** of the greenway project?

a) Yes
b) No

b) Would you be willing to make a one-time donation **this year** of $25.00 to the *Jackson County Greenway Network, Inc.* to support **1 mile** of the greenway project?

a) Yes
b) No

c) What is the largest one-time donation you are willing to make this year for **1 mile** of the greenway project? $_____this year

d) **If you answered zero for question c above, please tell us why? (circle one)**

a) The greenway is not beneficial to me.
b) The greenway is important to me, but at this time I don't have the funds to donate.
c) The greenway is important, but I do not support the current local government.
d) The greenway is important, but I am not willing to pay anything for it.
e) The greenway is important, but I don't make donations to anything.
f) Other reason_____

PART III: Demographics.
Finally, we want to ask you some questions about yourself in order to compare your responses with other respondents. This helps us understand and potentially predict respondent values better. Your responses are **completely anonymous** and therefore can never be linked to your name.

9) What is your age? (circle one)
a) 18 – 21
b) 21 – 35
c) 36 – 50
d) 51 – 65
e) over 65

10) What is your gender? (circle one)
a) Male
b) Female

11) a) What is your marital status? (circle one)
a) Single
b) Married

b) Number of Children in Household _____

12) What is your state of residence? _____
If North Carolina resident, what is your county of residence? _____

13) What is the highest level of education that you have completed? (circle one)

a) No formal education
b) Some grade school
c) Completed grade school
d) Some high school
e) Completed high school
f) Some college
g) Completed college
h) Some graduate work
i) A graduate degree
(specify degree: MA, PhD, etc.)_____

14) What is your approximate household income from all sources, before taxes, in 1999? (circle one)
a) Less than $10,000
b) $10,000 to $19,999
c) $20,000 to $29,999
d) $30,000 to $39,999
e) $40,000 to $49,999
f) $50,000 to $59,999
g) $60,000 to $69,999
h) $70,000 or more

15) What is your racial origin?
a) Caucasian
b) African American
c) Hispanic American
d) Native American
e) Asian American
f) Other

Thank you for your participation! ! !

Appendix B

Western Carolina University
Department of Economics, Finance, and International Business
Student Opinion Survey

Student Profile (circle one)

1.	Gender	Male			Female	
2.	Is this class required for your degree?	Yes			No	
3.	Expected grade in this course	A	B	C	D	F

Opinion Questions (circle one)

		Strongly Agree				**Strongly Disagree**
4.	The subject matter covered in Economics is interesting and relevant to my life.	1	2	3	4	5
5.	The subject mattered covered in Economics is relevant to solving real-world issues.	1	2	3	4	5
6.	I would take another course in Economics.	1	2	3	4	5
7.	I would consider in majoring in Economics.	1	2	3	4	5
8.	The ability to write well helped me in my Economics course.	1	2	3	4	5
9.	Studying with classmates was beneficial to me in this course.	1	2	3	4	5

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10. Write freely about your overall impressions of Economics as a discipline or a profession based on your experience in this course. (Write on back if necessary.)

Appendix C

Student Attitude Survey Results

Question 4						
	1	2	3	4	5	Totals
Learning Community	7	4	5	0	0	16
Non-Learning Community	3	7	3	0	0	13
Totals	10	11	8	0	0	29
Question 5						
	1	2	3	4	5	Totals
Learning Community	7	6	3	0	0	16
Non-Learning Community	3	7	3	0	0	13
Totals	10	13	6	0	0	29
Question 6						
	1	2	3	4	5	Totals
Learning Community	5	4	6	1	0	16
Non-Learning Community	2	6	4	1	0	13
Totals	7	10	10	2	0	29
Question 7						
	1	2	3	4	5	Totals
Learning Community	2	2	5	3	4	16
Non-Learning Community	1	0	4	5	3	13
Totals	3	2	9	8	7	29
Question 8						
	1	2	3	4	5	Totals
Learning Community	2	7	7	0	0	16
Non-Learning Community	0	2	6	4	1	13
Totals	2	9	13	4	1	29
Question 9						
	1	2	3	4	5	Totals
Learning Community	10	4	1	1	0	16
Non-Learning Community	4	3	6	0	0	13
Totals	14	7	7	1	0	29

Appendix D[4]

Question 4

The subject matter covered in Economics is interesting and relevant to my life.

Student Attitudes

Observed Frequencies						
Learning community	7	4	5	0	0	16
Non-Learning community	3	7	3	0	0	13
Totals	10	11	8	0	0	29

Student Attitudes

Expected Frequencies						
Learning community	5.517241	6.068966	4.413793	0	0	16
Non-Learning community	4.482759	4.931034	3.586207	0	0	13
Totals	10	11	8	0	0	29

Question 5

The subject matter covered in Economics is relevant to solving real-world issues.

Student Attitudes

Observed Frequencies						
Learning community	7	6	3	0	0	16
Non-Learning community	3	7	3	0	0	13
Totals	10	13	6	0	0	29

Student Attitudes

Expected Frequencies						
Learning community	5.517241	7.172414	3.310345	0	0	16
Non-Learning community	4.482759	5.827586	2.689655	0	0	13
Totals	10	13	6	0	0	29

Question 6

I would take another course in Economics.

Student Attitudes

Observed Frequencies						
Learning community	5	4	7	0	0	16
Non-Learning community	2	6	5	0	0	13
Totals	7	10	12	0	0	29

Student Attitudes

Expected Frequencies						
Learning community	3.862069	5.517241	6.62069	0	0	16
Non-Learning community	3.137931	4.482759	5.37931	0	0	13
Totals	7	10	12	0	0	29

Question 7

I would consider majoring in Economics.

Student Attitudes

Observed Frequencies						
Learning community	0	4	5	3	4	16
Non-Learning community	0	1	4	5	3	13
Totals	0	5	9	8	7	29

Student Attitudes

Expected Frequencies						
Learning community	0	2.758621	4.965517	4.413793	3.862069	16
Non-Learning community	0	2.241379	4.034483	3.586207	3.137931	13
Totals	0	5	9	8	7	29

Question 8

The ability to write well helped me in Economics.

Student Attitudes

Observed Frequencies						
Learning community	0	9	7 0	0	16	
Non-Learning community	0	2	11	0	0	13
Totals	0	11	18	0	0	29

Student Attitudes

Expected Frequencies						
Learning community	0	6.068966	9.931034	0	0	16
Non-Learning community	0	4.931034	8.068966	0	0	13
Totals	0	11	18	0	0	29

Question 9

Studying with classmates was beneficial to me in this course.

Student Attitudes

Observed Frequencies						
Learning community	10	4	2	0	0	16
Non-Learning community	4	3	6	0	0	13
Total	14	7	8	0	0	29

Student Attitudes

Expected Frequencies						
Learning community	7.724138	3.862069	4.413793	0	0	16
Non-Learning community	6.275862	3.137931	3.586207	0	0	29
Total	14	7	6	0	0	29

References

Astin, A. W. (1993). *What Matters in College? Four Years Revisited.* San Francisco: Jossey-Bass.

Bardo, J. (2000 August 28). Remarks from the August 17, 2000 General Faculty Meeting. *The Reporter*, 1-4. Cullowhee: Western Carolina University.

Conover, W.J. (1971). *Practical Nonparametric Statistics*. New York: John Wiley & Sons.

Hays, W. L. (1981). *Statistics, 3rd edition*. New York: Holt, Rinehart, & Winston.

Kuh, G. D., Schuh, J. H., & Whitt, E. J. (1999). *Involving Colleges: Successful Approaches to Fostering Student Development and Learning Outside the Classroom.* San Francisco: Jossey–Bass.

Lenning, O. T., & Lebbers, L. H. (1999). The Powerful Potential of Learning Communities: Improving Education for the Future. [Electronic version]. *ASHE-ERIC Higher Education Report, 26*, (6).

Matthews, R., & Smith, B. L. (1996). Learning communities: A Structure for Educational Coherence. *Liberal Education, 82*, 4-6. Retrieved February 28, 20001, from Academic Search Elite Database.

Mitchell, R. C., & Carson, R. T. (1989). *Using Surveys to Value Public Goods: The Contingent Valuation Method.* Washington D.C.: Resources for the Future.

Palmer, P. J. 2000. Learning Communities: Reweaving the Cultures of Disconnection. *Washington Center News*. Retrieved September 28, 2002 from http://learningcommunities.evergreen.edu/pdf/spring2000a.pdf.

Rugen, L., & Hartl, S. (1994, November). The Lessons of Learning Expeditions. *Educational Leadership*, 52, (3), 20-23.

Tinto, V. (1987). *Leaving College: Rethinking the Causes and Cures of Student Attrition*, (2nd ed.). Chicago: University of Chicago Press.

Tinto, V., & Goodsell, A. (1993). A Longitudinal Study of Freshman Interest Groups at the University of Washington. National Center on Postsecondary Teaching, Learning, and Assessment. Washington D. C.: Office of Educational Research and Improvement. (ERIC Document Reproduction Service No. ED368269).

Zimbardo, P. G., & Lippe, M. R. (1991). *The Psychology of Attitude Change and Social Influence.* Philadelphia: Temple University Press.

Zemelman, S., Daniels, H., & Hyde, A**.** (1998). *Best Practice: New Standards for Teaching and Learning in America's Schools*, (2nd ed.). Portsmouth, New Hampshire: Heinemann.