

**PERCEPTIONS ON THE DIFFERENCES BETWEEN THE
SOCRATIC AND EXPERIENTIAL TEACHING METHODOLOGIES**

by

Dr. Marian C. Schultz
Associate Professor of Management
The University of West Florida
Adjunct Associate Professor
College of Career Education, Eglin AFB Resident Center, Florida

Dr. James T. Schultz
Associate Professor of Aviation Business Administration
Embry-Riddle Aeronautical University
College of Career Education, Eglin AFB Resident Center, Florida

Dr. Stephen O'Brien
Professor of Aeronautical Science
Embry-Riddle Aeronautical University
College of Career Education, Eglin AFB Resident Center, Florida

**Perceptions on the Differences Between the
Socratic and Experiential Teaching Methodologies**

Abstract

There are numerous technological advances which are readily available for us in the university classroom. While the use of computers, on-line data bases, video networking, etc. will serve to greatly enhance the understanding and dissemination of information to the students, the instructor must not neglect a fundamental necessity for any class - the delivery system. This research focused on two of the common delivery methodologies utilized in higher education, the Socratic and Experiential delivery systems. The research hypothesis stated that there will be a significant difference in the perceptions of students when evaluating the Socratic and Experiential teaching delivery methodologies. Students, especially at the graduate level, will perceive the need to become more involved in their educational experience. Because of this students will be significantly more receptive to the Experiential than the Socratic methodology. The null hypothesis stated that there will be no significant differences in the perceptions of students when evaluating the Socratic and Experiential teaching delivery system when evaluated at the $\alpha = .05$ level of significance. The results revealed the students significantly preferred the Experiential methodology when compared to the Socratic approach. The data revealed that 82.5% favored the Experiential methodology, while only 17.5% favored the Socratic approach. While the results of the Chi Square tests supported the research hypothesis, it should not be assumed that the Socratic methodology is not a useful highly successful delivery system. However for these particular courses, which were highly behavioral in design and content, the Experiential approach, as perceived by the students was significantly favored over the Socratic method.

**Perceptions on the Differences Between the
Socratic and Experiential Teaching Methodologies**

There are numerous technological advances which are readily available for use in the university classroom. While the use of computers, on-line data bases, video networking, etc. will serve to greatly enhance the understanding and dissemination of information to the students, the instructor must not neglect a fundamental necessity for any class - the delivery system. This research focuses on two of the common delivery methodologies utilized in higher education, the Socratic and Experiential delivery systems.

The Socratic Methodology

Prior to the Fifth Century BC, education was available solely to that strata of society that enjoyed wealth. The curriculum included subjects focused upon developing good tastes, judgement, and "...suitable moral qualities" (Lewis, 1965, p. 1). The Athenians considered the entire city their school, and everything they encountered was seen as an opportunity for learning.

The city-state was the dominant political entity and Athens was considered to be the most influential. The city was stratified with an aristocratic ruling class. As an extension of the divine right of kings, the aristocrats were believed to have inherent tendencies for good judgement and high moral qualities. During the Fifth Century, democracy became the prevailing form of government. The resulting expansion of commerce subsequently gave rise to a well-to-do middle class. So emerged a new class of society that had both the time and the

resources to take advantage of educational opportunities. The proud Athenian citizens considered the preparation for the participation in self-governance a high priority.

This new affluent class sought training in public speaking and the art of argumentation (Lewis, 1965). This education demand was filled by teachers called sophists who focused on the dimensions of argumentation and rhetoric. The course of study was based on the belief that the ordinary Athenian citizen needed to catch up with the Aristocrats' God-given abilities. Protagoras, a well-known sophist, was noted as saying: ...The student would...only learn what he has come to learn. What is that subject? The proper care of his personal affairs, so that he may best manage his own household, and also the State's affairs, so as to become a real power in the city, both as speaker and man of action. (Lewis, 1965, p. 1)

By contrast, Socrates taught for the sake of the educational process itself. Along with Plato and Aristotle, he sought to develop the desire to pursue education as a life-long endeavor (Klein, 1993). Education was undertaken for more than the sole purpose of learning specific skills applicable to a particular career field, and then dismissed once that demand had been met. Socrates advocated the never-ending search for self-knowledge--the continual process of searching for the limits of one's knowledge and abilities.

Socrates developed a unique individualized method of instruction used to assist his students in teaching themselves. This methodology was based on the idea that the student learns best what he learns himself. The teacher's role in the learning process is to encourage the student to seek the answers to the question they may have, rather than to simply depend on the transference of information. The Socratic method, with its continued line of questioning, would not rely on simple yes/no or descriptive type answers. It often leads to the break down of the self confident, proud student with the self revelation of ignorance or limited knowledge. When awareness of their ignorance occurs knowledge is allowed to begin. He was noted with the following remark: "Philosophy begins in wonder...and wonder only comes when one has an awareness of his own ignorance" (Lewis, 1965, p. 3).

Upon discovering that his friend Hippocrates was eager to go to Protagoras for instruction, Socrates engaged his friend in a line of questioning. His motive was neither to humiliate, nor to discourage Hippocrates from seeking education from Protagoras. He simply wanted his friend to fully understand his intentions. Socrates asked him to explain the urgency in paying Protagoras for education. Unable to provide a sufficient explanation for his action, Hippocrates gained awareness thereby achieving self-knowledge. This situation illustrates the Socratic methodology which was intended for students.

Arete, Greek for virtue or excellence, was a subject that Protagoras claimed he

could teach to his students. The point of contention was whether arete could be taught at all. Initially, Socrates did not believe the concept could be taught. Under irritating and intense interrogation (Socratic method), Protagoras eventually comes to the realization that he is unable to instruct on the subject of arete because it is not possible to fully understand the concept of arete itself. His self-knowledge was achieved through the questions that focused on its explanation. Surprisingly, Socrates' position on the subject was also altered by this line of questioning. He realized that arete was a knowledge that could be taught, but that qualified teachers were unavailable to teach it in Athens (Eisele, 1990).

His method of instruction was an invaluable tool, in his opinion, for gaining introspection that ultimately led to knowledge. The Socratic method urges students to look beyond the surface of a thought, principle, or theory. The line of inquiry that a teacher directs toward a student is meant to engage students in a deeper analysis of the subject matter. The student is forced to dissect the subject and seek to understand the core of the material. Moreover, Socratic methodology places students into a situation where they become aware of their subject ignorance. In so doing, the learning experience goes beyond mere definition of the subject, and extends to application and implication analysis. This indepth analysis is essential in order to develop critical thinking skills.

The Experiential Methodology

The experiential methodology can be seen as a reactionary movement to

compensate for the institutionalized standard of the lecture format of instruction. In fact, it suggests that the group discussion format is less than optimal. The experiential model entails taking students either prior to, or immediately after being exposed to particular subject matter and having them test the theories, principles, and hypotheses through simulations or in the real-world environment. In other words, the experiential methodology does not completely dismiss the lecture and "hands-on" experience in properly developing the knowledge and abilities of students.

This instructional approach is by no means a recent development. It has been asserted for years that learning through experience is the most effective strategy. There have been technological developments over the recent past that have made experiential instruction even more applicable. Specifically, the use of computers and multi-media have made it easier for teachers to use real-world simulations to enhance the learning environment.

Computer Assisted Instruction (CAI) is an early generation technologically-based learning system. The potential is there to develop this system into one that offers a dynamic complement to the programmed readings and class lectures. CAI could vary its method of instruction from a basic transfer of information (such a text alone or text followed by quiz, known as the Branching Programmed Instruction Model), to a method that includes simulations or real-world phenomena, allowing students to manipulate variables and then analyze the

repercussions of such changes (the experiential Model). The latter has been the most recent development in the use of CAI and ITS (intelligent tutoring systems). The Branching Programmed Instruction Model does nothing more than to try and replace the teacher in lectures, and is therefore not an advancement of the instructional technique. If the computer is going to be used, it should complement rather than substitute for classroom experience.

The type of textbook information that these tutorials are focused to convey are structural or static in nature. Theories, principles, and experiments are all presented in the tutorials, without an opportunity for the student to manipulate the variables within them to obtain a fuller understanding a process is required (Merril, 1994). The use of tutorials is maximized when it is used in combination with a more important areas. It is also appropriate as a focusing attention in the more important. It is also appropriate as a means of providing remedial instruction, due to misunderstandings emerging after the use of experiential techniques. Although tutorials are not ideal, they are effective when used properly.

By comparison with the static tutorial techniques, the experiential instruction model is responsive. The student is provided the opportunity to experience hands-on training of the material they have read or received in lectures. The advent of computer aided instruction makes this type of learning economically advantageous. The alternatives of maintaining the less optimal, but affordable, educational techniques or incurring excessive appears to provide

students with real-world experience appears to provide a less than desirable outcome. Beyond the cost of real-world experience, it is impossible for someone to control the environment to such an extent that the manipulation of particular variables could be attributed to a sole criteria. Computer simulations provide users with the ability to accomplish this manipulative strategy. Students could learn about theories and principles through readings or lectures, then test them utilizing simulations (McQuillen, 1992). Only the self-imposed limits of the student's interest and imagination will restrict the depth of understanding that could be achieved through the use of simulations.

Lee and Cafarella (1994) established that there were guideposts for experiential instructional activities that must be considered when developing this type of learning environment. First, it must be understood that the knowledge is not unfamiliar to an individual, rather it is a synthesis of past knowledge with new experiences. Second, there is a shift in responsibility from the teacher to the student. Finally, the ability to transfer knowledge from the learning environment to real-world application is contingent upon the degree of similarity between the two, and the degree of depth and detail provided in the academic environment (Lee, 1994).

These guideposts are just the beginning of the process. The teacher and academic institution must decide how to best implement the education program, while adhering to these parameters. The program must achieve a balance between the

academic portion and the field-based portion of the learning environment. In addition to classroom learning, "academics" refers to projects that may support the application of learning material. Experiential learning must provide students with the ability to take "what is learning", and apply it to particular skills or competencies in the real-world. The Experiential method must ensure that this acquisition of proficiencies is an aspect of an overall growth in knowledge experienced by a student. It is difficult to coordinate a curriculum which permits students to determine their specific courses and complementary field-based activities without faculty intervention. Direction must be provided to make certain that a student sustains an appropriate pattern of growth.

The Experiential model provides the most effective means of teaching students skills and competencies. This can be seen in contrast to the Socratic methodology which hopes to lead students into self-awareness necessary for further learning. While not all encompassing, each teaching methodology is appropriate in particular circumstances. In combination they are an outstanding method of embodying students with the thirst to seek continued knowledge, and acquire certain skills that could be applied to their intended profession. In terms of trying to reverse the trend of decreasing quality in graduates, the Experiential model is more appropriate in that it will develop student learning skills, while pursuing long term growth in the processing of student knowledge. Socratic methodology, while insufficient in providing students with applicable skills for their chosen profession, is valuable in that critical

students with real-world experience appears to provide a less than desirable outcome. Beyond the cost of real-world experience, it is impossible for someone to control the environment to such an extent that the manipulation of particular variables could be attributed to a sole criteria. Computer simulations provide users with the ability to accomplish this manipulative strategy. Students could learn about theories and principles through readings or lectures, then test them utilizing simulations (McQuillen, 1992). Only the self-imposed limits of the student's interest and imagination will restrict the depth of understanding that could be achieved through the use of simulations.

Lee and Cafarella (1994) established that there were guideposts for experiential instructional activities that must be considered when developing this type of learning environment. First, it must be understood that the knowledge is not unfamiliar to an individual, rather it is a synthesis of past knowledge with new experiences. Second, there is a shift in responsibility from the teacher to the student. Finally, the ability to transfer knowledge from the learning environment to real-world application is contingent upon the degree of similarity between the two, and the degree of depth and detail provided in the academic environment (Lee, 1994).

These guideposts are just the beginning of the process. The teacher and academic institution must decide how to best implement the education program, while adhering to these parameters. The program must achieve a balance between the

academic portion and the field-based portion of the learning environment. In addition to classroom learning, "academics" refers to projects that may support the application of learning material. Experiential learning must provide students with the ability to take "what is learning", and apply it to particular skills or competencies in the real-world. The Experiential method must ensure that this acquisition of proficiencies is an aspect of an overall growth in knowledge experienced by a student. It is difficult to coordinate a curriculum which permits students to determine their specific courses and complementary field-based activities without faculty intervention. Direction must be provided to make certain that a student sustains an appropriate pattern of growth.

The Experiential model provides the most effective means of teaching students skills and competencies. This can be seen in contrast to the Socratic methodology which hopes to lead students into self-awareness necessary for further learning. While not all encompassing, each teaching methodology is appropriate in particular circumstances. In combination they are an outstanding method of embodying students with the thirst to seek continued knowledge, and acquire certain skills that could be applied to their intended profession. In terms of trying to reverse the trend of decreasing quality in graduates, the Experiential model is more appropriate in that it will develop student learning skills, while pursuing long term growth in the processing of student knowledge. Socratic methodology, while insufficient in providing students with applicable skills for their chosen profession, is valuable in that critical

thinking is developed.

Research Design

The research hypothesis for this study states that there is a significant difference in the perceptions of students when evaluating the Socratic and Experiential teaching delivery methodologies. Changes in society are directly reflected in our educational system. Formality in some instances, has given way to informality. Students, especially at the graduate level, will perceive the need to become directly involved in their educational experience. This need to interact with the educational experience suggests that students will be significantly more receptive to the Experiential than the Socratic methodology. The null hypothesis states that there will be significant difference in the perceptions of students when evaluative the Socratic and Experiential teaching delivery systems at the $\alpha = .05$ level of significance.

To test this hypothesis, graduate students enrolled in classes at the University of West Florida (UWF) and Embry-Riddle Aeronautical University (ERAU) were surveyed as to their perceptions pertaining to the use of the Socratic and Experiential methodologies. Students in this research were enrolled in the University of West Florida's Master of Business Administration courses MAN 6156 (Organizational Behavior) Man 5105 (Management and Womens' Issues), and Embry-Riddle Aeronautical University's Master of Aviation Business Administration courses ABA 513 (Human Resources Management) and ABA 520 (Organizational Behavior).

The number of students participating in this study from the University of West Florida was 229, compared with 147 from Embry-Riddle Aeronautical University. Students were instructed utilizing one methodology for the first half of the course, (University of West Florida courses are 16 weeks in duration compared to nine weeks for the Embry-Riddle term), and after the midpoint of the course the other methodology was implemented.

At the midpoint of the class, the students were surveyed as to their perception on the methodology utilized (Appendix A). At the end of the course the students were once again surveyed, utilizing the identical questions which had been asked at the midpoint of the course, along with an additional question asking them to identify which of the two methodologies they preferred (Appendix B).

Perceptions on the Differences Between the Socratic and Experiential Methodologies

To ensure that no significant differences existed between the West Florida and Embry-Riddle responses, a two-dimensional Chi Square test was utilized to compare the data for questions 1-6 in the survey. The responses for the questions evaluating the Socratic methodology were compared between the two groups, as were those for the Experiential approach. Utilizing 4 degrees of freedom (df) and a significance level of $\alpha = .05$, a value equal to or in excess of 9.488 was necessary to reject the null hypothesis. The Chi Square results revealed no significant difference exists between the two groups for any of the six questions (Figures 1-6).

Cell Chi Square Values				
Row	Column	Observed	Expected	Chi Square
1	1	73.000	68.809	0.255
1	2	53.000	54.734	0.055
1	3	11.000	12.120	0.103
1	4	6.000	7.037	0.153
1	5	4.000	4.301	0.021
2	1	103.000	107.191	0.164
2	2	87.000	85.266	0.035
2	3	20.000	18.880	0.066
2	4	12.000	10.963	0.098
2	5	7.000	6.699	0.013

Complex Chi Square	
Statistic	Value
Chi Square	0.965
Rows	2
Columns	5
Degrees of Freedom = $(R - 1)(C - 1)$	$= (2 - 1) (5 - 1) = 4$

Figure 1. UWF and ERAU responses to question 1.

Perceptions on the Differences Between the Socratic and Experiential Methodologies

Cell Chi Square Values				
Row	Column	Observed	Expected	Chi Square
1	1	80.000	77.000	0.177
1	2	52.000	51.333	0.009
1	3	8.000	7.000	0.143
1	4	5.000	7.778	0.992
1	5	2.000	3.889	0.917
2	1	118.000	121.000	0.074
2	2	80.000	80.667	0.006
2	3	10.000	11.000	0.091
2	4	15.000	12.222	0.631
2	5	8.000	6.111	0.584

Complex Chi Square	
Statistic	Value
Chi Square	3.564
Rows	2
Columns	5
Degrees of Freedom = (R - 1)(C - 1)	= (2 - 1) (5 - 1) = 4

Figure 2. UWF and ERAU responses to question 2.

*Perceptions on the Differences Between the
Socratic and Experiential Teaching Methodologies*

Cell Chi Square Values				
Row	Column	Observed	Expected	Chi Square
1	1	83.000	79.364	0.167
1	2	53.000	51.215	0.062
1	3	5.000	8.210	1.255
1	4	4.000	5.082	0.231
1	5	2.000	3.128	0.407
2	1	120.000	123.636	0.107
2	2	78.000	79.785	0.040
2	3	16.000	12.790	0.806
2	4	9.000	7.918	0.148
2	5	6.000	4.872	0.261

Complex Chi Square	
Statistic	Value
Chi Square	3.482
Rows	2
Columns	5
Degrees of Freedom = (R - 1)(C - 1)	= (2 - 1) (5 - 1) = 4

Figure 3. UWF and ERAU responses to question 3.

*Perceptions on the Differences Between the
Socratic and Experiential Methodologies*

Cell Chi Square Values				
Row	Column	Observed	Expected	Chi Square
1	1	87.000	82.101	0.292
1	2	50.000	50.434	0.004
1	3	5.000	7.428	0.794
1	4	3.000	5.082	0.853
1	5	2.000	1.955	0.001
2	1	123.000	127.899	0.188
2	2	79.000	78.566	0.002
2	3	14.000	11.572	0.510
2	4	10.000	7.918	0.548
2	5	3.000	3.045	0.001

Complex Chi Square	
Statistic	Value
Chi Square	3.192
Rows	2
Columns	5
Degrees of Freedom = (R - 1)(C - 1)	= (2 - 1) (5 - 1) = 4

Figure 4. UWF and ERAU responses to question 4.

*Perceptions on the Differences Between the
Socratic and Experiential Teaching Methodologies*

Cell Chi Square Values				
Row	Column	Observed	Expected	Chi Square
1	1	80.000	72.223	0.835
1	2	51.000	57.316	0.696
1	3	10.000	11.777	0.268
1	4	4.000	3.533	0.062
1	5	3.000	3.141	0.006
2	1	104.000	111.767	0.540
2	2	95.000	88.684	0.450
2	3	20.000	18.223	0.173
2	4	5.000	5.467	0.040
2	5	5.000	4.859	0.004

Complex Chi Square	
Statistic	Value
Chi Square	3.074
Rows	2
Columns	5
Degrees of Freedom = (R - 1)(C - 1)	= (2 - 1) (5 - 1) = 4

Figure 5. UWF and ERAU responses to question 5.

Perceptions on the Differences Between the Socratic and Experiential Methodologies

Cell Chi Square Values				
Row	Column	Observed	Expected	Chi Square
1	1	79.000	71.154	0.865
1	2	56.000	60.598	0.349
1	3	9.000	10.556	0.229
1	4	2.000	2.737	0.198
1	5	1.000	1.955	0.466
2	1	103.000	110.846	0.555
2	2	99.000	94.402	0.224
2	3	18.000	16.444	0.147
2	4	5.000	4.263	0.127
2	5	4.000	3.045	0.299

Complex Chi Square	
Statistic	Value
Chi Square	3.461
Rows	2
Columns	5
Degrees of Freedom = $(R - 1)(C - 1)$	$= (2 - 1)(5 - 1) = 4$

Figure 6. UWF and ERAU responses to question 6.

The two-dimensional Chi Square test was then utilized to analyze the combined responses of the two groups to the questions comparing the Socratic and the Experiential methodologies (Figures 7-12). To ensure that the segment of the course in which the methodology was utilized, i.e., before or after the midpoint of the course, did not affect the results, the methodologies were randomly alternated. A value exceeding 9.488, utilizing 4 degrees of freedom with a significance level of $\alpha = .05$, was necessary to reject the null hypothesis. The data from the Chi Square tests revealed significant differences for each of the six questions, thus rejecting the null hypothesis. The results revealed the students significantly preferred the Experiential methodology over the Socratic approach. This was also apparent when analyzing the data from the question in the second survey which asked the students to select the methodology they favored. The results revealed that 82.5% favored the Experiential methodology, while only 17.5% favored the Socratic approach. A one directional Chi Square test was utilized to analyze significance (Figure 13).

*Perceptions on the Differences Between the
Socratic and Experiential Methodologies*

Cell Chi Square Values				
Row	Column	Observed	Expected	Chi Square
1	1	40.000	120.500	53.778
1	2	37.000	64.500	11.725
1	3	10.000	10.500	0.024
1	4	101.000	66.000	18.561
1	5	188.00	114.500	47.181
2	1	201.000	120.500	53.778
2	2	92.000	64.500	11.725
2	3	11.000	10.500	0.024
2	4	31.000	66.000	18.561
2	5	41.000	114.500	47.181

Complex Chi Square	
Statistic	Value
Chi Square	262.537
Rows	2
Columns	5
Degrees of Freedom = $(R - 1)(C - 1)$	$= (2 - 1) (5 - 1) = 4$

Figure 7. Socratic verses Experiential responses to question 1.

*Perceptions on the Differences Between the
Socratic and Experiential Teaching Methodologies*

Cell Chi Square Values				
Row	Column	Observed	Expected	Chi Square
1	1	45.000	125.242	51.411
1	2	32.000	59.196	12.495
1	3	15.000	27.397	5.609
1	4	132.000	84.636	26.505
1	5	162.000	89.529	58.664
2	1	211.000	130.758	49.242
2	2	89.000	61.804	11.968
2	3	41.000	28.603	5.373
2	4	41.000	88.364	25.387
2	5	21.000	93.471	56.189

Complex Chi Square	
Statistic	Value
Chi Square	302.844
Rows	2
Columns	5
Degrees of Freedom = (R - 1)(C - 1)	= (2 - 1) (5 - 1) = 4

Figure 8. Socratic versus Experiential responses to question 2.

*Perceptions on the Differences Between the
Socratic and Experiential Methodologies*

Cell Chi Square Values				
Row	Column	Observed	Expected	Chi Square
1	1	33.000	115.500	58.929
1	2	48.000	69.000	6.391
1	3	5.000	9.500	2.132
1	4	140.000	92.000	25.043
1	5	150.000	90.000	40.000
2	1	198.000	115.500	58.929
2	2	90.000	69.000	6.391
2	3	14.000	9.500	2.132
2	4	44.000	92.000	25.043
2	5	30.000	90.000	40.000

Complex Chi Square	
Statistic	Value
Chi Square	264.990
Rows	2
Columns	5
Degrees of Freedom = (R - 1)(C - 1)	= (2 - 1) (5 - 1) = 4

Figure 9. Socratic verses Experiential responses to question 3.

*Perceptions on the Differences Between the
Socratic and Experiential Teaching Methodologies*

Cell Chi Square Values				
Row	Column	Observed	Expected	Chi Square
1	1	30.000	115.194	63.007
1	2	42.000	66.822	9.221
1	3	11.000	10.971	0.000
1	4	133.000	87.767	23.313
1	5	160.000	95.247	44.022
2	1	201.000	115.806	62.673
2	2	92.000	67.178	9.172
2	3	11.000	11.029	0.000
2	4	43.000	88.233	23.189
2	5	31.000	95.753	43.790

Complex Chi Square	
Statistic	Value
Chi Square	278.386
Rows	2
Columns	5
Degrees of Freedom = (R - 1)(C - 1)	= (2 - 1) (5 - 1) = 4

Figure 10. Socratic verses Experiential responses to question 4.

Perceptions on the Differences Between the Socratic and Experiential Methodologies

Cell Chi Square Values				
Row	Column	Observed	Expected	Chi Square
1	1	33.000	118.959	62.113
1	2	38.000	62.194	9.412
1	3	11.000	10.366	0.039
1	4	152.000	92.304	38.607
1	5	152.000	102.176	24.295
2	1	208.000	122.041	60.545
2	2	88.000	63.806	9.174
2	3	10.000	10.634	0.038
2	4	35.000	94.696	37.632
2	5	55.000	104.824	23.682

Complex Chi Square	
Statistic	Value
Chi Square	265.536
Rows	2
Columns	5
Degrees of Freedom = $(R - 1)(C - 1)$	$= (2 - 1) (5 - 1) = 4$

Figure 11. Socratic verses Experiential responses to question 5.

*Perceptions on the Differences Between the
Socratic and Experiential Teaching Methodologies*

Cell Chi Square Values				
Row	Column	Observed	Expected	Chi Square
1	1	28.000	122.000	72.426
1	2	40.000	67.000	10.881
1	3	9.000	8.000	0.125
1	4	145.000	90.000	33.611
1	5	154.000	89.000	47.472
2	1	216.000	122.000	72.426
2	2	94.000	67.000	10.881
2	3	7.000	8.000	0.125
2	4	35.000	90.000	33.611
2	5	24.000	89.000	47.472

Complex Chi Square	
Statistic	Value
Chi Square	329.030
Rows	2
Columns	5
Degrees of Freedom = (R - 1)(C - 1)	= (2 - 1) (5 - 1) = 4

Figure 12. Socratic verses Experiential responses to question 6.

Cell Chi Square Values				
Row	Column	Observed	Expected	Chi Square
1	1	65.000	188.000	80.473
1	2	311.000	188.000	80.473

One Dimensional Chi Square	
Statistic	Value
Chi Square	160.947
Rows	1
Columns	2
Degrees of Freedom = (C - 1)	= (2 - 1) = 1

Figure 13. Socratic verses Experiential responses to question 7.

The results of the Chi Square tests supported the research hypothesis which purported that the Experiential methodology would be preferred over the Socratic approach. The authors perceived that the students would favor the Experiential method since this approach would directly involve the students in an interactive, "real life" scenario environment, versus the highly confrontational approach utilized in the Socratic methodology. This is not to say that the Socratic methodology is not a useful and highly successful delivery system. However, for these particular courses which were highly behavioral in design and content, the Experiential approach, as perceived by the students, is significantly favored over the Socratic method.

*Perceptions on the Differences Between the
Socratic and Experiential Teaching Methodologies*

A Survey of Teaching Methodologies

The following survey is being conducted by Dr. Marian Schultz (904-897-3727) of the University of West Florida in order to evaluate the perceived differences between the use of the Socratic and Experiential teaching methodologies. Participation is voluntary, and all responses will be kept confidential. Thank you for your participation in this research.

University: _____
Course: _____
Semester/Term: _____

The teaching methodology utilized prior to the midterm in this class proved to be an excellent way of providing information to the students.

Strongly Agree Agree No Opinion Disagree Strongly Disagree

The teaching methodology utilized prior to the midterm in this class provided an excellent way of learning the subject matter of the course.

Strongly Agree Agree No Opinion Disagree Strongly Disagree

If given the option, I would prefer the teaching methodology utilized prior to the midterm of this class in lieu of any other which I have experienced in prior classes at the college/university level.

Strongly Agree Agree No Opinion Disagree Strongly Disagree

The teaching methodology utilized prior to the midterm in this class caused me to become highly involved in the learning process (i.e. keeping up with the weekly assignments).

Strongly Agree Agree No Opinion Disagree Strongly Disagree

The teaching methodology utilized prior to the midterm of this class caused the students in the class to become highly involved in the learning process.

Strongly Agree Agree No Opinion Disagree Strongly Disagree

I thoroughly enjoyed the teaching method utilized prior to the midterm in this class.

Strongly Agree Agree No Opinion Disagree Strongly Disagree

Appendix B

Sample Survey Utilized After the Midpoint of the Class

*Perceptions on the Differences Between the
Socratic and Experiential Teaching Methodologies*

A Survey of Teaching Methodologies

The following survey is being conducted by Dr. Marian Schultz (904-897-3727) of the University of West Florida in order to evaluate the perceived differences between the use of the Socratic and Experiential teaching methodologies. Participation is voluntary, and all responses will be kept confidential. Thank you for your participation in this research.

University: _____

Course: _____

Semester/Term: _____

The teaching methodology utilized after the midterm in this class proved to be an excellent way of providing information to the students.

Strongly Agree Agree No Opinion Disagree Strongly Disagree

The teaching methodology utilized after the midterm in this class provided an excellent way of learning the subject matter of the course.

Strongly Agree Agree No Opinion Disagree Strongly Disagree

If given the option, I would prefer the teaching methodology utilized after the midterm of this class in lieu of any other which I have experienced in prior classes at the college/university level.

Strongly Agree Agree No Opinion Disagree Strongly Disagree

The teaching methodology utilized after the midterm in this class caused me to become highly involved in the learning process (i.e. keeping up with the weekly assignments).

Strongly Agree Agree No Opinion Disagree Strongly Disagree

The teaching methodology utilized after the midterm of this class caused the students in the class to become highly involved in the learning process.

Strongly Agree Agree No Opinion Disagree Strongly Disagree

I thoroughly enjoyed the teaching method utilized after the midterm in this class.

Strongly Agree Agree No Opinion Disagree Strongly Disagree

If given the option, I would select:

___ The teaching methodology utilized prior to the midterm of the class.

___ The teaching methodology utilized after the midterm of the class.

References

Eisele, T. D. (Fall, 1990). Must virtue be taught? *Modern Age*, p. 235

Klein, S. (Winter, 1993). Drucker's knowledge society and Socratic sophrosyn
Business and Professional Ethics Journal, 12, p. 52.

Lee, P. & Cafarella, R. (Summer, 1994). Methods and techniques for engaging
learners in experiential learning activities. *New Directions for Adult and Continuing
Education*. pp. 43-54.

Lewis, R. (1965). The philosophical roots of lifelong learning. pp. 1-3. Toledo, OH:
Toledo University, Ohio Center for the Study of Higher Education.

McQuillen, J. & Ivy, D. (1987). Simulations: addressing competence and
performance. *Education*, p. 72.

Merrill, M. D. (July 1988). *Educational Technology*. pg. 9.