Forum Article

Teaching Social Work Values and Ethics Online

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Abstract

During the academic year 2004-2005, SWK 4500 Social Work Values and Ethics was taught both in a face-to-face format and on Blackboard. In the Blackboard class, n = 23; while in the face-to-face class, n = 16. The professor, content and syllabi for both courses were identical. Most importantly, **both** classes took the identical final exam on **Blackboard**. An unmatched t-test indicated that there was a significant difference between exam scores [t = 2.42; df =18; p < .026]. An item analysis of the exam uncovered that the Blackboard students were troubled with the test items especially addressing the application of abstract ethical concepts to practice situations. Separate factor analyses for the two groups found that the performance of face-to-face students differed primarily on the understanding of ethical theory while Blackboard students were widely divided by their knowledge for ethical theory as well as applying ethics to practice situations. Thus, the factor analysis supported the t-test results. The final was the only test given and there were no differences for any other class assignments.

Key Words: Blackboard, face-to-face, final exam, unmatched t-test, factor analysis, social work

1. INTRODUCTION

1.1. Blackboard

Blackboard is a registered and copyrighted internet protocol and software that provides a framework for teaching a course online [see: http://www.blackboard.com/us/index.aspx]. Professors may employ Blackboard in two ways. First, professors can utilize Blackboard to enhance classroom (face-to-face) teaching. Professors can email assignments, notes, display figures, assess who missed class, give exams, etc. When the professor is unavailable because of illness or a conference, class lectures and class discussions including digital films may be offered on Blackboard participation as an acceptable substitute for a classroom appearance. In this manner, Blackboard enhances classroom instruction.

The second manner in which Blackboard is employed includes conducting an entire course without a physical classroom or seeing the students face-to-face. The Blackboard stakeholders assert that everything that can be presented in a face-to-face classroom can be presented via Blackboard. Students can find the syllabus, tests, communication centers, discussion boards, videos, assignments, etc. on Blackboard. Professors can present the class in a synchronous or asynchronous manner. Each succeeding version of Blackboard has offered greater technical sophistication than previous versions. Within this study, version 6.3.1.424 was employed.

1.2. The Study

This research addresses the learning outcomes of a Blackboard course and a face-to-face course. The research question is: "Is there a significant difference between identical final exam scores for Blackboard course and face-to-face students?" Thus, the t-test null hypothesis would be: "There is no difference between final exam scores for Blackboard course and face-to-face students." Using statistical symbols, the null hypothesis would be stated as:

$$H_0 : \mu_1 = \mu_2$$

where μ_1 and μ_2 represent the average final exam scores for the Blackboard class and face-to-face class, respectively.

Discovering and noting that a difference exists between the two exams will not provide the insight that is needed. As the review of literature suggests, many studies find no difference between Blackboard courses and face-to-face ones while fewer studies actually find such difference. If a difference exists, factor analysis will be employed to uncover substantive factors that result in the different outcomes of the two tests. Factor analysis should provide a basis for establishing a theoretically based cause.

Identification of a cause provides two critically important contributions. First and foremost, it addresses type one errors (i.e., reducing the chance of thinking there are different effects while in fact the two teaching methods essentially yield similar student performances). Although remote, type one errors remain a problem. The existence of a type one error can be conceptually reduced (*not* statistically reduced) if a clear pattern within the difference emerges from the analysis. Secondly, if a pattern can be identified, future hypotheses can be formed based on the uncovered pattern. Future and further studies should be testing the specific substantive difference between Blackboard courses and face-to-face ones.

Most importantly, if differences in specific types of exam items emerge in future research, the format for online courses must be rethought. New and creative strategies would be necessary to assure that online students receive the same quality of instruction and learning opportunities as face-to-face students.

2. REVIEW OF LITERATURE

Much of the past research on distance education versus face-to-face revolves around both student and faculty perceptions of online instruction and the design and implementation of such instruction. Research into significant differences in test scores between the two modes of instruction is growing, but not abundant. Within the body of existing literature, several studies suggest no significant difference between online education and face-to-face instruction in terms of test scores, whether the online instruction is via Blackboard or some other method of delivery.

One of the earlier studies (Davies & Mendenhall, 1998), investigated a course in health and physical education. Although students preferred the classroom experience over the web course, a comparison of test scores showed no statistically significant differences. Later research of different types of courses at various locations in the United States supports this finding as well (Kennedy & McCallister, 2001; Moorhouse, 2001; Imig & Bailey, 2002; Neuhauser, 2002; Parker & Gemino, 2001; Petrrachi, et al., 2005). Kennedy & McCallister (2001) compared the effectiveness of traditional teaching, email teaching and hybrid classes for a graduate introductory statistics class in terms of test scores on multiple choice exams. Moorhouse (2001) compared midterm scores for two MBA courses— one online and one classroom. No significant differences between the two emerged. Similarly, Parker and Gemino (2001) found no significant difference in final exam scores over five semesters for a business administration course offered both online and in the classroom. Imig and Bailey's (2002) interpretation of quantitative measures (quiz scores, assignments and overall final point total) suggested no overall difference between internet classes and traditional ones. Neuhauser (2002) examined the learning effectiveness of online versus face-to-face instruction with sixty-two college students. As with the other researchers, her results did not reveal any significant difference between the two groups of test scores or final grades. In the area of social work, Petrrachi's, et al. (2005) study of social work practice course in both online and traditional formats suggest that students learn similarly regardless of format.

Some evidence exists to suggest that distance education students actually perform better on test scores (Allen, et al., 2004; Alstete & Beutell, 2004; Schachar & Neumann (2003); Schoenfeld-Tacher, McConnell, & Graham, 2001). Allen, et al. (2004) used a meta-data analysis to summarize the quantitative literature comparing the performance of students in distance education versus traditional classes. This analysis indicated that distance education course students slightly outperformed traditional students on exams and course grades. In a similar comparison, a meta-analysis of final course grades from 1990 to 2002, Schachar and Neumann (2003) state that, in two-thirds of the cases studied, students taking courses by distance education outperformed their counterparts enrolled in traditional courses. Schoenfeld-Tacher, McConnell, & Graham (2001) examined the effects of distance delivery in an upper histology course, and found that students in the online group outperformed their peers in the class setting. However, Alstete and Beutell (2004) note that students with "interest in online courses" do better than students who are in an online course, but would rather be in a face-to-face setting. This study found discussion board performance to be positively correlated with online performance in general.

On the other hand, some research indicates lower performance by students in online courses (Faul, et al. (2004); Faux & Black-Hughes (2000); Hisle-Gorman & Zuravin, 2006). Hisle-Gorman and Zuravin (2006) studied the performance of 73 MSW students in a social work research course. Their results indicated that students in either a traditional lecture course or a hybrid one had better midterm, final, and composite exam grades than those in a Blackboard only class. It was noted that professors teaching with Blackboard were doing so for the first time – a variable possibly having an effect. This research is consistent with Faux and Black-Hughes (2000), who found that social work history students in a traditional course gained more knowledge than those in an online format. In addition, Faul, et al. (2004) found higher performance from students in a lecture only course versus a hybrid one.

Much of the research comparing online instruction with traditional methods has focused specifically on test scores, regardless of the content of the tests. Applying concepts to practical situations is an area that is beginning to be explored. The application of learned skills to actual practice is a challenge for educators in many fields, including social work.

Ouellette, et al. (2006) compared interviewing skills in an undergraduate social work practice course, with one group being taught in a classroom setting and another in an online format with a different instructor. Results indicated no statistical difference between the two groups. However, Wachenheim (2004) discovered that, although online students did better on exams and homework, classroom students demonstrated a greater ability to apply course concepts to a practical setting. Wachenheim's results are interesting in light of research done by Weems (2002). This study compared two sections of beginning algebra – one taught online and one onsite. Although there was not a significant difference between exam averages for the two formats, there was a significant decrease in performance by the online students across the exams, whereas performance by the onsite students remained stable. Both the Wachenheim and Weems research suggest that a strict comparison of grades might not present the entire picture of student achievement between the two modes of instruction. In addition, they suggest possible differences in applying concepts to practical situations.

Wilke and Vinton (2006) provide support for the comparison research presented herein. In their study of the online MSW program at Florida State University, education and satisfaction outcomes are similar for the online and face-to-face groups – except for field work. When online students must apply practical concepts to real practice situation, they do not fare as well as students involved in a face-to-face educational experience. Others (Ouellette, et al., 2006 and Siebert, D.C. & Spaulding-Givens, J., 2006) have expressed concern about social work practice skills being taught online. Our study also suggests that online students may have difficulty applying concepts to practice.

While more evidence exists suggesting that online students can attain knowledge and skills as effectively as those in a classroom environment, the results are mixed, with questions arising regarding the content of a course compared to the delivery, as well as the application of theoretical knowledge to practice. A strict comparison of grades across the board may not provide a full picture of learning.

3. THE COURSE: *SOCIAL WORK VALUES AND ETHICS*

3.1. Overview

Social Work Values and Ethics is a simple one-hour course that reviews the NASW Code of Ethics. The syllabus for the face-to-face course can be found at:

http://www.uncp.edu/home/marson/Personal/Syllabi/450S.html

The syllabus for the Blackboard course can be found at:

http://www.uncp.edu/home/marson/Personal/Syllabi/450_online.htm

In each course, the NASW Code of Ethics is reviewed and implications for BSW practice for each standard are addressed in two manners. First, the language of the standard is restated in terms that would be meaningful for BSW practice (avoiding MSW practice issues). Second, a specific example of how the standard is applied in BSW practice is introduced. In the face-to-face section, the standard and discussion are completed orally. On Blackboard, each standard and discourse is found within the "Discussion" boards. The examples for both classes are the same.

However, several differences can be noted. Students in the face-to-face class are not required to comment or discuss each standard that is introduced. Students in the Blackboard class are required to participate in every discussion. In addition, if a student in the face-to-face course misses a class, he/she misses the discussion. Students in the

Blackboard course participate in an asynchronous manner.

As can be seen on the two syllabi, the content of the two sections is identical. The delivery of the content was the major difference. A common final exam was shared with both sections.

3.2. The Final Exam

The final exam was based on the content of the National Association of Social Workers *Code of Ethics.* Ten essay questions constituted the exam. These questions can be divided into three categories:

1) basic knowledge of code;

2) application of an abstract ethical concept in a practice scenario;

3) both knowledge and application of code.

The final exam emphasized ethical issues that were most likely to occur to BSWs in entry level practice. For example, no private practice issues were included (i.e., billing), but dual relationships were emphasized because these relationships are commonly found in rural settings. Because the test items are included in a bank of essay items that may be used in the future, the specific items will not be presented.

Table 1 illustrates the content of the common exam for the Blackboard and face-to-face courses. The first column includes the order of the test items as administered to both Blackboard and face-to-face students. The second column identifies the type of item as defined in the preceding paragraph. The number in parenthesis [i.e., (2)] indicates the number of items for each type.

Thus, "Abstract to Practice (2)" would indicate the second item on the exam that addresses the application of an abstract ethical concept in a practice scenario. Column three identifies the specific code that was the focus of the item. The entire *Code of Ethics* with the corresponding Standard number can be found at:

http://www.socialworkers.org/pubs/code/code.asp

Test item number 5 is a general overview of the entire *NASW Code of Ethics*. This table enables the reader to see the specific code that was the heart of each test item.

Table 1

Table 1.	Link of Ethical Code and Item Content	
Test Item	**Ethical Code**	**Ethical Content of the Item**
1	Abstract to Practice (1)	Standard 1.06c: Conflict of Interests, dual relations
2	Abstract to Practice (2)	Standard 1.06c: Conflict of Interests, dual relations
3	Ethical Code (1)	Standard 2.10a and b: Incompetence of Colleagues
4	Abstract to Practice (3)	Standard 1.03a, b, c, d, e, and f: Informed Consent
5	Both (1)	Standard all of them
6	Ethical Code (2)	Standard 1.06c: Conflict of Interests, dual relations
7	Ethical Code (3)	Standard 4.01a and b: Competent Service Limitations, Competence in New Techniques
8	Abstract to Practice (4)	Standard 1.05a and 1.10: Cultural Competence and Social Diversity, Physical Contact
9	Ethical Code (4)	Standard 1.05a, 1.10, 2.10b: Cultural Competence and Social Diversity, Physical Contact, Incompetence of Colleagues
10	Both (2)	Standard 2.07b: Sexual Relationships

4.3. STATISTICAL ANALYSIS

4.1. T-Test

For all the 23 students who enrolled in the blackboard course, their mean total scores were calculated. Similarly, for all the 16 students enrolled in the face-to-face class, their mean total scores were computed. Before the comparison of the mean total scores between these two groups of students is performed, an F-test is conducted to determine whether or not the two data sets are of equal variance. The F-value is 1.07, resulting in the probability $P(F > 1.07) = 0.9$ (folded F; degrees of freedoms are 22 for numerator and 15 for denominator). This means that the two data sets should be considered as equal variance. Accordingly, the T-test for equal mean uses the pooled variance, resulting in a probability $P(T > 2.59) = 0.014$ (degrees of freedom is 37) indicating that the average scores between face-to-face and Blackboard classes are significantly different at the significance level $\alpha = 0.014$. These results of the T-test are shown in Table 2 below.

Since the mean score of 8.87 for the face-to-face class is higher than the mean score of 8.14 for the Blackboard class, the conclusion from the T-test is that the overall response from face-to-face students is

better than that from blackboard students. Moreover, the 95% confidence interval of the mean score for the face-to-face class is [8.42, 9.32] with a standard error of 0.21; it is [7.77, 8.52] with a standard error of 0.18 for the blackboard class.

Table 2

Table 2. Comparison of Face-to-Face vs. Blackboard Mean Test Scores

Group	N	Mean			Std dev			Std Err
		Lower CL	Mean	Upper CL	Lower CL	Mean	Upper CL	
Face-To-Face	16	8.42	8.87	9.32	0.62	0.84	1.31	0.21
Blackboard	23	7.77	8.14	8.52	0.68	0.87	1.24	0.18
Difference		0.16	0.73	1.29	0.70	0.86	1.11	0.28

T-test Results

Method	Variables	DF	t Value	Pr > |t|
Pooled	Equal	37	2.59	0.014

4.2. Factor Analysis[1]

Based upon the calculated eigenvalues of the correlation matrix between the ten variables for each group, the first four principal components (primary factors) are selected for each group to allow a comparison between the two groups, which is based on the Henry Kaiser's Eigenvalue-Based Rule (Rule of Thumb): The number of factors is chosen as the number of eigenvalues of the correlation matrix that are larger than 1 (Morrison, 1990). The principal components (PCs) are extracted so that the first component accounts for the largest amount of the total variation in the data, i.e., the first component $PC_{(1)}$ is that linear combination of the observed variables X_k (k = 1, 2, ..., 10)

$$PC_{(1)} = w_{1,1} X_1 + w_{1,2} X_2 + \ldots + w_{1,10} X_{10}$$
(1)

where the weights $w_{1,1}$, $w_{1,2}$, ..., $w_{1,10}$ will be chosen to maximize the ratio of the variance of $PC_{(1)}$ to the total variation existing in all X_k, subject to the constraint $\sum w^2_{1,j}$ = largest eigenvalue (the sum is over all k's from 1 to 10). The second principal component $PC_{(2)}$ is that weighted linear combination of the observed variables which is unrelated with the first linear combination and which accounts for the maximum amount of the remaining total variation not already accounted for by $PC_{(1)}$, where the sum of all squared weights is equal to the second largest eigenvalue. In general, the mth principal component is that weighted combination of the X_k's which has the largest variation of all linear combinations that are unrelated with all of the

$$PC_{(m)} = w_{m,1} X_1 + w_{m,2} X_2 + \ldots + w_{m,10} X_{10}$$
(2)

previously extracted principal components, where the sum of all squared weights is equal to the mth largest eigenvalue.

Factor analysis can simultaneously manage over a large number of variables, compensate for random error and invalidity, and disentangle complex interrelationships into their major and distinct regularities.

Factor analysis attempts to simplify complex and diverse relationships that exist among a set of variables by uncovering common dimensions or factors that link together the seemingly unrelated variables, and consequently provides insight into the underlying structure of the data. In other words, factor analysis reduces variables into a smaller set of factors which explain the variance in the original variables.

Since there is not an available theoretical hypothesis, the factor analysis conducted here is exploratory, not confirmatory (when some prior information on the common structure underlying the data is given and one wishes to confirm or negate the hypothesized structure). The results of Rotation Method Promax are summarized in Table 3 below for face-to-face and blackboard data respectively.

4.3. Factor Analysis: Face-To-Face Data

From the SAS outputs in Table 3 below, the first four clusters (i.e. factors) account for 80.5% of the total variation in the scores. Factor 1 (comprised most strongly of items 6 and 8 through 10) alone accounts for an approximate 29.7% of the total variation, and a larger variation in scores for these students appear in

this factor. Factor 1 primarily involves the theory of the ethical codes regarding relations and culture.

Factor 2 shows high loadings for items 2, 5 (negative loading; refer to the explanation given in Section 5) and 7. This factor primarily contains ethnical competence. Noting that the loading for item 7 is stronger here than it was for Factor 1, we drop it from the interpretation of Factor 1 and use it, along with items 2 and 5, to interpret Factor 2. Factors 3 and 4 can be interpreted in a similar way.

Variations explained by these clusters are given in the last row of Table 3. This trend of performance is normal. Moreover, the SAS outputs from the Principal Component, Varimax and Promax are quite consistent for the data.

Table 3

Question	Topic	Face-to-face class				Blackboard class			
		Factor 1	Factor 2	Factor 3	Factor 4	Factor 1	Factor 2	Factor 3	Factor 4
1	Abstract to Practice (1)	-0.22	-0.13	0.00	**0.88**	**0.59**	**0.61**	0.04	0.49
2	Abstract to Practice (2)	0.13	**0.78**	0.29	0.23	0.29	**0.60**	-0.18	**0.66**
3	Ethical Code (1)	-0.04	0.17	**0.90**	0.01	0.06	0.06	**0.80**	0.08
4	Abstract to Practice (3)	0.16	-0.16	**0.87**	-0.03	0.14	-0.07	0.28	**0.87**
5	Code/Abstract to Practice (1)	0.02	**-0.69**	0.12	0.24	-0.03	**0.80**	0.16	-0.04
6	Ethical Code (2)	**0.62**	0.03	-0.06	**0.68**	**0.88**	-0.03	-0.04	0.23
7	Ethical Code (3)	0.40	**0.78**	-0.12	-0.15	**0.56**	0.36	-0.07	-0.09
8	Abstract to Practice (4)	**0.83**	-0.10	0.37	0.00	**0.67**	0.32	0.20	0.35
9	Ethical Code (4)	**0.87**	0.27	-0.02	-0.10	0.35	**0.56**	-0.06	0.12
10	Code/Abstract to Practice (2)	**0.95**	0.24	-0.06	-0.01	0.04	0.04	**0.83**	0.24
	Variance Explained	2.97	1.90	1.81	1.37	2.13	1.93	1.51	1.68

3.4. Factor Analysis: Blackboard Data

An increased number of blackboard students could not completely grasp and handle more complex concepts and apply them.

From the SAS outputs in Table 3, the first four factors account for 72.5% of the total variation in the scores compared to 80.5% for face-to-face class. Factor 1 (comprised mostly of Items 1 and 6 through

8) alone accounts for only 21.3% of the total variation compared to 29.7% for the face-to-face class. Factor 1 primarily involves ethical competence. Noting that the loadings for items 9 and 10 are significantly lower than that for face-to-face class, implying that less variation exists on these items for blackboard class, i.e., for more comprehensive ethical codes and abstract to practice, most students of the blackboard class did not perform well (for face-to-fact class, however, some performed much better

than others). Hence, students have experienced more challenges regarding concepts and applications.

Factor 2 shows high loadings for items 1, 2, 5 (positive loading), and 9. Noting that the loading for item 1 is slightly higher here than it was for Factor 1, we used it along with other items to interpret both Factors 1 and 2. Factor 2 contains primarily relations and culture. For Factors 3 and 4, the discussions are similar.

This trend of performance for the blackboard class is abnormal, implying additional communication methods are needed to enhance distance education and learning. In addition, the SAS outputs from the Principal Component, Varimax and Promax are quite different for the data.

4. RESULTS

In summary, the F-test and t-test demonstrate a statistically significant difference in the outcomes of the final exam for the Blackboard and face-to-face students: While the F-test indicates that the variances of the two sets of scores are close, the pooled t-test indicates that the average score of the face-to-face students is better than that of Blackboard students with a small P-value (P = 0.014). Hence, the overall performance of face-to-face students for the final exam is better than the Blackboard students.

In further elaboration, the results of individual factor analyses for the two sets of scores suggest two different patterns of performance. Within the face-to-face class, students have similar performance resulting in less variation for the first five questions but the variances are widely distributed for the last five questions as shown in Table 5, under Factor 1 of Face-To-Face class. In contrast, within the Blackboard Class, the variations in performance relative to all the test scores are distributed for questions 1 and 6 through 9, as shown in Table 5, under Factor 1 of Blackboard Class. Notice that these variations are not the variations calculated from individual questions as they are also related to the grand mean. Another concern is the negative loadings. While factor loadings obtained from a rotation often give useful interpretations, negative loadings cannot be interpreted as correlation coefficients. In such a case, an appropriate interpretation is that variables with positive loadings and those with negative loadings contribute to the performance measure in the reversed ways.

Finally, for the face-to-face class, the first and second factors are relations and culture, and ethnical competence respectively. For the blackboard class, there are reversed to ethnical competence, and

relations and culture. Moreover, for the factor loading on Item 5 that involves both the theory of all ethnical codes and the applications to practice, the loading is positive for the face-to-face class, but negative for Blackboard class.

5. STRENGTHS AND LIMITATIONS OF STUDY

Strengths and limitations of comparison studies are addressed by the amount of control the study has for alternative explanations. Within this study, we must address the issue of internal validity by the question, "Is Blackboard the cause of the difference between the scores on the final exam OR could an alternative phenomenon have caused the difference?" Part of the answer to this question rests within the statistical analysis. In addition, one must consider issues of control or the elimination of alternative explanations. Below are listed the characteristics of the study that demonstrate control followed by characteristics that illustrate limitations of control.

5.1. Strengths

- The students were very similar. All were juniors and seniors social work majors who had completed the same course prerequisites.

- The final exams were identical.

- Although the sections of the course were not offered during the same semester, the Blackboard course (the one with the lower scores) was offered second. This means that the Blackboard students had an advantage over the face-to-face students. If the Blackboard student queried the face-to-face students about the questions on the exam, they would have had the exam items in advance. Since their scores were lower, there is no indication that the Blackboard students made such an effort.

- All course assignments were identical.

- Both exams were given on Blackboard for each class.

- Both final exams were based on the identical course assignments.

- There were no significant differences in course assignment grades between the two sections.

5.2. Limitations

- The study can best be described as *ex post facto*. There was no thought of comparing the results of these exams until the professor became disappointed with the performance of the Blackboard class. In this lack of advanced planning lies the fertile soil for a Type I error.

- One course was offered in the Fall of 2004 while the other course was offered in the Spring of 2005.

- The assignments for the Blackboard course were given in writing, while the assignments for the face-to-face course were given orally (but were also found on the syllabus).

- Blackboard students submitted their assignments electronically while the face-to-face students completed their assignments orally during class time.

- No random selection was employed for the two courses. In addition, students admitted to the Blackboard course were required to have Blackboard experience.

6. Conclusion and Recommendations for Further Study

As noted in the review of literature, most studies find little or no difference between knowledge obtained in face-to-face and Blackboard classes. However, in many ways, virtually all this literature is broad and/or cursory (DeNeui & Dodge, 2006). One major exception is the study produced by Wilke and Vinton (2006). They also suggest that Blackboard is weaker with the application of concepts to real-life social work practice. Our study's primary objective was to lay out specific areas for further investigation. Replication of this study with much greater experimental control is necessary. The new research question is: "Are face-to-face students better equipped to understand and apply abstract and theoretical concepts in social work practice than Blackboard students?"

Based on what we learned from the current research, the ideal research conditions to advance our knowledge of Blackboard would include the following experimental controls:

- There should be two sections of the same course in which students are randomly assigned to Blackboard or face-to-face courses.

- A single professor should teach both sections.

- Identical assignments should be given to both classes.

- Identical exams are given to both classes.

- The content of the exam must be limited to test items that focus on abstract concepts that are applied to social work practice.

- Test items should be both essay and multiple choice.

- Both exams must be administered on Blackboard.

- Application of concepts must be the central focus of all test items. Although reasoning/problems solving and recall are considered important aspect of learning, past research does not support a difference with these categories of test items. Thus, test items that focus on reasoning/problem solving and recall would contaminate the statistical inference that could be made. [Note: Test items that focus on application of concepts are the most difficult to compose.]

- A single professor must grade essay items, while multiple choice items can be graded on Blackboard.

- The grading professor must be blind to knowing the author of the essay exam and the class in which the student was enrolled.

With replication employing these controls, we will gain greater insight into the strengths and weaknesses of Blackboard. If there continues to be a difference between Blackboard and face-to-face, online courses in social work need to be reexamined. This is not to suggest that Blackboard might be an inferior protocol for teaching, rather that future research could direct the academic world to new strategies for teaching a Blackboard class.

7. Some Thoughts on the Project

The data for this study was collected during the academic year 2004-2005. During the spring semester of 2007, I (SMM) once again taught the SWK 4500 Social Work Values and Ethics as a Blackboard course. During the fall, I taught the same course, but face-to-face. Within the Blackboard course, I had only 7 students. I knew all of them from past courses.

Within the rural practice arena, the introduction of strategies for addressing unavoidable dual relationships is critical, but difficult to understand. For Blackboard, I include a film and graphic to illustrate how best to handle unavoidable dual relationships. This is the same graphic and presentation provided to students in the face-to-face class. As part of the Blackboard discussion, I restated the strategy within the discussion board but invited the students to meet me to resolve any confusion. One of the students came to my office and asked questions. During the final, the same student was the only one who gave the correct answer for addressing unavoidable dual relationships.

Although the evidence is somewhat weak, I firmly believe that students enrolled in Blackboard courses have trouble applying abstract concepts to practice. I believe that our state-of-the-art measurement strategies are not sophisticated enough to clearly delineate these differences. We have strong administrative advocates for Blackboard because this online delivery system is economically profitable. Blackboard and other online strategies are here to stay. It is incumbent on all social work faculty to look deeper into the implications of using Blackboard.

8. References

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[1] For factor analysis, it is preferred that the data size be 5 to 10 times the number of questions.