# A Postmodern, Constructivist and Cooperative Pedagogy For Teaching Educational Psychology, Assisted by Computer Mediated Communications

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## Abstract

Student reactions/evaluations were associated with diverse pedagogical structures including Cooperative Learning (**CL**), Computer Mediated Communication (**CMC**) and Writing Across the Curriculum (**WAC**) which were all used to deliver graduate instruction in Educational Psychology courses. The approach was predicated on the assumption that students authentically construct knowledge from their experiences within a social context of peer influence. Reflective writing in the context of a public forum in which students were required to react to each other's writing engaged students in a process of critical thinking. They were required to maintain an electronic journal which consisted of weekly narratives (postings to a "netnews group") which consisted of reflections on classroom activities and related readings. Classroom activities included the use of a writing activity described as a Dyadic Essay Confrontation (**DEC**). Students were required to react to a randomly determined partner's reflections within one week after the initial reflection. A final narrative reflection was required to be submitted to the newsgroup detailing a summary analysis of the constructed knowledge they had determined was brought about through this process. Their reflections and reactions and summary/conclusions comprised a major product for inclusion in an electronic portfolio which was submitted at the end of the class. The techniques, as well as how this complex structure was implemented, and, how students responded to the electronic medium are discussed. Using a rationale derived from the WAC community that stresses integration of the writing process across the curriculum, the conclusions focus on using CMC as an integral part of classroom instruction. A Postmodern and Constructivist theoretical orientation is used to explain the positive student responses to this complex of authentic instruction.

**Keywords** — Cooperative Learning, Writing, Computer Mediated Communication.

## 1. Introduction

Lewinian-oriented psychologists subscribe to the theory that human behavior is a result of the interaction of persons with their environments. This has lead to many speculations on **"ACTION THEORY."** An action theory examines the actions needed to achieve a desired consequence in a given situation. Johnson & Johnson (1987) have stated that "when you generate an action theory from your own experiences and then continually modify it to improve its effectiveness, you are learning experientially (p. 16-17). Experiential learning has three effects: 1) cognitive structures are altered, 2) attitudes are modified and 3) behavioral skills are expanded, and this is a cyclical process. The Johnsons (1987) have presented 12 principles of experiential learning , of which the last four focus on the influence of environments on individuals, especially within the context of a social group. Membership in a group which is supportive and accepting will free a person to experiment with new behaviors, attitudes, and action theories. One such group might be a cooperative classroom structured for learning. The Johnsons (1979) have differentiated three types of classroom **goal structures** including 1) cooperative, 2) individually competitive, and 3) individualistic. These goal structures are primarily based on the notion of the presence or absence of positive interdependence among classroom members. One form of cooperative learning has been labeled **"Collaborative Learning"** and has been used extensively in the teaching of writing at the postsecondary level of education (Bruffee, 1993). Cooperative goal structures are in operation when two or more individuals are in a situation where the task-related efforts of individuals help others to be rewarded (positive

interdependence). Group members behave in a **positively** interdependent fashion and are rewarded on the basis of the quality or quantity of the group product according to a fixed set of standards. Sherman's (1990; Millis, Sherman & Cottell, 1993) Dyadic Essay Confrontations (DEC) is considered to be an example of a cooperative technique.

Giroux (1990, p. 35) has stated that "...critical educators need to provide a sense of how the most critical elements of modernism, postmodernism, ... might be taken up by teachers and educators so as to create a postmodern pedagogical practice." The present author has tried to adapt and apply relativistic and constructionist viewpoints by introducing conceptual conflict (disequilibrium) into teaching. An additional concern has been to challenge and foster higher level cognitive processes by encouraging critical integration, synthesis, evaluation and analysis of knowledge. The pedagogical practices described below uses the medium of writing and cooperative discourse associated with computer mediated communication. In the spirit of "authentic instruction," (Newmann & Wehlage, 1993), outcomes of this pedagogical strategy are believed to be: 1) increased higher-order thinking; 2) greater depth of knowledge; 3) more connectedness to the world beyond the classroom; 4) substantive conversation; and 5) greater social support for student achievement.

## 2. Method

### 2.1. Sample
The students who have experienced the strategies described below were graduate education majors pursuing Master's and Specialist's degrees in Elementary and Secondary Teacher Education, Family and Consumer Sciences, Educational Leadership, and Educational and School Psychology. The two 3 credit hour classes examined in this report were taught one evening per week throughout a 15 week semester. Classes varied in size from 20 to 21 students.

### 2.2. Procedures
The **DEC** technique was used in ten short essay writing experiences which were assigned throughout the semester. For further details and earlier reports on DEC see Sherman (1988 & 1990) as well as Millis, Sherman & Cottell (1993). Bolling (1994) has discussed maintaining group journals as a means by which students may effectively "collaborate." Individual journals are difficult to share among one's classroom peers. Group journals are at least shared among a small group. My approach has been one of extending the notion of a group journal, to a series of journal entries which are constantly available to all class members (**Narrative CMC Journals**). In this sense the entire class of students become resources for each other. This has been accomplished by utilizing CMC in the form of a "net-

news group". Within the context of Miami University's computing environment we maintain an entity called "NETNEWS." This is a "USENET-like" environment where I established a newsgroup for each of my classes. Students are required to make weekly postings, called "reflections," after each class meeting. Within one week after they have posted a "reflection" they are required to "react" to other classmates' reflections. Throughout a 15 week semester, each student posts 12 reflections and 12 reactions. Reflections are made to several aspects of each weekly meeting including simulations, video tapes, whole class discussions, lectures, and the DEC's. They have assigned readings from textbook chapters as well as primary author articles. The DEC activity usually involves two other students, each of which is writing an answer to some one ease's prepared questions, or reacting to someone else's answer to their own question. The three DEC members are randomly determined each week. This determines the people whom they must "react" to in the following weeks netposting. Throughout a typical semester, then, each student reacts to many different people in the class. And, their reflections and reactions are available to all other class members.

## 3. Results and Analysis.

### 3.1. Dependent measures and analysis
Newmann & Wahlege (1993) have developed a survey instrument consisting of five items designed to tap students' perceptions about authentic instruction. These five items request students to rate on a five-point (1 to 5) Likert scale their perceived class experiences. Perceptions with regard to 1) higher-order thinking [THK], 2) depth of knowledge [KNW], 3) Connectedness to the world beyond the classroom [CON], 4) conversation [COV], and 5) social support for student achievement [SSA] are the primary focus of this survey. It was anonymously filled out on the last day of the class. Descriptive and comparative statistics are used to describe these results presently based upon 41 graduate students from two classes: 21 respondents from a Fall, 1994 advanced Educational Psychology class, and 20 students from a Spring, 1995 class dealing with group dynamics in the classroom.

### 3.2. Survey Results

1. DOES THIS CLASS ENCOURAGE HIGHER ORDER THINKING?: (low-order thinking 1 to 5 high-order thinking)

| Class | Mean | SD | F | p< |
|---|---|---|---|---|
| FALL 94 | 4.38 | 0.50 | 5.52 | .02 |
| SPRING 95 | 3.90 | .79 | | |

2. HOW DO YOU FEEL ABOUT THE DEPTH OF KNOWLEDGE OBTAINED IN THIS CLASS?: (knowledge is shallow 1 to 5 knowledge is deep)

| Class | Mean | SD | F | p< |
|---|---|---|---|---|
| FALL 94 | 3.24 | 1.09 | 3.23 | .08 |
| SPRING 95 | 3.80 | .89 | | |

3. IN THIS CLASS WHAT IS THE LEVEL OF CONNECTEDNESS TO THE WORLD BEYOND THE CLASSROOM: (no connection 1 to 5 highly connected)

| Class | Mean | SD | F | p< |
|---|---|---|---|---|
| FALL 94 | 4.09 | 0.88 | 0.00 | .0 |
| SPRING 95 | 4.10 | .85 | | |

4. IS THERE SUBSTANTIVE CONVERSATION IN THIS CLASS?: (no conversation 1 to 5 high-level substantive conversation)

| Class | Mean | SD | F | p< |
|---|---|---|---|---|
| FALL 94 | 4.33 | 0.97 | 3.36 | .07 |
| SPRING 95 | 3.75 | 1.07 | | |

5. IS THERE SOCIAL SUPPORT FOR STUDENT ACHIEVEMENT IN THIS CLASS?: (negative social support 1 to 5 positive social support)

| Class | Mean | SD | F | p< |
|---|---|---|---|---|
| FALL 94 | 4.04 | 0.92 | 0.82 | .37 |
| SPRING 95 | 4.30 | .86 | | |

## 4. Conclusion

DEC is based on postmodern thought including the concepts associated with transactional theories of rhetoric, cognitive elaboration and arousal, paradox, divergence and plural realities. DEC, is a continuation of the author's earlier and continuing concerns for promoting learning through small group discussions (Sherman, 1986; Millis, Sherman & Cottell, 1993). The addition of the narrative reflection/reaction component, as facilitated by the NETNEWS group, made possible a continuing dialogue outside of class time. The classes receiving this type of strategy generally felt that it was highly beneficial to their learning of both the content of the class and about each other's perceptions of that content. While the strategies described in this essay obviously take up more instructor time in reading, responding and evaluating, it is believed that the gains in student writing abilities and critical thinking (rhetoric), and the motivating stimulation of the class discussions are worth the efforts. The special issue of Teaching of Psychology (Nodine, 1990) which is devoted entirely to "Psychologists Teach Writing," has several articles expressing similar sentiments. However, it should be noted that virtually all of the articles contained in that issue focus on individual student writing projects, rather than cooperative or collaborative classroom pedagogical strategies. The only article weakly linking a peer-tutor cooperative strategy was Levine's (1990). While some of the authors acknowledge the dialogue which takes place between instructor and student, none of the articles recognize the peer interactive models available in cooperative learning. Five years later in the February, 1995 special issue of Teaching of Psychology (Volume 22, Number 1) devoted to "Psychologists Teach Critical Thinking," nearly 60% of the articles mention some form of cooperative learning, however, only one of the articles utilizes computer based technologies (Wolfe, 1995). Thus, increasing use of writing appears to be happening, but inclusion of computer-based technologies, especially in the form of CMC, does not seem to be as prevalent. Lastly, while the rich variety of psychology theories associated with the field of educational psychology is eminently suited to this technique, it is believed that many other disciplines which likewise abound in diverse theory could benefit from this approach.

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