ENHANCING WEB-BASED INSTRUCTION USING A PERSON-CENTERED MODEL OF INSTRUCTION

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This study compared the implementation of a person-centered model of instruction to non-person-centered instruction in Web-based courses. Three questions were posed regarding the outcomes of the person-centered model of instruction: Is it possible to increase the self-actualization, or striving for individual achievement from learners in a Web-based course using a person-centered model of instruction? Could instructors in a Web-based course receive original and useful creative products from students experiencing person-centered learning that exceeded the quality of products in similar Web-based courses? Finally, would Web-based instructors see an increased striving for individual achievement within their students experiencing a person-centered learning experience?

INTRODUCTION

Web-based instruction is a popular method of delivering instruction to people, but are tried-and-true instructional models such as objectivist and constructivist models the most appropriate for online learning? One instructional model designed specifically with Web-based learning in mind is Miller and Mazur's (2001) person-centered model of instruction based on the humanistic learning theory of Carl Rogers. The person-centered model of instruction integrates the humanistic learning theory of Rogers (1957; Rogers & Freiberg, 1994) by focusing the instruction on the needs, interests, and skills of the learners. Miller and Mazur (2001) theorized when they designed this instructional approach the following three outcomes: the development of a creative product that is original and useful; significant learning as described by Rogers and Freiberg (1994) as an accumulation of knowledge and satisfaction with the learning experience, a desire to master the experience and a greater understanding of the problem and its potential solutions; and, finally an increase in self-actualization, which is a striving for individual achievement, through learning and development of interests (Rogers uses the term

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The Quarterly Review of Distance Education, Volume 8(1), 2007, pp. 25–34 ISSN 1528-3518

"perfection" in his definition of self-actualization, but the term "individual achievement" is being substituted as a more appropriate term in an educational context). Similar outcomes may be described by other instructional models, but the person-centered model of instruction stands out because it not only focuses on achieving a learning goal but also on enhancing the striving for individual achievement or personal perfection of the learners.

A study was conducted to explore the differences between Web-based courses taught by the same instructor. This particular case study explored the different learning outcomes between courses taught using a non-person-centered instructional (non-PCI) approach and a course taught using the person-centered model of instruction. This case study would also be the first implementation of the person-centered model of instruction testing the viability of the instructional model and its outcomes. Three questions were of interest within this study: Is it possible to increase the striving for individual achievement from learners in a Web-based course using a person-centered model of instruction? Could instructors in a Web-based course receive original and useful creative products from students experiencing person-centered learning that exceeded the quality of products in similar Web-based courses? Finally, would Web-based instructors see an increased striving for individual achievement within their students that experienced a person-centered learning experience?

BACKGROUND ON THE PERSON-CENTERED MODEL OF INSTRUCTION

The PCI model of instruction was designed for use in Web-based instructional settings to enhance the learning that occurs at a distance. While there are many different instructional models that can be implemented in an online environment, the PCI model of instruction focuses on moving control to the learner and allowing the instructor at a distance to take on a more facilitative role in the learning environment. The PCI model of instruction is based on a humanistic psychological approach to education. This approach focuses on the learner learning how to learn and instilling an interest in continuing to learn (Kolesnik, 1975). Specifically, the person-centered model is based on the humanistic learning theory of Carl Rogers (Rogers & Freiberg, 1994). Rogers believed that for individuals to have successful learning experiences they must have significant learning (Rogers, 1969). Significant learning, as used by Rogers is the outcome of a learner-directed approach to instruction in which students engage in directing their own learning experience based on their knowledge, skills, and interests. Within this learning experience the instructor takes on the role of facilitator of both the learning and the learning environment. The person-centered model of instruction, developed by Miller and Mazur (2001), focuses on the learner and instructor as facilitator implementing eight instructional design elements. These elements include the following: learner analysis using interests, skills, and prior knowledge; task formation based on the learner analysis and instructional topic; selection of environment to maximize learning; development and contracting of learner goals and objectives developed with the instructor; development of self-evaluation; development of instructional sequencing; identification and selection of resources; and implementation of learning and learner's self-evaluation. It was hypothesized that following this model of instruction within a Web-based course could lead towards the outcomes of a creative product, Rogers' significant learning, and an increase in the striving for individual achievement.

While this is a new model of instruction, it is not intended as a replacement for other instructional models. The purpose for this model of instruction was to enhance the instructional opportunities provided to educators and learners in the realm of Web-based instruction. Web-based instruction has a primary difference from face-to-face instruction

in that the locus of instructor control can be difficult to maintain due to the transactional distance of learner to instructor. This instructional model flips the locus of control from the instructor to the learner so that learners can become more active in the development of their learning. While learners become more actively engaged in controlling their learning experience, the instructor takes on the role of providing resources and becoming a resource to the learners through their personalized learning experiences.

DESCRIPTION OF THE CASE STUDY

Although the principles of the person-centered model of instruction appeared sound, the instructional model needed to be implemented in an instructional setting to evaluate the predicted outcomes. Also, the initial application of the instructional model would provide an opportunity to discover problems with successful application as well as potential solutions. The initial application occurred in a graduate-level Web-based education course at a regional university. Two courses using a non-PCI instructional approach were used as a basis for comparison. All three courses were taught by the same instructor. A total of 60-75 students were anticipated to participate in the study, but due to unforeseen complications of administrative errors in course enrollment and low course enrollment numbers, only 42 participants volunteered for the case study. Table 1 describes the three classes used in this case study.

The intervention group (PCI group, $n = 20$) consisted of graduate students enrolled in the spring 2002 Reading in the Elementary School course. The PCI group experienced instruction using the person-centered model of instruction. Comparison group 1 (CI_1, $n = 12$) was comprised of graduate students enrolled in the fall 2001 Reading in the Elementary School course. This course was the same as that used in the PCI group except that the instructor used their traditional non-PCI instructional approach. Comparison group 2 (CI_2, $n = 10$) consisted of graduate students enrolled in the fall 2001 Elementary School Curriculum course. This course was taught to the same population of students and addressed some similar content to the Reading in the Elementary School but was a more broad-based focus on elementary school curriculum. It was taught by the same instructor using their traditional non-PCI instructional approach. To achieve the needed power for analysis of the Personal Orientation Inventory, a quantitative data collection tool used in this case study, the comparison groups CI_1 and CI_2 were pooled (CI_p, $n = 22$).

DESCRIPTION OF DATA COLLECTION AND ANALYSIS

Data were gathered from multiple sources. These sources included the Personal Orientation Inventory (POI), creative products developed by the students in the PCI group, and instructor interviews.

TABLE 1
Sample Group Enrollments

Sample Group	*Abbreviation*	*Education Course*	*Sample Group Enrollment*
Intervention Group (Person-centered instruction)	PCI	Spring 2002 Reading in the Elementary School	20
Comparison Group 1 (non-PCI instruction)	CI_1	Fall 2001 Reading in the Elementary School	12
Comparison Group 2 (non-PCI instruction)	CI_2	Fall 2001 Elementary School Curriculum	10
Instructor	I		1

The Personal Orientation Inventory (POI) was provided to the participants as a pretest and posttest measure of striving for individual achievement through the learning and development of interests of the participants in the three sample groups. The POI was developed by Shostrom (1966) as a measure of values and behavior. The POI has been implemented as a measure of individual achievement for close to 40 years with studies conducted testing content validity (Fox, Knapp, & Michael, 1968; Shostrom, 1964), criterion validity (Bouverat, 1970; Jury, Willower, & DeLacy, 1975; Rizzo & Vinacke, 1975), construct validity (Knapp, 1965; Shostrom & Knapp, 1966), and the measure's resistance to faked scores (Braun & Asta, 1969; Braun & La Faro, 1969; Foulds & Warehime, 1971). The POI is made up of 150 two-choice comparative value and behavior judgments providing two major scales and 10 subscores. The subscores were used to measure various aspects of individual achievement in this study. Analysis of the POI pretest and posttest differences were conducted using a Wilcoxon signed-rank test, which is a nonparametric measure for two variables to determine if they have the same sample distribution.

The creative products were collected from the students in the PCI group for evaluation as evidence of creative products developed by participants that experienced the person-centered model of instruction. The creative products were analyzed using a qualitative content analysis (Merriam, 1998).

Instructor interviews were conducted before and after the two control group courses (CI_1 and CI_2) were taught in the fall 2001 semester and before and after the intervention group course (PCI) was in the spring 2002 semester. An additional instructor interview was conducted midway through the spring 2002 semester when the person-centered model of instruction was implemented.

PROCEDURES

The procedures for this study occurred over two academic semesters (fall 2001 and spring 2002). The procedures during the fall 2001 semester involved the CI_1 and CI_2 groups. The procedures during the spring 2002 semester involved the PCI group. Table 2 describes the research design used in this case study.

The study began with the CI_p group (CI_1 + CI_2) receiving the POI. The participants in the CI_1 group (fall 2001 Reading in the Elementary School) completed the POI pre-test and began their non-PCI instructional experience regarding the topic of scaffolded reading experiences. The participants wrote a critique of their textbook reading and three model teaching videos focused on scaffolded reading. The participants completed a project that entailed developing a 20-minute lesson plan focusing on scaffolded reading experiences and videotaping the teaching of the lesson plan. The CI_1 participants received the POI posttest after their project was submitted at the end of the semester.

The participants in CI_2 group (fall 2001Elementary School Curriculum) completed the POI pretest and began their non-PCI instructional experience. The CI_2 group participants submitted a term paper focusing on a content area subject. The CI_2 participants received the POI posttest after their term paper was submitted at the end of the semester.

The PCI group participants (spring 2002 Reading in the Elementary School) received the POI pretest and were assigned to review the textbook chapter focused on scaffolded reading experiences. The participants then completed a Learner Analysis Questionnaire (LAQ), which was used to help the participants identify their needs, skills, and interests relating to scaffolded reading experiences. The LAQ was based on a content analysis of the textbook chapter focusing on scaffolded reading experiences. Participants then completed a learning contract to develop a personalized learning experience based on their needs, skills, and interests relating to scaffolded reading experiences. The contracted project was to demonstrate the participants' level of mastery of a scaffolding instructional technique on which they focused and a form of self-assess-

TABLE 2
Research Design for Data Collection

	Description of Treatment		
Sample Group	*Preinstructional Experience*	*Instructional Experience*	*Postinstructional Experience*
PCI (person-centered instruction)	POI administered	• Read scaffolding chapter in textbook • LAQ administered • Participants develop learning contract • Participants negotiate learning contract • Participants complete and submit the project	POI administered
CI_1 (non-PCI instruction)	POI administered	• Critique textbook reading • Critique three model teaching videos • Write 20-minute scaffolding lesson plan • Videotape the lesson • Submit lesson plan and video to the instructor	POI administered
CI_2 (non-PCI instruction)	POI administered	• Develop a term paper focusing on a content area subject • Submit the term paper to the instructor	POI administered
Instructor	• Fall 2001 preinstruction interview • Spring 2002 preinstruction interview	• Spring 2002 postnegotiation interview	Fall 2001 post-instruction interview Spring 2002 post-instruction interview

ment of their project. The participants then submitted their completed contract to the instructor and negotiated the terms of the contract. The participants also had the opportunity to contact the instructor throughout the experience and renegotiate any needed modifications. The participants submitted their completed project to the instructor and then completed the POI post-test.

In addition to procedures relating to the students, five interviews were conducted with the instructor. Two interviews were conducted during the fall 2001 semester and three interviews were conducted during the spring 2002 semester. A preinstruction instructor interview was conducted each semester once the POI pretest was made available to each group. A postinstruction instructor interview was subsequently conducted each semester after the POI posttest was made available to each group. A postnegotiation instructor interview during the spring 2002 semester was conducted midway through the person-centered learning experience after the contract negotiations with the PCI group participants were completed.

FINDINGS

Several interesting findings were uncovered in this case study. A primary finding of the study was that participants experiencing the person-centered model of instruction (PCI group) demonstrated statistically significant positive changes in the mean scores on 4 of the 10 subscales between the pre- and posttests of the Personal Orientation Inventory (POI). The four subscales with significant changes were feeling reactivity or sensitivity to one's own needs, synergy, acceptance of one's natural aggression, and the capacity for intimate contact. Also, a nonsignificant but positive trend was found on the POI subscales self-actualizing value and spontaneity for the participants in the PCI group, while participants in the CI_p

TABLE 3
Significance Scores on the POI Subscale Pre- to Posttest Scores

*POI Subscale and Description**	*PCI Group (Intervention) Significance Scores***	*CI_p (Combined Comparison Group) Significance Scores***
Self-actualizing value: values of a self-actualizing person	.12	.44
Existentiality: ability to react without rigid adherence to principles	.23	.08
Feeling reactivity: sensitivity to one's own needs and feelings	.02***	.62
Spontaneity: freedom to react spontaneously	.46	.79
Self-regard: affirmation of self because of worth or strength	.97	.58
Self-acceptance: acceptance of self in spite of weakness or deficiencies	.94	.70
Nature of man: degree of constructive view of the nature of man	.38	.56
Synergy: ability to be synergistic	.04***	.22
Acceptance of aggression: ability to accept one's natural aggressiveness	.02***	.78
Capacity for intimate contact: ability to develop intimate relationships with other human beings	.04***	.86

Notes: *POI descriptions were developed by Shostrom (1966). **$p \leq 05$. ***Items with significant p values

experienced a nonsignificant negative trend. The participants in the combined comparison group (CI_p) did not show any significant changes, but nonsignificant negative trends were found for seven of the ten POI subscales. Table 3 lists a brief description of the subscales and the difference in significance levels between the PCI and CI_p groups.

Additional findings were the creative products developed by the PCI group experiencing the person-centered model of instruction in the spring 2002 Reading in the Elementary School course. Typically, the projects submitted in previous semesters of the Reading in the Elementary School course included a set of lesson plans accompanied by a videotape of the lessons as they were taught to elementary students. The participants in the PCI group developed course projects demonstrating their mastery over their selected scaffolded reading experiences topic. Each project was based on the contracts negotiated by each PCI group participant and the instructor. Although the project was intended to be completed by each participant, two participants negotiated with the instructor to develop a joint project.

Participants were primarily interested in studying the use of one of the scaffolded reading experience phases (prereading, during reading, or postreading activities). Although most of the participants focused on the scaffolded reading experience phases, each project was unique. It was also found that participants utilized a variety of different project formats as well as multiple project formats to present their work. Table 4 lists the various project focuses and formats.

A final set of findings was from the instructor interviews. The instructor was asked to rate the quality of the creative products received from the students at the end of both the fall 2001 semester (CI_1 group) and the spring 2002 semester (PCI group). The instructor described the work delivered during the fall 2001 semester by the CI_1 group as fitting within a continuum of high quality work and minimum

TABLE 4
Focus of Projects and Formats for PCI Group Participants

Participant	*Project Focus*	*Project Format*
1	Prereading activities for motivation and comprehension	Research paper, PowerPoint
2	Using prereading activities to enhance the lesson	Video, lesson plans, reflection paper
3	Postreading activities	Video, reflection paper
5	Fostering reading comprehension skills	Lesson plans, reflection papers, digital pictures, PowerPoint
6	Which is more effective reading recovery or accelerated reader	Research paper
8	Importance of reading aloud to children.	Research paper, lesson plans, PowerPoint
9	Prereading activities	Video, reflection paper
10	Postreading activities	Research paper, lesson plans, digital pictures
11	Purpose of prereading activities	Research paper, lesson plans
12	Establishing forms of building text specific knowledge	Lesson plans, PowerPoint
13	Integration phase activities	Lesson plans, PowerPoint
14	Guided reading activities and setting schemata	Video, lesson plans, reflection paper
16	Postreading activities	Video, lesson plans
17	Strategies to teach context clues	Research paper, lesson plans
18	Four-block method	Lesson plans, PowerPoint
19	Four-block method	Lesson plans, reflection paper, audio tape
20	Modifying text with special education students	Research paper, lesson plans
7 and 15	Using the four-block method	Research paper, lesson plans, digital pictures

quality work. The instructor considered high quality work as teaching beyond the textbook and beyond the normal class expectations. The minimum quality work was described as someone teaching from the textbook for basic understanding. While most of the work fit within the instructor's continuum of high quality of work there were approximately six students that only met the instructor's minimum quality of work.

A different finding occurred with the PCI group. The instructor stated, "I felt my students [in the PCI group] were more precise in what they were doing." The instructor believed that he received more specific work related to strategies and activities targeted to reaching particular students. The instructor also felt that the contracting and decision making that occurred before the participants began the work on their project helped them become more focused, strategic in their implementation, and precise.

DISCUSSION OF FINDINGS

Three questions were posited in this article. Is it possible to increase the striving for individual achievement from learners in a Web-based course using a person-centered model of instruction? Could instructors in a Web-based course receive original and useful creative products from students experiencing person-centered learning that exceeded the quality of products in similar web-based courses? Finally, would Web-based instructors see an

increased striving for individual achievement within their students that experienced a person-centered learning experience?

Three courses were focused on in this study. One course was taught using a person-centered model of instruction, while the other two courses were taught using a non-PCI instructional approach. Data from the Personal Orientation Inventory, projects developed by PCI group participants, and instructor interviews were analyzed to answer the questions of this study. Based on the results of this study, the outcomes of a person-centered model of instruction described by Miller and Mazur (2001) appear to be supported. When compared to a non-PCI instructional approach, several differences were found.

First, a difference in the striving for individual achievement difference scores between the POI pre- and posttests was found between the PCI and the CI_p groups. A positive trend in the difference scores on the POI was found for the PCI group with significant differences on the four subscales of feeling reactivity, synergy, acceptance of aggression, and capacity for intimate contact. Also, there were nonsignificant positive changes on the self-actualizing value and spontaneity subscales. A nonsignificant negative trend was found for the CI_p group on seven of the ten POI subscales. This data suggests that individuals experiencing a person-centered model of instruction in this case study experienced an increase in their striving for individual achievement.

A difference was also found in the products developed by participants experiencing person-centered instruction (PCI group) compared to the participants receiving non-PCI instruction (CI_1 group). The participants in the CI_1 group were required to develop a 20-minute lesson plan and video tape that lesson on scaffolded reading experiences. Participants in the PCI group were given the opportunity to control their learning and demonstration of their learning mastery. When given this opportunity, the PCI group participants developed a wide variety of projects and utilized multiple formats for presenting their mastery of their selected learning topic. Comparing the results from both groups the data shows that individuals experiencing person-centered learning produce creative products with a quality that exceeds the quality produced by individuals in similar courses that use a different instructional approach.

A final difference was found between the two groups based on the instructor interviews. The same instructor for both groups (CI_1 and PCI) who participated in the Reading in the Elementary School course rated the quality of the creative products differently. The instructor found a continuum of work from high quality to minimum quality from participants in the CI_1 group. A different rating from the instructor was provided for the PCI group. The instructor described the PCI group's work as more precise, focused, and strategic. The instructor also described the quantity of work produced by the PCI group as much larger than had been received in the past. The interview data present a different view of the instructor regarding the quality of work from the CI_p participants. This could suggest that individuals involved in person-centered learning demonstrate an increased striving for individual achievement through the products they create.

Overall, a difference was found between the group having PCI experiences and those having non-PCI learning experiences. The participants who experienced PCI demonstrated a higher quality of work in the course projects compared to the non-PCI participants, as well as mastering their learning topics based on the instructor's evaluation. Also, participants having PCI experiences demonstrated increases on the Personal Orientation Inventory, whereas participants having non-PCI experiences demonstrated primarily decreases on the Personal Orientation Inventory. The data in this particular case study suggest that participants experiencing person-centered instruction produced creative products, experienced significant learning, and increased their striving for individual achievement.

CONCLUSIONS

The data found in this study show that the outcomes predicted for the person-centered model of instruction by Miller and Mazur (2001) were appropriate outcomes within the context of this case study. There are two possible reasons for why the outcomes of the person-centered model of instruction were reached in this case study. First, the PCI group participants were given control over their own learning experience. The participants were able to focus on a topic that was of direct interest to them and could be applied within their classes. Another possible reason is the motivating factor. While many learners are motivated by some type of extrinsic motivation such as a grade, the person-centered learning experience provided more intrinsic motivation. The intrinsic motivation could have been the inherent satisfaction of the learning as described by Ryan and Deci (2000) or the motivating factors of challenge, curiosity, and control described by Malone and Leeper (1987).

The outcomes of the person-centered model of instruction did occur and there are possible reasons for the occurrence, but additional testing of the model needs to occur. Additional studies need to be conducted with multiple instructors in a variety of Web-based learning situations to determine if the predicted outcomes consistently occur as well as the reasons for the occurrences.

Additional questions could also be asked in regards to this instructional model. Would this instructional model be appropriate for application with undergraduate or P-12 learners? Could this instructional model be implemented in other types of distance learning environments, such as instructional television? Could this instructional model be applied in a face-to-face instructional environment? What types of differences would occur in the comparison of the person-centered model of instruction in a Web-based course and a face-to-face course? Finally, what is the impact of the person-centered model of instruction on the instructor due to the changes in the control of the instructional environment? As with any new instructional model, only time and further testing will tell if students will go beyond the instructor's expectations when placed in person-centered learning experiences.

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