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ABSTRACT

The Instructional and Performance Technology Department at Boise State University (Idaho) offers a master's degree program via distance education to prepare adult students for careers in the areas of instructional design, job performance improvement, human resources, organizational redesign, training, and training management. Most students attend the program not only to earn a master's degree, but also to upgrade professional knowledge and skills. This paper discusses the problem of adult student dropouts, how a solution was approached, and results obtained. From the cause analysis, it was concluded that satisfaction during the first or second courses was the major factor that determined students' decisions whether or not to continue in the program. Forty-two percent of the students who dropped out expressed dissatisfaction with the learning environment as the reason; another reason was a discrepancy between professional or personal interests and course structure. The instructor who taught the introductory course systematically redesigned the curriculum and developed strategies to improve students' attention toward learning, make the learning more relevant to their professions, increase confidence levels, and increase satisfaction with both the learning subject and the learning environment. Since the new interventions were implemented, significant improvement in student retention has been achieved. (AEF)

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A Case Study: Increase Enrollment by Reducing Dropout Rates in Adult Distance Education

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Adult Education

The U.S. Department of Education defines adult education as the teaching of adults via any education activities, except full-time enrollment in higher education credential programs. According to the Digest Education Statistics published by the U.S. Department of Education (1997), the number of adult education participants among 117,826,000 employed persons during 1996–1997 was 59,734,000.

What motivates adults to be involved in continuous formal education? Houle (1971) conducted a qualitative study from which he identified three types of adult learners: goal-oriented participants, activity-oriented participants, and learning-oriented participants (cited in McCreary, 1990). Verduin & Clark (1991) categorized three main types of adult education programs: adult basic education (ABE) programs (to acquire ABE), leisure and enrichment education programs (to increase enrichment in adult life), and career education programs (to prepare or upgrade their job-related knowledge and skills). Examples of adult education activities include part-time college attendance, classes or seminars given by employers, classes taken for adult literacy purposes, adult basic education or English as a second language, or courses for recreation and enjoyment.

Adult Distance Education

Distance education is defined as "any formal approach to learning in which a majority of the instruction occurs while educator and learner are at a distance from one another" (Verduin & Clark, 1991, p. 8). Distance education, due to its time and geographic flexibility, has appealed to working adult learners who work full-time yet want to seek for continuous education. Many adult learners attempt to achieve their goal of adult learning via distance learning options. Distance education institutions use various distant learning technologies such as audio and video conferencing devices, the Internet, or computer-mediated communication systems. According to a survey conducted by National Center for Education Statistics in 1995, out of about 14.3 million students enrolled in higher education institutions in fall 1994, about 758,640 adult students formally enrolled in distance education courses in academic year 1994–95. Eighty one percent of institutions reported that they offered courses designed for undergraduate students; thirty four percent for graduated students; and

IR018989

thirteen percent for professional continuing education. Among the distance education institutions, thirty nine percent of them targeted professionals who were seeking recertification, and 49 percent targeted other workers who looked for skill-updating or retraining as potential audiences.

Adult Distance Education in Boise State University

The Instructional and Performance Technology (IPT) Department at Boise State University offers a Master's degree program via distance education (DE). The IPT-DE program is intended to prepare adult students at distance for careers in the areas of instructional design, job performance improvement, human resources, organizational redesign, training, and training management. The majority of students attend the IPT's distance program not only to earn a master's degree in IPT but also to upgrade their professional knowledge and skills. In this paper, we will discuss what problem we encountered, how we approached a solution to the problem, and what results we obtained.

Problem: Some New Adult Distance Students Do Not Continue

When new adult distance students come to a distance learning environment, they encounter an unexpected problem. New adult distance learners who are used to the traditional classroom learning environment often feel overwhelmed by the new way of learning and fail to adjust themselves in the new environment. Chacon-Duque (1987) conducted a survey study and concluded that learners' perceived course difficulty, motivational levels, and persistence levels were good predictors of students dropouts from Pennsylvania State University's Independent Learning courses.

The IPT-distance program at Boise State University found out that distance students who stopped registering after their first or second distance courses usually did not come back to complete the distance program (Fenner, 1998, unpublished manuscript). In contrast, completion of as few as three courses was found to be a strong predictor of students who would more likely complete their master's degree program.

Cause Analysis: Why Did They Drop Out?

In order to find out the causes of dropouts, the distance education coordinator conducted interviews with the students who dropped out of the program as well as those who were continuing the program between 1989 and 1996. From the interviews, it was concluded that satisfaction during the first or second courses was the major factor that determined their decisions to continue or not to continue to learn. Forty two percent of the students who dropped out of the program expressed "dissatisfaction with the learning environment" as the reason for their dropping. Another reason that they dropped out of the program was due to a discrepancy between their professional or personal interests and the course structure.

The student interviews revealed more detailed information about the root causes of their dissatisfaction with the learning environment. During the first or second course, they were overwhelmed by advanced knowledge and overloaded information. They perceived themselves as learners with low confidence levels. They were concerned whether they had an appropriate manner for online interaction with other students as well as with the

instructor. They worried if they were able to use the communication software as a learning tool effectively. They expressed a concern of whether their written messages were good enough. Some students perceived the distance learning environment as a de-personalized environment. They wondered if their messages were really read by others. Some students expressed difficulty in communicating online. They wanted to have more structured feedback from the instructor and dynamic interactions with other participants.

Intervention: How Did We Approach a Solution to the Problem?

From the cause analysis, it was obvious that a solution to the dropout problem was to help new distance students be satisfied with their performance during the first or second course. In the spring semester of 1997, the IPT-DE program started focusing on implementing new interventions in instruction, especially addressing how to increase new distance students' confidence and satisfaction levels. The instructor who taught the introductory course used Keller's ARCS model to systematically redesign the curriculum. The Organizational Elements Model (OEM) was used to guide designing the changed inputs and processes to produce desirable products in terms of students' improved performance and desired outputs in terms of the increased number of enrollment due to the reduced number of dropouts.

Inputs and processes. The instructor developed strategies to improve students' attention toward learning, to make the learning more relevant to their professions, to help increase their confidence levels, and to increase their satisfaction of both the learning subject and the learning environment. Following are several instructional objectives and strategies that the instructor used to guide her instruction:

- To guide new distance students in learning how to use the learning tools effectively
- To make the distance learning environment personalized and safe
- To give learners clear expectations in terms of learning processes and outcomes
- To design and deliver instruction based on ISD principles
- To learn about individual learners as much as possible
- To monitor individual learners' performance
- To help learners self-monitor their own performance
- To provide individual learners with immediate, frequent, and regular feedback
- To coach them to increase new knowledge in the IPT field
- To encourage high interactivity among participants
- To help them develop self-regulated learning behaviors

Among the instructional strategies, the use of a criterion-referenced pre-test and post-test as well as the use of a self-confidence level assessment were critical. At the beginning of the semester, a pre-knowledge assessment was administered to measure students' current knowledge levels in the field of IPT. In the assessment, the confidence levels toward their own knowledge were measured as well. With the data obtained from the assessment, the instructor was not only able to design instruction with appropriately set objectives but also able to plan to provide more adaptive instruction to individual learners at a distance. Students who showed low readiness levels in both cognitive and affective domains were provided more structured guidance. Students who had high levels of cognitive and affective readiness were provided more challenging tasks in order to prevent boredom.

Products. Since the spring of 1997, the changes in students' performances were systematically evaluated. In every semester, significantly positive results were achieved. Not only the new distance students' achievement scores were significantly changed but also their confidence levels were significantly different. In the spring semester of 1997, the pretest results and the posttest results were significantly different, t (11) = -20.61, $p < .01$. The average score on the pretest was 24.58 and the average score on the posttest was 36.83. In the summer semester of 1997, the average score on the pretest was 25.59, and the average score on the posttest was 34.78. The difference between them was significant, t (16) = -7.64, $p < .01$. In the fall semester of 1997, the average score on the pretest was 25.38, and the average score on the posttest was 34.81. The difference between them was significant, t (15) = -9.25, $p < .01$. The self-confidence level test was administered with the posttest. It was found that the correlation between their self-confidence levels and performance levels was significant at the .05 level, $r = .52$.

During the spring semester of 1998, the new distance students' entry knowledge levels and confidence levels were measured in both the pretest and posttest. The average score on the pretest was 24.71, and the average score on the posttest was 36.43. The difference was again significant, t (13) = -13.04, $p < .01$. The average pre-confidence level was 56.79 and the average post-confidence level was 134.86. The difference was significant, t (13) = -13.17, $p < .01$.

Outputs. Between the fall semester of 1989 and the fall semester of 1996, 44% of distance students dropped out of the program by their third course. A year after the new interventions were implemented, the dropout percentage was reduced to 22% (Fenner, 1998). That means that we achieved a significant improvement in our retention of students by using effective instructional interventions. Among the 22% who dropped out of the program, three students dropped out after the first week of the course due to hardware and software incompatibility problems. Six students cited that they decided not to continue the program because their professional goals and the degree program did not match. One student cited a health problem. Another student cited time constraints.

Outcomes. According to Kaufman and Thiagarajan (1987), the final result of instructional intervention in the results chain is its social impact. In our case, various positive social impacts of our organization's success can be predicted. Successful instruction delivered via distance learning program by our organization will help more adult learners be able to pursue their continuing education than before. Our society will have more professional instructional and performance technologists. Such professionals' improved performance will in turn have positive impacts on various parts of our society such as industry, business, education, and military.

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7