CHAPTER V

DISCUSSION of STUDY FINDINGS and IMPLICATIONS for FUTURE STUDY

Chapter V presents a discussion of the study findings based upon the quantitative and qualitative analysis conducted and presented in the Chapter IV. Previous research (readings reviewed in preparation for the study) and the researcher's experience as a distance education practitioner (both as a teacher in the online environment and as an administrator managing online course delivery) also informed the discussions that follow. Implications and nuances of the findings along with recommendations for future research in the online environment are also presented in the following sections.

Study Findings

Discussion of the study's findings, recommendations for future research regarding dropout and persistence in the online environment, and implications for practice are presented in the pages that follow and are focused on four major areas. These areas include: defining and capturing dropouts in future research, operationalizing conation, understanding technology as a rapidly changing environment for use in course delivery, and acknowledging the changing nature of the online classroom itself and the associated requirements (pedagogical as well as logistical) that result.

Defining dropout – One of the major study results is the new perspective of adult dropout students as hybrids, students who persist in some classes and dropout out of others during the same semester. Most of the students interviewed for this study were taking multiple courses during the summer semester. Eight of the twelve dropout students participating in the study were taking more than one course. These students appeared as dropouts on the institution's master list, but in reality, these students were persisters in their other courses. In the social context of defining adult students, these dropouts were typical adult learners balancing the demands of families, careers, and degree pursuit and they made the decision to dropout of one class to more fully concentrate on their other classes and the other facets of their lives. The institutions'

dropout rate would be reduced dramatically if these hybrid students were considered persisters. This study did not result in the identification of students who totally dropped out of their courses or programs of studies, although there were surely these students in the study. Future research will need to be conducted to identify these students.

In addition, before undertaking future dropout research a researcher must fully understand how dropout is defined and determined by all of the parties involved in the study, e.g, the administrators, instructors, and the students. Whether the research project involves learners in an informal learning program, such as a county-sponsored adult education program or learners in an institutionalized online degree program of study, agreement should be reached regarding dropout definition.

For purposes of this study, dropouts were defined as students who officially withdrew from their online class. Only students receiving a grade of "W" were coded as dropouts and included in the study. Students who received a letter grade of "F" were considered persisters who completed their course assignments but not up to course standards. Students receiving a grade of "I", an incomplete grade at the institution, are usually students who intend to complete the course assignments but who for one reason or another have not submitted all of their assignments for evaluation or who have not taken all of the required course examinations.

According to institution policy, a student who wishes to withdraw from a course for whatever reason, must formally withdraw by completing and submitting a "Request for Withdrawal" form. (This policy is published in all hard copy institution documents, on the institution's Web pages, and in every online classroom as part of the course syllabus.) Examples of reasons for a student's withdrawal might be: a) the coursework is too easy or too difficult, b) the student received a promotion or was transferred to a new job, or c) the student has not kept up with the assignments and readings and as a result is ill-prepared to sit for the final examination. When everyone, students and

faculty alike, adheres to policy, the process works correctly and a clear definition of dropout can be made. Ambiguity, for researchers, comes to bear where students have received grades of "I", incomplete or "F", failure.

At one point during the analysis phase of this study, the question arose as to whether or not to code students receiving grades of "I" and "F" as dropouts. Technically to be granted an incomplete grade at the institution, students must formally request an incomplete grade from their instructor, and with the instructor, agree to the exact amount and nature of the work to be completed so the work can be evaluated and a letter grade assigned. Further, students have a limit of six months from the end of the semester in which the incomplete grade was assigned to complete and submit the work. Time, therefore, plays a critical factor when determining dropouts at the institution, if we include students with incomplete grades as dropouts.

In this study, twelve survey respondents received incomplete grades for the summer 1998 semester. As of February 6, 1999, all but four of the incomplete grades had been converted to letter grades of "C" or better. In September 1998, when the initial calculations were conducted for this study, there were twelve students with incomplete, e.g., "I" grades on file. Within the context of this study, the effects of not including incomplete grades as dropouts make little difference statistically. Four additional dropout cases would not significantly change the study results. However, if future studies are conducted on a much larger scale, the researcher would have to be very specific about defining dropouts and about specifying the timing of the results analysis. Questions such as: what is the policy regarding incomplete grades? and, if and when do incomplete grades become letter grades? should be carefully addressed by researchers as part of future dropout studies.

Then there is the issue of including students who received a letter grade of "F". Should these students be included in dropout research? A basic assumption of this study was

that students who received an "F", were students who completed course requirements but who did not do so satisfactorily. In subsequent dialogues with faculty (teaching both online and traditional face-to-face courses), it became evident some faculty assign "F" letter grades to students who complete some work, stop participating and never contact the faculty to discuss their intentions. Technically, this definition does meet the criterion of a dropout student for this study. (Please reference Chapter 1, p.19.)

Fortunately, this issue proved not to be a problem for this study. There was just one instructor participating in this study who assigns "F" grades to students based upon the conditions discussed above and no study participants from this particular instructor's class received a letter grade of "F".

Tinto (1970) referred to "the disarray of dropout research." Roberts wrote "…it is important that a definition of student 'drop-out' be presented." (1984, p.50). As this researcher experienced, the potential for "disarray" is great even within the context of just one study. It is not sufficient to "present" a definition within the study pages. Everyone involved in the research project must be aware of how dropout is operationalized so that the results will be more conclusive and reliable, e.g., the margin of a coding error is minimized.

As a result of this researcher's experience as an administrator, I believe administrators responsible for student support should ensure that official policies and procedures regarding course withdrawal and incomplete grade conversion are well publisized. This recommendation is especially true when dealing with students in the online environment. In addition, institutional personnel should ensure each faculty member understands and fully complies with the official policies. Once dropout policies are established and implemented comparison of dropout study results will be generalizable across institutions and programs.

Operationalizing Conation - Two of the three questions, which guided this study, were framed by the concept of conation. Is Goal Accomplishment Style, as measured by the Goal Orientation Index (GOI) related to persistence and dropout in an online, computer-conferenced class? and Can a relationship between Goal Accomplishment Style and other selected variables be identified and related to persistence and dropout in an online, computer-conferenced class? The results of the logistic regression conducted to answer the first question suggested that the GOI variables were not significant when related to persistence or dropout. Conation, as reflected by the three sub-categories of the GOI, planning, acting, and reflecting, appeared not to have a direct, significant relationship to the dependent variable, persistence/dropout in a small sample.

The results of the logistic regressions conducted to test the second study question relating GOI variables and the other category variables, resulted in a significant relationship between the independent variables, Acting and Timeliness and the dependent variable, persistence/dropout. It follows that a student scoring high on the Goal Orientation Index in the Acting category would automatically take the steps necessary to follow through to course completion. The four subcategories associated with the Acting GOI variable include, "Select a strategy", "Make it happen", "Push on", and "Wrap it up." These are all very energy-directing tasks and one would expect students scoring high in this category to persist in their online courses.

Better, more precise results, however, might have been achieved if the dropout analysis had been based upon the twelve subcategories of the Conation Cycle as opposed to using just the three main categories, Planning, Acting and Reflecting. (Please reference Figure 1 in Chapter 2.) According to Atman (1989), distance learners must manage their own learning, set realistic goals and monitor their progress toward achieving those goals. Using the 12 GOI subcategories to develop a differentiated student profile in future dropout research might yield a comprehensive student profile more able to

predict student dropout and, in turn, more able to point to a specific characteristic or behavior prohibiting the student from persisting in the online classroom.

What does conation mean for persistence in the online environment? Mezirow (1997) operationalizes conation as a line of action moving toward a goal. In addition, Mezirow's concept of conation includes reflection and self-awareness, prior to and while taking action. Assagioli, too, includes one's deliberation and affirmation in his Stages of Willing. Both of these approaches rely on the development of meta-awareness in goal achievement. Atman, using the twelve steps of the Conation Cycle, also seeks to capture a student's purposeful planning and reflection as they bring the actions needed for goal accomplishment to conscious awareness (Atman, 1987). All 6 of the dropout students interviewed for this study were purposeful and deliberate in their actions. These "dropout" students were not really dropouts but rather a hybrid classification of student, persisting in one class while dropping out of another.

Colleges and universities interested in developing support measures for online students might want to include the Goal Orientation Index as a self-reporting diagnostic tool to identify students needing assistance in motivation. Students could use the feedback from the GOI to see where remedial steps might be taken, e.g., whether they need to focus on developing a plan or focus on finishing the task already underway. The purpose of the self-diagnostic tool would be to make students aware of their individual tendencies when approaching tasks, bringing students to the consciousness awareness referred to in Atman's writings (1987). The GOI could be used as a counseling vehicle for at risk students in an effort to help them develop time management skills so critical for success in the online environment. There were two dropout students who scored below the mean in the Acting category. If identified prior to the start of their online class and appropriate remedial steps prescribed, then perhaps, these students would have persisted in their online class.

But remember, too, 8 of the 12 study dropouts scored above the mean in all 3 GOI categories. Given their GOI results, these 8 students were goal oriented and should have persisted in their online classes. In addition, all 6 of the dropout students interviewed were purposeful and deliberate in their actions. So, while a researcher or institutional administrators can use the GOI as a tool, one must look to the other factors contributing to persistence/dropout in the online class. This observation was born out in the qualitative interviews with study dropouts.

Technology as a changing environment for course delivery - In addition to being "the great equalizer" for students once they access the online classroom, technology is fast changing the format for online course delivery. This study proved to be a snapshot of dropout study as online course delivery mode transitioned from a client-server, communication software-based model of course delivery, to course delivery in the Web-based environment.

It is telling that in the year during which this dissertation study design was proposed, conducted and defended, e.g., January 1998 through March 1999, the institution designed and implemented 182 sections of Web-based courses. The World Wide Web is yet another new environment that will warrant the identification of new variables and study parameters.

Most dropout studies identified in Chapter II were conducted in the traditional face-to-face delivery mode. The dropout studies conducted in the distance education model were based upon the correspondence mode because for many years, correspondence was the primary delivery mode for distance education courses. Studies conducted in the online environment should utilize study variables tailored to the online environment and specifically, to the Web environment. An example of a Web-specific variable might be "plug-in" where a student would rate their technical competence with respect to downloading and installing a required software plug-in.

If one were to plot the rate of change for course delivery modes at the institution along a continuum of ten years in length, the author believes classroom delivery would span the first eight of the ten years. During these eight years, faculty were expected to be solely content experts. Correspondence courses would be introduced at the beginning of year nine. Faculty, again, were expected solely to be content experts. In the correspondence model of course delivery, most faculty-student interaction was conducted via the mail, only occasionally by telephone. Online classes would be introduced at the nine year and ten month mark. With the advent of technology for course delivery, faculty are expected to have developed at least basic technical competencies, in addition to skills for teaching in the online classroom.

Almost like a super-nova bursting on the scene, Web-based courses would have been introduced in the last two months of that ten-year scale. With the advent of Web-course delivery, faculty are now expected to be not only content specialists skilled at delivering courses effectively in the online environment but also technical experts, capable of designing and integrating technology into their online classroom. (An example of technology integration would be designing a Java applet to demonstrate the logic gate of a computer chip.) At the institution used in the study, 3500 students were registered for Web-based online classes in the spring 1999 semester. For the spring 1998 semester, the institution had only 580 students rostered in Web-based courses. The Web-based online environment presents its own specific challenges for course delivery, in general, and for dropout study, specifically.

Based upon results from this study, it is clear future dropout studies will have to address the specific requirements of the Web environment. The institutionally supported requirements might include something as basic as providing automated procedures for students to update their e-mail accounts to providing the technical staffing so new technology can be evaluated and incorporated in newly developed online courses.

Future dropout studies might then evaluate a student's perception of Web-specific support including these processes as variables.

Once the domain and purview of individual pioneer academic institutions, online conferencing software and course delivery environments are now being developed and supported by commercial software vendors. In the late 1980's and early 1990's, pioneer universities and colleges interested in delivering courses online used computer software such as "VaxNotes" which offered basic messaging capabilities with no graphical front-up. All commands had to be typed in at the command line and users, both faculty and students, had to be very knowledgeable about the software. (That is certainly not the case in today's online environment.) Researchers might want to be aware of the technological environment and context of their study so appropriate variables can be identified for use in the study.

Changing nature of the online environment - The last major area of focus for discussion is the changing nature of the online classroom and the associated requirements (instructional and logistical) that result. The three subcategories of this area are: 1) the neutral classroom environment, 2) the increased faculty support, and, 3) the increased institutional requirements for students at a distance. To successfully support students taking online classes, institutions should analyze and then implement the instructional and logistical requirements for effectively developing and delivering courses in the online environment.

A third study question was, Is there a relationship between other selected variables (Demographic, Personal, Institutional and Participative) and student persistence and dropout in an online, computer-conferenced class? The discussion that follows is based upon the results of the analyses conducted to answer this question. Although no significance was found between these variables and student persistence/dropout and they did not, for the most part, correlate highly with course satisfaction, there is a

standard that an institution wants to achieve. For example, 84 percent of students responding to the survey rated the institution's materials quality as above average or satisfactory.

Neutral classroom environment.

Age, gender and ethnicity were the three demographic (D) variables used in this study. None of the three variables proved to be significant predictors of persistence/dropout. Boshier (1973) in his study of dropouts at the University of Auckland, cited age as a powerful mediating variable in dropout and retention. Age, however, did not prove to have any significant impact on persistence or dropout in this study. This finding could be due in part to the predominately adult population of the institution and because the technology used to deliver online classes is "the great equalizer." Bachman (1995) in his study of adult students found that women tended to participate more freely in the online classroom. Once students begin to participate in their online classrooms, barriers such as age, gender, and ethnicity tend to fade into the background and become less important than participating in the class.

Faculty support.

To help faculty adjust to and be successful within the changing environment, institutions should establish faculty training programs where instructors are taught how to effectively teach online, how to rethink their course material presentations, and to redesign their course exercises and research assignments to better utilize the power of the Web. In addition, faculty should be offered access to courses where they can grow their expertise in a variety of technology-based courses from designing and implementing their web pages to using multimedia components, such as audio clips, in their course delivery. The dropout rate for this study was just 6 percent as opposed to the 17 percent dropout rate for courses taught by newer, less experienced faculty and to the 8 percent dropout rate for the students in courses sampled in this study. (The primary reason courses were selected for inclusion in this study is because they were

taught by the most experienced online instructors.) These rationale for increased faculty support is based first upon the researcher's experience managing online environments and also on the data which suggest a high correlation between course interaction (PA) and course satisfaction (.54) and between students participation (PA) and Final Grade (PE) (.49).

Faculty should be taught conferencing techniques for establishing a participative, inviting environment. Pascarella and Terenzini (1980) found that in the traditional classroom, frequent student-faculty contact, especially informal contact, correlated highly with persistence. In this study, frequent contact also correlated highly with student course satisfaction (.54). From my experience I know interaction online does not happen by chance, especially the careful online dialogues that are the core of virtual course delivery. The dialogue structure must be purposefully designed-in by the faculty and this purposefullness comes as a direct result of faculty training.

While focusing on interaction and participation, faculty teaching online should also be encouraged to interact frequently with students, whether formally as conference posts or informally as e-mails. Online participation correlated highly with course satisfaction in this study. At whatever the pace, faculty should always advise students when to expect the communication from the faculty member. Based upon my experience teaching in the online environment, it is clear that managing the students' expectations is an important aspect of online course delivery.

The problem of designing interactive exercises should be mitigated in the online environment because of the asynchronous access and study group functionality available in some conferencing software. Using a "Study Group" functionality students can access asynchronous group conferences limited to just the group participants, a synchronous chat room, and a group document development process, where students

can develop and edit their project paper. Each student's contribution, and lack thereof, is available for review by either a team leader or the instructor.

However, just having access to this software will not ensure collaborative work will occur. Grint writes about his experiences with the online classroom at Brunel University, UK, "How can we best explain the under-utilisation of a medium that, despite its optional use, embodies such great potential?" (Grint, 1990, p.189). Only through purposeful design of collaborative course activities on the part of faculty will dialogue occur in the online environment.

One participative (PA) variable in particular, Timeliness, e.g., timely submission of assignments, resulted in the strongest relationship with the dichotomous, dependent variable, dropout/persistence. The more timely a student is in submitting an assignment, the more likely it seems the student is to persist in the online classroom. If this is the case, faculty teaching in the online classroom should be encouraged to schedule their assignments so they are required as early in the semester as feasible. Doing so, would ensure that students are acclimated to the software, somewhat comfortable with the online environment, and focused on the course materials. Faculty would also know sooner rather later when remedial action is required. The goal is to get the students participating as quickly as possible in the online classroom. Wong & Wong (1979) in their study of assignment completion and attrition at the School of Continuing Education, University of Toronto, found that if a student did not submit the first assignment, there was a higher likelihood of student dropout.

As a corollary, faculty should be encouraged to give students immediate feedback on the online assignments that are submitted to further encourage timely submission in the future. As part of the "best practices for the online classroom", faculty should be encouraged to establish an interactive environment for the online student. This practice

would then become a teaching item when training faculty to teach in the online classroom.

In addition to the pedagogical, or instructional training, faculty should also be given technical support so they can grow their technical expertise. This researcher believes faculty designing and delivering courses for the online environment should understand the difference between a .jpg and .gif and what these files mean to students in terms of hardware requirements for students. Of the students responding to the survey, 70 percent saw themselves as having intermediate to expert technical skills. Faculty should be encouraged and supported in their attempt to keep abreast of technological advancements.

Another major example of the changing nature of the classroom and perhaps a potential cause of dropout in the online classroom in the future, is the problem of technology incorporation into the online course materials. During the study timeframe, students were expected to load communication software and configure the software to be compatible with their modems. With the move to course delivery via the Web environment, a new level of sophistication is being added. Students must now be sufficiently facile to install plug-ins, add-ons, sound and video cards, and manage multiple storage media. Students, even computer science majors, can be daunted by the requisite interfacing and troubleshooting skills. The use of technology in online course delivery is not going to diminish in the future. Quite the opposite, technology's use will only continue to grow in importance. And even though 70 percent of students responding to the survey judge themselves as technically capable or expert, faculty will want to achieve a balance between implementing new technology for the sake of using new technology and developing a true understanding of the instructional appropriateness of the new technology. For example, just because the technology exists which allows faculty to develop a 30 minute lecture on CD-ROM does not mean this is the best way to deliver the course content to the student.

Institutional Support for Online Students

Gatz (1985) found that an institution's student support is very important for persistence. This study resulted in a high correlation between institutional support, such as well-designed course materials and responsive technical support personnel and course satisfaction. For example, in this study, student rating of their course materials was high, 51 percent rated their material quality as above average or superior. As described in chapter 1, the process of course material development at the institution was labor-intensive. The course materials were specifically designed for the online environment developed by a team of practioners including an instructional designer. This researcher believes that faculty should have instructional technologists available to assist them as they design course content.

In this study, one independent variable was "login and password" which asked students to indicate whether or not they received their password within five days of registering for their online class. Most students, e.g. 76 per cent responding indicated they had. The institution was responding to student needs. In addition, there was a relatively high percentage of students who did not require technical support, 87% had no or just minimal technical problems with the communication software. This could be attributed to the high-quality software design and production of the communication software diskettes. Now that the trend for course delivery is going from the client-server environment to Web-based delivery, communication diskettes will no longer have to be disseminated to students. Institutions might want to rethink what the new delivery environment means in terms of accommodating and supporting students taking courses online. This support could be implemented by sending students an e-mail message containing their login id and password information within hours of registering for a class. Hard-copy confirmation letters may or may not follow, depending upon policy. As the nature of the online classroom changes, policies and procedures will have to change accordingly.

As part of its counseling services for distance education students, the institution might also want to advise students to reflect realistically about the courseload they can comfortably handle during a given semester. The institution might want to be proactive in describing for students the actual reading assignments and research projects required for each course, perhaps posting a sample syllabus for potential students to review prior to enrolling in an online course. Of the 12 students who dropped out of the online classes, 8 were taking more than one course. One of the students interviewed was registered for 4 courses during the semester. Adult students should be free to determine their workload; however, they should have complete information about what is involved in an online course.

The institution providing the online classes might want to provide the counseling services to help students understand the nature of the online environment, perhaps even developing an online orientation describing the virtual learning environment. As one of the students interviewed said with exasperation: "There was a lot going on. And there's a lot more reading and things in the online courses." Students need to understand the academic rigor required in well-designed, online classes.

Recommendations for Future Research

The implications of this study for future research focuses on the study environment, including research regarding the construction of online learning communities, use of the Goal Orientation Index instrument, and the exploration of the nature of learning in the online environment.

First, with respect to the study environment, future researchers would be well advised to move to a Web-based environment for conducting research and avoid intermediate or transitory delivery environments. Initially, a client-server environment with a Microsoft Windows-based interface was selected for use in this study because the most

experienced online faculty taught in the client-server environment and because more courses were delivered via this mode than any other. Faculty organization of the 20 classes used in this study could then be considered a constant because all of the faculty teaching in the study's classes had been trained in conferencing techniques and had approximately the same number of years experience teaching in the online environment. Faculty expertise should not have been a factor in student dropout or persistence. And as it turns out, there was only a 6 percent dropout rate for the study while the online courses as a whole experienced an 11 percent dropout rate. The newer, Web-based class saw a 17 percent dropout rate. Faculty training and years of experience delivering courses in the online environment may have contributed to persistence. Without more research, we can not be sure.

In the interim since the study was first proposed and actually conducted, faculty expertise in Web-course delivery has increased markedly making the Web environment the environment of choice for future research and analysis. In addition, reports of higher dropout in Web-based classes are being reported at the institution, e.g., 11 percent for client-server classes as opposed to 17 percent for Web-based classes during the summer 1998 semester. The need for research in the Web-based environment seems to be warranted.

In addition to focusing solely on courses delivered via the Web, researchers should consider collecting data online. Standard paper-based survey instruments were used throughout this study as a means of data collection. The return/response rate for online surveys might have been higher and more dropouts been reached, if the survey had been distributed online. The only caveat is that the students be guaranteed anonymity that can be hard to facilitate in the online environment. Most institutions take great pains to assure that anonymous postings cannot be made in the online classrooms to reduce the chance of spamming. Some extra programming might be required to remove student identification information from the actual electronic message but the extra time

is well worth the immediate access researchers will have as a result. Conducting research online might result in capturing higher percentage of dropouts.

The variables identified for use in the study, as stated in chapter one, were culled from previous dropout and retention studies, predominately based upon traditional face-to-face course delivery. A few variables specific to the client-server online environment were included, such as "technical expertise" and "initial experience" with loading the software. Future research, however, will have to utilize variables specific to online course delivery in the Web environment. Chere Campbell Gibson is conducting dropout research investigating the facets of a learner's self-concept in distance education. These facets as defined by Gibson include: "the process of learning as an adult; the process of learning at a distance; and a content-specific aspect of academic self-concept." (Gibson, 1998b, p.67). While her research is not specific to the online environment, Gibson does investigate adult learning at a distance. Gibson's work should provide a solid foundation from which to evolve future studies focused in the online environment.

Future researchers should develop a definition of dropout specific to each environment where dropout study would be conducted. The researcher should take pains to ensure everyone, faculty and administrators alike, understands and adheres to the conditions of the dropout/persister definition. Students, too, should be aware of the institution's policies and be encouraged to adhere to them.

Future research might clarify and tease-out the reason 46 percent of the students responding to the survey found the assignment load more difficult in the online classroom. Why was this the case? What were students' expectations? Initially, the researcher thought tha perhaps the students had associated the computer with computer games and they thought there would be more "playtime" associated with the online classroom or at least a more relaxed environment. Most of the institution's students,

however, are older working adults. One would believe these students would associate the computer with workplace applications such as spreadsheets and word processing. Is the workload perceived to be more difficult because of the learning curve involved with taking courses in a new delivery mode? More research should be conducted to answer these questions.

Research should be conducted into designing collaborative environments for online students. How can educators create a learner-centered environment online? For this researcher, this is one of the most important questions to be answered. During the interviews conducted for this study, five students indicated they did not enjoy the collaborative, group work. Is this because of the nature of group work online or because the exercises the faculty used were poorly developed? In addition, researchers should be investigating how best to accommodate learning styles in the online environment. One student interviewed dropped out of the mathematics class because she required more "hand-holding" and support than she believed she would get online. Was this just a perception problem or was this true? Are there courses that adapt more readily to the online environment? Researchers are just beginning to investigate this issue.

When using the Goal Orientation Index in future studies, researchers should be encouraged to use the twelve subcategories which make up the three main GOI categories of acting, planning and reflecting. Using the subcategories might reflect nuances regarding persistence and dropout in online classrooms and yield more insightful results. (Please reference Chapter 3, pages 62 and 63.) Researchers would want to identify specifically what traits persisters and dropouts exhibit. Future research must be able to differentiate between students who dropout because of purposeful, deliberate reasons and students who dropout because they can not move from the planning to the acting phase, or from the reflecting to the planning. Using the GOI

subcategories to develop student profiles might be able to assist in the identification of these at-risk students.

By far, the most important results of this study are the questions raised about the nature of learning in the online environment. When asked if they believed they learned in their online classes, a few of students replied they had because they received high grades. Other students said they had learned because they were able to comprehend the material and develop the assigned research papers for their courses. When pressed further to describe the nature of the learning that actually transpired for them, the students talked about the reading they were assigned and the mechanics of the research projects they were required to conduct.

Educators should also begin to investigate the nature of online conferencing and its relationship to learning. Though they generally did not like to participate in study group assignments, all of the students interviewed appreciated interaction with their faculty members and to some extent, the interaction with fellow students. What is the nature of this interaction? Is it merely informal email? What contributes to learning and how does it contribute to the learning process in the online environment?

Study Summary

Much is as yet to be learned about the online environment. We are just beginning to define what makes up the online environment and as the number of available online courses continues to grow, more research should be conducted to understand the relationship between teaching and learning in the virtual environment. Researchers need to facilitate qualitative dialogues to better explore the rich and varied motivations for adult behavior in online classes. In this study, there were students who needed a particular course to graduate but who elected instead to drop the course because the online environment was not appropriate for them. An underlying assumption for this researcher had been that requiring the course for graduation would be a motivator to

persist in the online class. Clearly, this was not the case. Why did these students dropout? The adult learner will choose and discard what is appropriate or not based upon multi-dimensional needs. These needs are difficult to assess. In addition, institutions will now have to examine who is really dropping out of their online classes. They will have to investigate whether the student is a "true" dropout, a student dropping out from a class or program or a hybrid student, one who is merely withdrawing from one or two (sometimes three) courses taken simultaneously.

The distance education literature that is emerging either compares the online environment to traditional classroom course delivery or is anecdotal in nature. Individual faculty members describe how they have developed and posted webpages for a course and document what they learned from the process. While interesting, this research is not really informing educators about the learning process in the online classroom. Learning in the online environment is just beginning to find its own voice. More research is required.

Almost all (95 per cent) of the students responding to the survey indicated they would take another online class. Online enrollments at the institution and at other colleges and universities continue to grow. To more fully support these students in their move to virtual environment and the faculty responsible for developing and delivering the online courses, more research should be conducted.

We as educators are just beginning to understand how technology is impacting our field. Our challenges are to be able to grow along with the technological innovations as they occur and leverage this technology wisely in online course delivery.