

CHAPTER II

REVIEW OF RELATED LITERATURE

Introduction

The three questions guiding this inquiry are: a) Is Goal Accomplishment Style, as measured by the Goal Orientation Index (GOI) related to persistence and dropout in an online, computer-conferenced class? b) Is there a relationship between other selected variables (Demographic, Personal, Institutional and Participative) and student dropout and persistence in an online, computer-conferenced environment? and c) Can a relationship between Goal Accomplishment Style and the other selected variables be identified and related to persistence and dropout in an online, computer-conferenced class? In the first chapter, the background and motivation for this study were developed and described. In this chapter, a rationale for the variables used in the study is presented.

The literature review for this study was conducted to identify variables, demographic, personal, institutional as well as participative, that have been used in prior research to better understand student participation or dropout in online courses. The review is organized into two main sections. The first section of the literature review investigates the concept of conation, as comprised of volition and motivation. An entire section of the literature review has been devoted to conation because conation serves as a conceptual framework for this study. The first research question examines the relationship between conation and persistence and dropout.

The second section of the literature review presents the discussion of related studies that have focused on student participation, attrition or dropout and the variables used in these studies. Much research has been conducted with respect to student participation and

attrition in traditional classroom courses. In addition, there are many research studies conducted using non-traditional classes and programs. Most of these studies were based on the Open University (OU) mode of distance education. There is scant research available, however, regarding non-traditional age students taking online, computer-conferenced classes. Most research involving the online classroom deals with measuring and comparing student performance in online classes with the student performance in traditional classes (Hiltz, 1994; Verduin & Clark, 1991).

This study, while contributing to the practice of delivering and supporting online classes by analyzing variables in relation to dropout and persistence, also contributes to the greater body of knowledge concerned with the practice of online learning with adult students as the focus. Taking responsibility for one's learning is a characteristic of the adult learner (Knowles, 1984; Cross, 1981). For adult students enrolled in online, computer-conferenced classes, taking responsibility means making the necessary choices to balance busy work schedules with the demands of homelife and with academic requirements, all without the support of traditional class sessions. Using a new paradigm, computer technology, adult learners are taking classes in the online format in ever-increasing numbers. To date, however, there is very little research on adult learners in the online computer-conferenced environment. This study should provide a small research base in this arena.

Conation: A Conceptual Framework

Conation is derived from the Latin verb *conari*, to strive (Atman, 1988, Davis, 1995). The American Heritage Dictionary of English Language defines conation as “the aspect of mental processes or behavior directed toward action or change and including desire, volition and striving.” Atman (1986) defines conation as “vectored energy”, e.g.,

personal energy having both direction and magnitude. Kolbe (1990) views conation as an orientation toward action. Conation is the link between knowing (cognition) and feeling (affection) which manifests itself as the action.

Conation is a basic component in Mezirow's philosophy of transformative learning. For Mezirow, transformative learning occurs when change is effected in a person's *frame of reference*. For Mezirow, conation is a major facet of a person's frame of reference (Mezirow, 1997). Further, Mezirow believes that a learner exercises conation through a line of action or moving toward a goal (Mezirow, 1981) and that these volitional acts are unique to each individual. It is this movement towards a goal that Atman attempts to measure with her Goal Orientation Index (GOI). The GOI developed by Atman is based on Jung's personality theory and measures a learner's goal accomplishment style by placing a learner in the context of a twelve-step conation cycle (Atman, 1987). But from where did the concept of conation come?

Development of Conation - The tripartite theory of cognition-affection-conation began during the Enlightenment Period (Hilgard 1980). Writers of the Enlightenment period include Leibnitz (1646-1716), Kant (1724-1804) and Alexander Baumgarten, who introduced the idea of affection or feeling as part of decision making. It was Moses Mendelssohn (1729-1789) in his "Letters on Sensation" which contained "the first clear statement of the threefold classification" of cognition, feeling and will (Hilgard, 1980, p.108).

The tripartite classification was adopted by nineteenth century Scottish, British and American psychologists. Dugald Stewart, Thomas Reid and William Hamilton, all members of the Scottish School, furthered the tripartite position regarding cognition, affection and will in human behavior (Hilgard, 1980; Davis, 1995). Alexander Bain, a noted British psychologist, defined conation as will or desire in his writings. It was Bain

who wrote about the classification of mental activities, e.g., cognition (knowing), affection (valuing) and conation (striving). In America, William James is credited with conducting research on conation along with John Witherspoon, a Scottish psychologist who came to America to study and write (Hershberger, 1989; Davis, 1995).

Use of the tripartite classification of actions came to an end in the United States with the arrival of Behaviorism, which reached its apex in the 1950s (Hilgard, 1980).

Behaviorism, based upon the research and writings of J.B. Watson, B.F. Skinner and Pavlov, focused on the attainment of objectives in the learning process. Conation, a concept not easily measured and quantified, then fell into disuse (Atman, 1987). The fundamentals of behaviorism were replaced by those of information-processing psychology. Again, there was no place for the study of will in learning. The will, and its influence in the role of learning, all but disappeared from American psychology.

However, since the 1980's there has been a renewed interest in tripartite theory of the mind in America. (Davis, 1995; Corno and Kanfer, 1993; Snow, 1990). What individuals know about an issue (cognition), how they feel about the issue (affection) and their intention to act (conation), based upon their knowledge and their feelings, form the basis of the tripartite theory, and is again of interest to today's researchers (Davis, 1995).

Katherine Kolbe (1990, p. 9) a successful management consultant who predicates her work on conative attributes of clients describes tripartite theory as:

Cognitive	Affective	Conative
to know	to feel	to act
thinking	feeling	willing
thought	emotion	volition
epistemology	esthetics	ethics
knowing	caring	doing

Why should educators be concerned with conation? Success in a classroom, whether in a traditional or online classroom, requires certain attitudes, skills, and abilities from a student. From personal experience and conversations with students taking classes in the online format, I would argue that online classes require more discipline and time management skills than more traditional face to face courses. Perhaps the skills and abilities we are looking for in students have a conative component. For some researchers, such as Glade, academic success “depends on the acquisition of the necessary cognitive, affective and conative behaviors” (Glade, p.6). Gee’s (1990) study measured the effects of learning styles on course completion rates. She suggested that in order for students to achieve academic success, teachers need to be aware of students’ motivational attitudes and learning styles. The motivational attitudes include conation. Snow, Corno and Jackson (1996) believe that some combination of the cognitive, affective and conative is involved in a student’s learning and achieving. The use of conation in this study is meant to add to the literature on conation in the online classroom as well as to the adult learner literature.

Cognition addresses the question of “how” knowledge is attained as well as “what” knowledge is learned. Affection involves the value and beliefs systems in place to guide the acquisition of knowledge. Conation is the purposeful striving toward the goal of knowledge acquisition, along with the requisite acting, planning and reflecting behavior (Hilgard, 1980; Atman, 1986; Steele, 1989; Glade, 1993).

Conation and Goal Setting - Some researchers, such as Atman and Davis, have suggested that perhaps the reason students of seemingly equal levels of intelligence and aptitude fall short of the mark while other exceed expectations is due to a student’s level of conation or striving. As Kolbe (1990, p. 8) writes, “saying ‘I will’ is more important than IQ”. It is the will, distinct from the powers of thinking and feeling, which can make the difference in succeeding. Intelligence guides one to making a wise choice, the

emotions guide what you would like to choose. It is conation, however, that enables one to move on the option and actually make the selection (Kolbe, 1990, p. 15.).

Researchers, such as Hilgard and Snow, are in agreement that time has come to “resurrect the study of the will and what part it plays in goal setting” (Snow, 1989, p. 10).

Assagioli defined individuals having a strong will as determined, decisive, persistent, patient, organized, and having initiative and energy (Assagioli, p. 19). According to Atman, it is this personality type which is a “successful striver” (Atman, 1988, p.8). These individuals have the capacity for self-motivation. Table 1 depicts Atman’s conative taxonomy, the twelve steps of the conation cycle, and Assagioli’s stages of the act of will (Atman, 1988, p. 8)

Table 1
STAGES OF STRIVING/CONATION CYCLE STEPS and STAGES of WILLING COMPARED

Stages of Striving Conative Domain (Atman, 1987)	Steps in the Conation Cycle (Atman 1982)	Stages of Willing (Assagioli, 1973, 135)
1. Perception	11. Ooo & Ah! (Evaluate) 12. Purpose/Long Range Direction 1. Recognize need, problem, challenge, opportunity	1. Purpose Evaluation Motivation
2. Focus	2. Set goal	Intention
3. Engagement	3. Brainstorm alternatives 4. Assess risks 5. Select strategy 6. Get Your Act in Gear! (Visualize) 7. Organize	2. Deliberation 3. Choice/decision 4. Affirmation 5. Planning/programming
4. Involvement	8. Make it happen	6. Direction of the execution
5. Transcendence	9. Push on 10. Wrap it up	

Source: Atman, K. (1988)
 (With permission – Please reference Appendix A)

As depicted in Table 1, the conative domain developed by Atman, has 5 stages (Atman, 1988, p.5). These stages include:

Stage one – Perception – the individual receives extrinsic and intrinsic stimuli as information.

Stage two – Focus – the information now becomes a goal, taking on value.

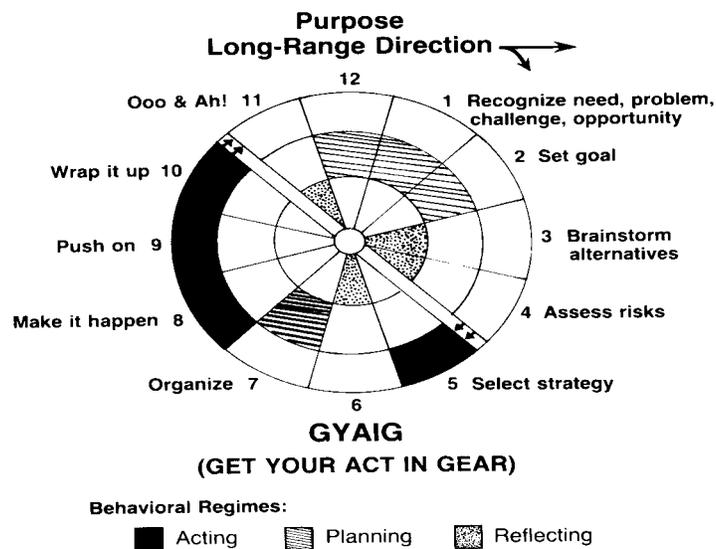
Stage three – Engagement – the individual, now goal-focused, raises questions. An action plan results.

Stage four – Involvement – the individual engages the situation at one of five attention levels: minimal, cursory, perfunctory, thorough, or absorbed.

Stage five – Transcendence – the individual immerses mind and body into the task so that mind, body and task become one.

Atman developed the Conation Cycle as a theoretical model of goal accomplishment. The model, a 12-step mnemonic visual, can be used by an individual to identify the actions needed to accomplish a goal “and monitor their behavior as the goal accomplishment process proceeds” (Atman, 1988, p. 6). See Figure 1.

Figure 1



The Conation Cycle

The Conation Cycle model demonstrates an individual's movement among the three stages within the goal accomplishment process. Although it seems from the model that an individual moves along a sequential path, one can "re-group" and revisit a step already completed as needed. (Atman, 1992). The capability of utilizing all 12 steps of the model and of transitioning from one category to another without "getting stuck" are keys to successful goal accomplishment (Atman, 1987).

Atman (1987) developed the Goal Orientation Index (GOI) as a self-report inventory based on the conation cycle. The result of taking the GOI is a profile of the individual's goal accomplishment style. This profile is made up of scores in each of the 3 sub-categories: planning, acting and reflecting. According to Atman (1990), American adults score highest in the acting category, are not quite as strong in planning behaviors and are the "least strong" in the reflection category (Atman, p. 143).

Houle (1961) documents in The Inquiring Mind, the results of his study in which he interviewed twenty-two participants in an adult education program. As a result of his study, Houle identified three motivational types: goal-oriented, activity-oriented, and learning-oriented individuals. Goal-oriented learners for Houle, use education to achieve clearly defined objectives, such as completing a program or a course. Activity-oriented learners participate in learning programs according to Houle, because they seek social contact. For the third sub-group, the learning-oriented, learning was a lifelong constant (Houle, 1961). Boshier cautions these are "not pure types" and suggests they can be conceptualized pictorially as three overlapping circles (Boshier, 1971, p.4). Atman's GOI instrument would seem to measure only the first of the motivational types identified by Houle, the goal-oriented learner. This might explain why a student might complete the online course while scoring low in the acting category on the Atman instrument.

Conation and Distance Education - Much research has been conducted in an effort to compare results of students taking traditional face-to-face classes with the results of students in distance education classes. Starr Roxanne Hiltz, a foremost researcher associated with the New Jersey Institute of Technology, demonstrated that students in online classes perform at least, in some cases even better, than students taking traditional, face-to-face classes (Hiltz, 1994; Verduin and Clark, 1991). But there is scant research available regarding student dropout in online classes.

Medsher and Edelstein (cited in Gatz 1985) conducted research on 18 nontraditional adult external degree or independent study graduate and undergraduate programs. The researchers found that in both self-ratings and in interviews completed by researchers, “distance education students rated above average in the drive to achieve independence, in persistence and in self-motivation” (p. 17). If distance education students are scoring so highly in achievement surveys, why then does the drop out problem still exist? Much more research in this area is needed.

Atman (1990) holds that understanding the conative capacity and goal accomplishment style of distance education students may contribute to the success of the distance education program and to the success of individual students within the programs. Distance learners must monitor their learning throughout the course (Atman, 1987) and do so in isolation. The conative capacity of each learner determines how successful each is at monitoring their behavior and progress in achieving their goals (Davis, 1995). Davis, in her 1995 study, found that individuals with a high conative capacity “are more effective in goal-setting techniques, and have more volitional control to ... stay focused, and to achieve their goals.” (Davis, 1995, p. 79). The conative domain holds the potential for educators to re-examine their roles in assisting distance students to become “self-directed problem solvers” (Atman, 1992, p. 3)

This first chapter section developed a discussion and rationale for including the conative domain in the study. Conation, operationalized as personal energy with direction and magnitude, could prove to be an important variable when explaining why some students persist while other students dropout of an online class. Each student's conative profile will be measured in terms of the three subcategories of Atman's GOI instrument. The next chapter section presents the student variables used in the study.

Student Variable Discussion

This second major section of this chapter presents a review of the literature, specifically, a review of prior research that supports the rationale for using the selected variables in the proposed study. Some of the study variables, in addition to the conative dimension as measured by the GOI, include: age, gender, ethnic identity, technical expertise of the student, whether or not this is the student's first online course, grade point average, the student's specialization or primary area of study, the student's reason for taking the class, and timeliness of assignment submission by the student. Each variable discussion includes a description of the previous studies in which the variable was included along with a rationale explaining why the variable is included in this study. The student variables have been classified into four subcategories: Demographic (D) variables, Personal (PE) variables, Participation (PA) variables and Institutional (IN) variables. Where applicable, a hypothesis statement about the present study's outcomes has been added. The hypotheses were based upon research and upon this researcher's management and teaching experience in the online classroom.

Because of the specialized nature of online, computer-conferenced classroom, variables have been identified for inclusion in the study which have not been used in previous research. While these variables do not have precedent in any prior research projects, they are included in the study because of their perceived influence on dropout and persistence

in the online classroom. Table 2 presents a list of all of the study variables and the previous studies in which they were used. Table 3 displays a list of all the study variables unique to this study. Each variable in the tables is annotated as belonging to a subcategory, e.g., Demographic (DE), Personal (PE), Participative (PA), and Institutional (IN).

Table 2
Proposed Study Variables and Foundation in Previous Research

VARIABLE	PREVIOUS RESEARCH
Age (D)	Boshier, Woodley&Parlett, Tinto, Sweet, Bean & Metzner, Eisenberg & Dowsett, Fujita-Starck, Garrison, Lagenbach & Korhonen, Billingham & Travaglini, Coggins
Gender (D)	Boshier, Woodley&Parlett, Tinto, Sweet, Bean& Metzner, Eisenberg & Dowsett, Fujita-Starck, Garrison, Billingham & Travaglini, Coggins
Ethnic Identity (D)	Bean and Metzner, Fujita-Starck, Pascarella & Terenzini
GOI Scores (D)	Atman, Davis, Gatz
First Online Class (PE)	Billings, Coggins, Roberts,Coldeway
Reason for Taking Class(PE)	Kember, Tinto, Bean & Metzner, Billingham & Travaglini, Lagenbach & Korhonen, Pascarella & Terenzini
GPA (PE)	Tinto, Bean & Metzner, Woodley & Parlett, Billingham & Travaglini, Lagenbach & Korhonen, Billings, Eisenberg & Dowsett
Specialization (PE)	Fujita-Starck, Lagenbach & Korhonen
Login and Password (IN)	Tinto, Kember
Course Material Quality (IN)	Sweet, Tinto, Pascarella and Terenzini
Software/Tech Support (IN)	Tinto, Kember
Assignment Timeliness (PA)	Wong and Wong, Billings, Roberts
Course Participation (PA)	Roberts
Course Interactivity (PA)	Sweet, Tinto, Scales
Course Satisfaction (PA)	Billings, Bean & Metzner, Sweet

Table 3
Study Variables with no prior use in dropout research for the online classroom

Computer Expertise (PE)
Reason for taking course online (PE)
Final Grade (PE)
Overall Difficulty (IN)
Initial Experience (IN)
Assignment Load (IN)
Recommend online courses (PA)
Will take another online course (PA)

Some of the studies included for discussion in the pages that follow, such as Boshier, Beder, Fujita-Starck, Eisenberg and Dowsett, and Woodley and Parlett are large-scale studies conducted using hundreds of participants and supported by major funding. The present study was conducted with 550 adult students at a mid-size institution whose target market is the adult working student. Even though this study was conducted on a smaller scale, it should contribute important information to the domain of student dropouts in online, computer-conferenced classes.

While, as Garrison points out, no area of research in distance education has received more attention than dropout study, each of the studies presented in this chapter focuses on a specific delivery area (Garrison, 1987) with specific contextual attributes. For example, in one study conducted by Boshier, older, adult students were registered in a non-credit continuing education program while in another study, conducted by Kennedy and Powell, the students were a sample of “open” university students. Other, studies, such as Tinto’s were conducted using traditional-aged students in a semester-bound program. The proposed study will use degree-seeking adult students registered in semester-long courses conducted in an online, computer-conferenced format. The parameters of the test environment make this study unique.

The remaining pages of Chapter 2 present the findings of dropout research utilizing the individual variables that comprise the present study's subcategories, e.g., Demographic, Personal, Participative, and Institutional. These findings serve as the rationale for including the variables in the present research study.

Demographic (D) Variables - Demographic variables provide statistical information about each student in this study and include: age, gender and ethnic identity. Eisenberg and Dowsett, in their seven year study of dropouts in project courses at the British Open University, found that demographic traits were "significant" indicators of at-risk students for dropout (Eisenberg and Dowsett, 1990, p. 250). The hypothesis for the present study is that the demographic variables should not have a major impact on student persistence or dropout in the online, computer-conferenced classes at the institution because the online environment is more neutral with respect to gender, race and age.

Early dropout studies include major works such as those conducted in the early seventies by Roger Boshier. His was one of the first studies to consider using a multi-variate approach to study dropout decisions. Boshier, in an effort to develop a theoretical model of congruence, conducted adult education participation and dropout research at the University of Auckland in New Zealand. The premise of his research was that "both participation and dropout stem from an interaction of internal psychological and external environmental variables (Boshier, 1973, p. 256). Using factor analysis to measure student congruence between internal and external factors, Boshier developed a seven factor Educational Participation Scale (EPS) which was later tested for reliability by Fujita-Starck at the University of Hawaii at Manoa.

Boshier found that the reasons for student course completion or dropout "do not reside exclusively within the participant" (Boshier, 1973, p.279), and that environmental variables, such as course design play an integral part in dropout decisions. His analysis

showed dropouts manifest greater self/other incongruence than persisters. In addition, Boshier also discovered that age was among “the most powerful of mediating variables” in his study (Boshier, 1973, p.261). In his study, older students tended to persist more than younger students.

As stated in Chapter 1, the average age of students included in this study is 35.2 years of age. Most of the students taking classes at the institution are older, working adults. The hypothesis was that for this study, there will not be a strong relationship between age and persistence or dropout. However, age was still included as a variable in the proposed study on the outside chance there will be a strong relationship between dropout and age.

The preponderance of studies researched as part of this literature review, included statistics by gender. For Tinto, as for Boshier, gender appears to be related to college persistence. In Tinto’s study, a higher proportion of men than women finished the college degree programs. The converse was true for Woodley and Parlett who found that “men were more likely than women to drop out” (Woodley and Parlett, 1983, p. 8). Coggins, in her study of learning styles and dropout in external degree programs at the University of Wisconsin, found no difference between persistence and dropout based upon age. For Lagenbach and Korhonen, in their study of a graduate level program at the University of Oklahoma, gender made no difference to course completion. This present study also included a gender category. Available demographics indicate there are more women than men enrolled in distance education courses at the institution, but none are available which indicate the ratio of women to men in online classes. The hypothesis for the present study was that gender would not correlate highly with the dependent variable.

The last demographic variable to be included in this study is ethnic identity. Pascarella and Terenzini found no relationship existed between students’ ethnicity and dropout. Bean and Metzner, on the other hand, posited that ethnicity will have a strong, negative

correlation with persistence, due to the “comparatively poorer education provided for minority students at the secondary level” (Bean and Metzner, 1985, p. 498). Bean and Metzner in their study constructed a model to measure attrition for nontraditional undergraduate students. In light of these previous studies’ results and because of the more neutral environment, the hypothesis for this study is that there will be no correlation between ethnic identity and persistence or dropout. The demographic make up of the institution’s students is 27 percent black, 7 percent Asian, 3 percent Hispanic, 57 percent white, with 3 percent non-resident aliens, 3 percent reporting missing and no American Indians. This ratio should hold true for persistence and dropout levels. As a note of explanation, the ethnic identity question posed on the Pre-Course Survey was optional. In addition, the question format was taken directly from standard survey instruments used at the institution.

One major criticism of Boshier’s work, e.g.. dropout studies conducted at Auckland University as described by Garrison, was that Boshier’s study was reductionist in nature. Garrison raised the question, “how can researchers measure student’s concept of self congruence using a handful of variables?” Garrison designed a study to determine whether self/other discrepancy variables would be significantly different for persisters and dropouts in a high school completion program. In his replication study, Garrison found that persisters were correctly predicted 93 per cent of the time, while only 20.8 per cent of the dropouts were predicted correctly (Garrison, 1987). Garrison’s study results would indicate that while persisters are easy to identify, dropouts are much harder to predict.

Reductionism, defined in the American Heritage Dictionary of the English Language as an attempt or a tendency to explain complex phenomena or structures by relatively simple principles, is a term that affects most of the dropout and persistence studies conducted to date. Tinto, another early pioneer in the study of dropouts, writes that our

“theoretical models serve to explain only a portion of the wide range of behaviors that constitute the universe of social interaction” (Tinto, 1982 p. 688). While it is true that capturing and representing complex human nature in static variables is difficult, sound correlations can be discerned from these studies. The difficulty in using variables to capture human nature is only exacerbated when a researcher is striving for variable parsimony, another goal of well-constructed path and multi-variate analysis. The purpose of the present study was to point out areas where correlations possibly exist among study variables to serve as a starting point for future research. Selected variables were culled from the various studies researched and analyzed for their reasonableness of fit in the online, computer-conferenced arena.

Personal (PE) Variables – In the present study, personal variables describe personal data about each student outside of the specific demographic data. Personal variables include whether or not this class is the first online class the student is taking, the student’s reason for their taking the class, as well as the student’s perceived level of technical expertise, their GPA and the student’s specialization, or major area of study. As explained in the opening paragraphs of the variable discussion, technical expertise has not been used as a study variable in any previous research. The need to capture perceived student expertise is included in the present study because of the technical nature of the online delivery format. Students must be technically competent and capable of installing and configuring communication software before they can access their online classroom. In addition, another variable has been added to the Personal category, e.g., the reason the student is taking the class in the online format.

Garrison, in an effort to better predict dropout in adult basic education (ABE) courses explored the interaction effects of selected variables on student dropout. For his study, Garrison investigated course relevance, goal clarity and psychosocial variables as measured by a battery of instruments, which included the Social Readjustment Rating

Scale (SRRS) and the Differential Aptitude Test (DAT).

Garrison found that while dropouts perceived their courses to be more relevant than persisters, in addition to being more certain of their goals, they had decidedly lower self confidence levels. Garrison reasoned that the higher course relevancy rating for dropouts was a result of unrealistic course expectations which, in turn, lead to higher dropout rates (Garrison, 1987).

In the present study, a high, positive correlation between a student's reason for taking the class and student persistence was hypothesized. A student taking an online class because the particular class is required for graduation should demonstrate a higher level of persistence than someone who is taking the class merely as an elective or because the class was recommended. In addition, it was hypothesized a student with a perceived higher level of technical expertise should have a lower dropout level.

Woodley and Parlett in their 10 year study at the British Open University, found that previous educational qualifications impacted dropout in that the lower a student's educational qualifications, the higher the likelihood that person would dropout of their class (Woodley and Parlett, 1983). They found that academic attainment is the best predictor of the pass rate of cohorts. Academic attainment in the proposed study is measured by a student's grade point average (GPA). Tinto (1975) too, found that past grade performance tends to be a good predictor of college success. The hypothesis for the present study was that the higher a student's GPA, the more likely the student would be to persist in the class.

The study of Woodley and Parlett generated the following specific recommendations for restricting the number of courses a student can take in one year and making certain prerequisite courses compulsory. The results of their study, while interesting to read, are

specific to the Open University and have very little generalizability to the semester-bound computer-conferenced classes in place at the institution where the prevailing philosophy is that the students are adults and as such, they will decide the number of credits they can and want to carry during a particular semester. In most instances, course workload and tuition are the deciding factors for students.

The personal (PE) variable, first online class, was developed as a result of Roberts' (1984) and Coggins' (1988) findings. Roberts suggests that a student at greatest risk for dropout was a student taking a course during "the first term, semester of year of study" (p.50). Coggins, too, found that a student's previous experience with "independent learning" affected student dropout in her study at the University of Wisconsin System Extended Degree Program (Coggins, 1988, p. 29). For purposes of this study, the variable has been modified to accommodate the online environment. One of this study's hypothesis is that dropout will be higher in instances where this is a student's first online class.

Fujita-Starck's replication study of Boshier's EPS model, conducted at the University of Hawaii, utilized participants representing three curricular groups: a) Arts and leisure programs; b) Personal development programs; and, c) Professional development programs. Each curricular group had salient different reasons for participating in courses and different outcomes with respect to dropout decisions. Her findings revealed: a) each curricular group had a distinctive set of student characteristics; and, b) no individual variable described any one group. While Fujita-Starck conducted her research using adult students in continuing education programs, her results still have applicability for adult students taking university courses in a semester-bound format. For this reason, a specialization variable was included in the present study. The hypothesis for this study was that there would be different persistence and dropout decisions for each specialization e.g., there will be a strong relationship between specialization and the

dichotomous dependent variable.

Participation (PA) Variables - The participation (PA) variables selected for this study correlate less directly to previous research studies, e.g. there is not a one to one correlation for variables measuring level of student participation in the proposed study and in a previous study. The participation variables are meant to measure a student's level of participation and interactivity in the online course. These variables include: timely assignment submission, and level of online conference participation, both of which are measured by the course instructors. In addition, students were asked to rate their perception of course interactivity and overall level of course satisfaction. As follow-on questions to further clarify their satisfaction level, students were also asked whether or not they would recommend classes in the online format and whether or not they would take another online class. Interaction is defined and reported by both the student and the instructor.

Wong and Wong (1979), in their study at the School of Continuing Education at the University of Toronto, demonstrated a positive correlation between timely submission of course assignments and course completion. Timely assignment submission will be evaluated and reported for each student by the course instructor at the end of the semester. It is acknowledged that there will be different types of assignments based upon course content requirements and instructor preference. However, this fact should not prove to be a problem as it is the timing of assignment submission, not the type of assignment, which is being measured in this study.

Tinto (1975) was one of the first researchers to address student/teacher interaction in his study in 1975, although Tinto's measurement context was the traditional classroom, not in the virtual environment. In distance education courses, especially in the totally online, computer-conferenced courses, it is the online student/teacher interaction which will

foster the student's feelings of identify with the institution. Billings (1988) writes about the physical isolation of the distance student and how "contact with the correspondence course instructor may also be influential in facilitating course completion" (p. 30). For the present study it was hypothesized that there would be a high correlation between frequent student/teacher interaction and student persistence in the online classroom.

Interactivity, in this study, was measured by the instructor and reported at the end of the semester on the Participant Summary Sheet. Interactivity variables included: the student's assignment timeliness and the students' participation in the online, computer-conferenced classroom. With respect to assignment timeliness, Roberts (1984) and Billings (1988) both found that timely assignment submission correlated with persistence and dropout, i.e., the more timely students assignments, the more likely that student is to persist in the class. Roberts (1984) goes on to suggest that a compulsory first assignment should have a required weight of "perhaps as much as 40%" to indicate to the online student the importance of timely assignment submission.

Tinto (1975), writes that "given individual characteristics, prior experiences and commitments, one would expect a high correlation between high student/teacher interaction and students persistence" (p. 98). In his study, Tinto also included goal orientation as an intervening variable. Sweet (1986), in his validation study of Tinto's model, also included persistence as a variable. The hypotheses for this study were the greater the level of interaction with the instructor and the more timely an assignment is submitted, the higher the level of student persistence in the online, computer-conferenced classes.

As stated previously in this chapter, taking online, computer-conferenced classes, requires student discipline to balance a busy work schedule and homelife demands with academic requirements without the support of traditional class sessions. Sweet (1986)

holds that to achieve this balance, students must have a positive view of their own competence. He writes that the “self-concept ability may be expressed succinctly by students’ expectation regarding their level of achievement in the course” (p. 207). In this study, the course satisfaction variable is used as a measure of each student’s perceived level of course achievement.

The student’s level of satisfaction with the course was measured on the Post-Course Evaluation instrument. Using a Likert-type scale, each student is asked to rate her overall impression of satisfaction with the course. As follow-on questions, students were then asked whether or not they would take another online class and whether or not they would recommend an online class. These questions were added to more fully capture and clarify each student’s opinion of the online class. The hypothesis for this study was that the greater the student satisfaction with the course, the more likely the student was to persist in the course.

Institutional (IN) Variables - Another major and early contributor to the study of dropouts and persisters was Vincent Tinto. Tinto’s postulate was that dropout was more likely to occur when a student was not sufficiently integrated into the fabric of the institution and thus had not sufficiently developed a high commitment to the institution. In addition, an individual’s educational goal commitment was an important variable for Tinto. Tinto’s theoretical dropout model argues:

“...the process of dropout from college can be viewed as a longitudinal process of interactions between the individual and the academic and social systems of the college during which a person’s experiences in those systems ...continually modify his goal and institutional commitments in ways which lead to persistence and/or varying forms of dropout.” (Tinto, 1975, p.94)

Tinto’s postulate poses an interesting question for distance educators, e.g., how to capture

distance education students' commitment to the institution. In online, computer-conferenced classes, there are no traditional face-to-face class meetings. There is no campus to which the student must drive on a weekly, sometimes bi-weekly basis. If Tinto's theory is correct, dropout from computer-conferenced classes should be markedly higher than classroom-based classes because for the most part in the online classroom, social interaction is limited to e-mail messages between students. This is not the case. At the institution, dropout for traditional and online classes for the summer semester was approximately 14 percent.

Today, instead of providing a physical campus for students, with buildings housing classrooms, bookstores and student unions where students can meet and share ideas, institutions must re-assess their course delivery environment. Now, to foster a feeling of commitment to the institutions offering courses virtually, schools should offer outstanding logistical and technical support to distance students, design classes specifically for the online environment, which includes access to rich course materials, and develop faculty expertise in fostering a collaborative online environment for students.

Within twenty-four hours of registration for a distance education class at the institution, a packet containing an extensive syllabus, course materials and associated hand-outs is mailed to students along with the conferencing software diskette and the software user's manual. Also in the packet is the e-mail address and telephone numbers, including an 800 number for out-of-state students, to access the Technical Support personnel. For this researcher, logistical support is a variable of critical proportions contributing to an online student's persistence or dropout.

For Sweet (1986), as well as for Pascarella and Terenzini (1980), course materials represented an aspect of the institutional system with which the students interacted. Measuring how well an institution meets its responsibility to design and to deliver the

course materials to the student is a major factor in persistence and dropout for online, computer-conferenced classes. In the present study, the student was also asked to evaluate the quality of the course materials developed for each class. The university has had a long-standing commitment to the course design process. This process is described in detail in Chapter 3.

Kember (1990) writes that variables used in distance education studies need to be “broadened” to fit the special environment of distance education. This can only be truer when conducting studies in the online environment, because in the online classroom, there is the added level of technical complexity to be addressed. Following Kember’s admonitions, this researcher built upon previous research to develop individual variables more suited to the online environment. Tinto included “Institutional Commitment” as a variable in his model, as did Sweet. This researcher expanded the institutional commitment variable to take into account the technical support provided by the institutional and so necessary for students taking classes online. Institutional commitment is also measured by how quickly the student’s login and password are mailed and received by the student. The notion being, the more quickly the student receives the login and password, the sooner the student can enter the online classroom and the better the chance the student will persist in the course.

Summary

The literature review presented in this chapter, investigated conation, its history, and its potential for distance education programs. In addition, the literature describing the more salient predictor and dropout studies were reviewed. These included studies by Boshier, Tinto, Garrison, Pascarella and Terenzini, Roberts, Sweet, Woodley and Parlett and Bean and Metzner. The rationale for using the selected study variables was developed. Chapter three describes the analysis method used in this study.