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The last few years have seen a flood of courses on the Internet in higher education. This increase has seen institutional stakeholders wrestle with decisions about committing funds, faculty, staff, and other resources to this new educational forum, in the midst of uncertainties about its effectiveness. In particular, persistence and other motivational problems in Web-based instruction have been reported.

This study compared 184 theological seminary students taking Greek or Hebrew either online (N=64) or in the classroom (N=120), and at either a high or low level of social integration (as measured by Kember's DESP), on their motivational orientation and self-regulated learning strategies (as measured by the MSLQ).

2 x 2 ANOVAs revealed that, while level of social integration did not significantly impact motivational orientation and self-regulated learning strategies, course format did: online students scored significantly higher on intrinsic value, self-efficacy, organization, and metacognitive self-regulation.

These findings suggest that course format—in and of itself—may not be a key factor in student motivation and learning.

SOCIAL INTEGRATION, MOTIVATIONAL ORIENTATION, AND SELF-

REGULATED LEARNING STRATEGIES OF ONLINE VERSUS

FACE-TO-FACE THEOLOGICAL SEMINARY

BIBLICAL LANGUAGE STUDENTS

by Joel E. Harlow

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APPROVAL PAGE

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CHAPTER I

INTRODUCTION

<u>Introduction</u>

Distance education is burgeoning in the United States. And with the advent of the Internet and course management software (e.g., *WebCT®*, *Blackboard®*, etc.), online instruction is becoming the method of choice for many distance educators. As more and more institutions offer courses over the Internet, their stakeholders—e.g., administrators, faculty, and donors, et al.—face difficult decisions concerning the investment of considerable amounts of money and time in the design, delivery, administration, and evaluation of these Web-based courses. Funds and personnel are often already stretched to the limit, and stakeholders are under pressure to justify the considerable expenditure of money and time needed to offer online courses effectively.

This is especially true given the persistence problems associated with distance courses. As can be seen from the title of an article in the <u>Chronicle of Higher Education</u> (Carr, 2000), "As Distance Education Comes of Age, the Challenge is Keeping the Students," getting distance students is easier than keeping them. According to Carr, administrators reported completion rates in distance courses to be 10 to 20 percentage points lower than in traditional face-to-face courses.

At the same time, Web-based courses seem particularly attractive to older non-traditional students—who tend to study part-time while working, having families, and being involved in their communities. However, while the flexibility of online courses is attractive to older non-traditional part-time students, the motivational problems associated with these courses can be problematic—and may contribute to student drop out.

Theological seminaries report even higher numbers of older non-traditional students. And many theological seminary students, like most non-traditional adult students, work at least part-time, have families, and are involved in their community. Perhaps this partly accounts for why distance education is attractive to older non-traditional, working adult students: they can study in programs geared towards their busy schedules, without leaving home.

Many religious graduate educational institutions have begun distance learning as well. A handful of them even offer degrees at a distance. According to The Association of Theological Schools in the United States and Canada (2003), 40 seminaries now offer courses at a distance. Consequently, the issue of the motivation of older non-traditional part-time students who study at a distance is even more important for seminary administrators, faculty, and donors, as they face hard decisions about committing finances, faculty, and staff to online courses.

With the higher dropout rates reported in distance education, the ever-increasing number of older non-traditional part-time students, and the challenges faced by this group of students, the issue of student persistence comes to the fore. Persistence (sustaining one's activities in the face of difficulties) is one measure of student motivation (Pintrich & Schunk, 1996). Researchers agree, however, that dropout from education is a complex issue—stemming from the interaction of student, institutional, and environmental variables (Bean & Metzner, 1985; Cabrera et al., 1992; Kember, 1995; Tinto, 1975), and stemming from how these interactions play out or "fit together" in a student's life. Dropout, though, is measured after the fact. What can we learn about the processes that lead to dropout or persistence decisions?

Not only is persistence (i.e., dropout) a measure of motivation, effort is as well (Pintrich & Schunk, 1996). To be more specific, how one goes about learning (learning strategies) is a measure of one's motivation to learn. How a student works with the course material and how one manages his or her own learning activities and resources are indicators of some of the motivational processes that precede dropout or persistence. Another important indicator of motivation to learn is how one thinks and feels about learning—about one's ability, about one's chances for success, and about the task at hand. Thus we see that how one approaches the learning process and how one thinks and feels

about learning give an indication of some of the antecedents to dropout or persistence decisions.

For theological seminary stakeholders, then, questions arise concerning the potential for dropout of older non-traditional part-time students who study online. Will they be as motivated to study as those in classroom? And will they employ equally effective learning strategies. And one might expect this question to loom even larger where students are studying biblical Greek or Hebrew online—among the courses in which many seminary students struggle most.

Does data support this? Is the format in which an older non-traditional part-time seminary student studies Greek or Hebrew, i.e., online versus face-to-face, a factor in motivation? Or could it be that older non-traditional part-time seminary students in online Greek or Hebrew can be just as motivated as their counterparts in the traditional classroom, and employ equally effective learning strategies?

Based on a social cognitive approach to motivation, on the literature on non-traditional adult students, and on models of fit in college persistence, there is reason to believe that older non-traditional part-time adult students who study online may be just as motivated as their counterparts in the traditional, face-to-face classroom, and may well employ equally effective learning strategies—so long as they sense a fit between their busy lives and their study demands.

<u>Background of the Problem</u>

According to the National Center for Education Statistics, during the 12-month 2000–2001 academic year, 56% (2,320) of all 2-year and 4-year Title IV-eligible, degree-granting institutions offered distance education courses at some level, representing an estimated 3,077,000 enrollments. And Christian institutions of higher learning are no exception. <u>Baker's Guide to Christian Education</u> lists 163 pages of Christian institutions which offer graduate degrees at a distance, many of them accredited.

Along with this, older non-traditional learners are a growing population in higher education in the United States —especially in graduate programs. The National Center for Education Statistics (1999-2000) reported that 50% of graduate or first-professional students are over 30 years old; of these, 23% are over 40. Moreover, 43% of graduate or first-professional students are married. Eighty percent of them are working, and of these 63% work full-time. At the same time, these older students are performing multiple roles in life, i.e., worker, spouse, parent, citizen, etc. Theological seminaries report average student ages even higher. The Association of Theological Schools in the United States and Canada (2003) reported that 72% of first-degree seminary students in the fall of 2001 were over 30 years of age.

This rapid growth of distance education, along with the growing number of older non-traditional students in higher education, has been accompanied by high dropout rates (Carr, 2000; Rovai, 2003; Woodley, de Lange, & Tanewski,

2001). Researchers have identified at least two constructs that are important concerning persistence in higher education in general, and persistence in distance education in particular: student thoughts and feelings about the fit between themselves and the institution, and student motivation. Research suggests that students who perceive that study demands and other institutional constraints are not a fit for them are likely to drop out (Bean and Metzner, 1985; Sweet, 1986; Tinto, 1975). And this is especially true for part-time, older non-traditional students, who are juggling multiple roles. Work, family, and social demands conflict with attempts to study part-time (Home, 1998; Kemp, 2002; Shin & Kim, 1999; Yum, Kember, and Siaw, 2001). This may well affect student perceptions about the fit between themselves and part-time study.

Concerning motivation in distance courses, arguably the single most important difference between distance education and traditional, face-to-face instruction is the separation of the teacher from the learner. This separation removes a vital link of communication (Keegan 1996). Or as Moore and Kearsely (2005) put it, this separation creates a communication gap—a psychological space that holds potential for misunderstanding. This gap is closed by the use of various media (phone, email, Internet, etc.). Galusha (1997) noted that having to adjust to learning while separated from the instructor and fellow students could result in a lack of student motivation, contributing to dropout. Other authors reported similar challenges to motivation in distance education (Care, 1995;

Chyung, Winiecki, & Finner, 1998; Essex & Cagiltay, 2001; Garland, 1993; Song, 2000).

Behavioral theories see motivation in terms of observable actions that are responses to one's social environment. Other theories attribute motivation to inner forces, such as drives or instincts. All these see human behavior as operating more or less below the level of consciousness. In contrast, the social cognitive theory of motivation (Bandura, 1986) argues that humans are "neither driven by inner forces nor automatically shaped and controlled by external stimuli" (p. 18). To quote Bandura (1977) again, "Humans do not simply respond to stimuli; they interpret them" (p.59).

At the center of the social cognitive theory of motivation is triadic reciprocality (Bandura, 1986). Triadic reciprocality proposes that one's environment, cognitive and other personal factors, and one's behavior constantly interact with each other, providing individuals opportunities to have some control over outcomes. The interaction of these three determinants affects how one thinks and feels about learning, how motivated one is to learn, and even how one approaches learning. And the degree to which students sense a fit between themselves and their institution is shaped, at least in part, by the process of interactions known as triadic reciprocality.

The literature on non-traditional adult students informs our question of why older non-traditional part-time seminary students in online Greek or Hebrew might be just as motivated as their counterparts in the traditional classroom, and

employ equally effective learning strategies. This body of literature suggests that the influence of environmental variables beyond the institution—issues such as finances, hours of employment, family responsibilities, and encouragement from the social circle beyond school—are key sources of the thoughts and feelings of this demographic group (Bean and Metzner, 1985; Bludnicki, 1998; Carr, 2000, Kember, 1995; Kooker, Itano, & Okimoto, 2000; Naretto, 1995; Rovai, 2003). Such students are juggling multiple roles in life (worker, spouse, parent, citizen, primary care-giver, etc.), and studies report that these demands conflict with attempts to study (Bird & Morgan, 2003; Home, 1998; Kember & Leung, 2004; Kemp, 2002; Morgan & Tam, 1999, Yum, Kember, and Siaw, 2001). At the same time, their being older, with rich life experiences, suggests that adult students are more motivated, are ready to combine this experience with learning, are self-directed, and thus are ready to learn (Brookfield, 1986; Cross, 1981; Fairchild, 2003; Knowles, 1980; Houle, 1961; Tough, 1971; Wlodkowski, 1999) .

To date, this researcher could not find any studies published from a social cognitive perspective on the motivation of older non-traditional graduate students studying at a distance. In fact, there are only a few studies on motivation in distance higher education in general that are clearly grounded in a social cognitive perspective. The literature on persistence in distance education provides some related studies on motivation from a social cognitive perspective, and a few which measure some related concepts. I was also unable to find any

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studies that compared the motivation of part-time, non-traditional graduate students studying online with those studying in the classroom.

As for studies that examine the motivation of distance students which are clearly grounded in social cognitive theory, a few have been published. These focused on student metacognition (Hurd, Beaven, & Ortega, 2001), self-regulation (Lee, 2002), self-efficacy (Bures, Abrami, & Amundsen, 2000; Wang & Newlin, 2002), and help-seeking strategies (Taplin et al., 2001). These studies, however, did not focus on non-traditional, part-time students; nor did they compare distance students to classroom students. Only Sankaran & Bui (2001) compared online and face-to-face students. They found that students who employed similar learning strategies and had similar motivation levels performed equally well no matter in which format they studied. Part-time, non-traditional graduate students, however, were not the focus of Sankaran & Bui's study.

A few studies on persistence in distance education have approached the issue from a perspective similar to the social cognitive theory. Among variables determined to impact persistence are such personal characteristics as goal orientation (Fjortoft, 1995), locus of control (Parker, 1999), and coping skills or "resiliency attitudes" (Kemp, 2002). These studies focused on psychological factors and student perceptions that may influence motivation to persist. Moreover, such thoughts and feelings about one's goals, how much control one feels one has over his or her learning, and how well one can cope with study

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demands contribute to a sense of fit. Yet again, none of these studies has compared distance students with face-to-face students on these variables.

Finally, the student-institution fit models of college persistence inform our question of why older non-traditional part-time seminary students in online Greek or Hebrew might be just as motivated as their counterparts in the traditional classroom, and employ equally effective learning strategies. Research in this field posits that a student develops a sense of fit through the process of his or her interactions with the institution, at both a social and an academic level (called "social" and "academic" integration). This process of interactions, it is argued, leads to persistence or dropout decisions (Bean &Metzner, 1985; Tinto, 1975). Kember (1995) has adapted the Tinto model to fit part-time adult non-traditional students, who are juggling multiple responsibilities while trying to take on the new role of distance student. Furthermore, Kember posits that, since these students cannot merely abandon these prior commitments, fit (i. e., social integration) will result from how well they perceive that they are able to juggle part-time study with the many demands of work, family, and community. Students who have difficulty managing these multiple responsibilities will feel that life circumstances prevent their fitting study into their life. Kember calls this "external attribution." External attribution is the other end of the spectrum from social integration.

Several observations can be made from the above concerning the state of research into the motivation of older non-traditional, part-time graduate students studying at a distance. First, few studies could be located that focused

exclusively on the motivation of this group of students. Most have focused on undergraduates. Subjects in the studies by Hurd, Beaven, and Ortega (2001) and Wang and Newlin (2002) were at open universities overseas; these most likely contained students at several levels. Only Fjortoft's study (1995) focused exclusively on post-baccalaureate students. Secondly, most studies to date have not focused on part-time adult students. Only Fjortoft's study (1995) focused exclusively on this group. And finally, this researcher did not find any published studies that examined the motivation of older non-traditional, part-time graduate students studying by distance; nor are there any studies comparing the motivation of online students in this demographic with similar students studying in the traditional, face-to-face classroom.

Purpose Statement

The purpose of this study was to see whether older, non-traditional part-time seminary Greek and Hebrew students differed on motivational orientation and its concomitant learning strategies, based on either of two self-reported levels of fit between their environment and their study demands (high / low social integration), or based on the format in which they study—i.e., online or face-to-face.

An online version of the Distance Education Student Progress questionnaire ([DESP] Kember, 1995) was used to measure social integration levels. An online version of the Motivated Strategies for Learning Questionnaire (MSLQ) was employed to collect the motivational and learning strategy data.

This study proposes that as long as older part-time non-traditional seminary students—who are juggling so many roles at once—feel they can negotiate their work, study, and community commitments into an environment that is conducive to part-time study, they will be equally motivated to study Greek or Hebrew, and should employ equally effective learning strategies—regardless of course format (online versus face-to-face).

Definition of Terms

Older part-time, non-traditional learners are learners who have had an interruption in their studies between high school and college, or between undergraduate and graduate school. And during this time, they have taken on important, life-long commitments to work, family, and community. For this study of seminary students, an older part-time non-traditional student is one who is over 30 years of age and works at least 15 hours per week.

Distance education is education characterized by the absence of the teacher from the learner for most or all of the course, as well as the separation of learners from each other. This results in media's being the main vehicle of communication between the teacher and learners, and between learners and each other. This also results in the institution's playing a larger role in the educational process, providing ongoing consultation and support—again through media.

Online Instruction, also know as Web-based learning, is instruction in which the medium of instruction is the Internet. As Essex and Cagiltay (2001)

note, almost every facet of the process of education is different with a distance course, especially an online course: class discussions are replaced with email or chat rooms; handouts are replaced by Web pages; and assignments are uploaded or Web based, instead of handed in or slipped under the professor's door.

Social Integration is, as noted above, a student's perceived level of "fit" between him- or herself and their school setting (Bean and Metzner, 1985; Sweet, 1986; Tinto, 1975). For purposes of this study, Kember's (1995) redefinition of Tinto's social integration construct is adopted. Kember redefines social integration as the degree to which the adult distance student perceives that he or she can integrate part-time study and the many demands of work, family, and community.

Independent and Dependent Variables

One of the independent variables in this study was course format: totally at a distance (online) versus face-to-face. The online Greek and Hebrew students in this study have no face-to-face time with the instructor. Nor is any contact with the instructor mandatory. Beyond feedback on their quizzes or exams, and a monthly follow-up email from the instructor, contact with the instructor is student-initiated. The face-to-face students meet once or twice a week in a traditional classroom setting. The other independent variable was the level of social integration (high / low), as defined by Kember (1995). The

dependent variables in this study were student motivation and its associated learning strategies, from a social cognitive perspective.

Theoretical Background

As noted above, the dependent variable for this study was student motivation and its associated learning strategies, from a social cognitive perspective. What lies behind the social cognitive theory of motivation is the idea that what people believe has more impact on their motivation, thoughts, feelings, and behavior than reality itself (Bandura, 1986). Such a model posits three general motivational constructs, each of which plays an important role in motivation: expectancy, value, and affect (Pintrich & Garcia, 1991). The expectancy construct includes self-efficacy and control of learning beliefs. Bandura (1986) defines self-efficacy as "people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances" (p.391). In addition to including self-efficacy, expectancy beliefs also include beliefs about how much control students feel they have over their learning, i.e., whether or not they see their own effort as the ultimate factor in their learning. Value comprises intrinsic and extrinsic motivation, as well as the utility of the learning the particular material. Affect deals with test anxiety and other emotional reactions (pride, shame, self-worth, etc.).

Also integral to a social cognitive theory of motivation is behavior—in particular, self-regulated learning strategies used by students. Pintrich (1988, Pintrich and De Groot, 1990) groups learning strategies into three general

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categories: cognitive, metacognitive, and resource management. Cognitive strategies are those students use to encode new material, and then organize and retrieve it. Metacognitive strategies are those students use to plan, evaluate, and regulate the cognitive ones. Resource management strategies comprise those used by students to manage and avail themselves of available resources.

The theoretical background for the independent variable of social integration is grounded in Tinto's (1975) work. As noted above, social integration represents the student's feeling as though he or she "belongs" or "fits" in the school setting. Kember (1995) redefined social integration for distance education as an adult's ability to juggle part-time study and the many demands of work, family, and community. Social integration positions the student for academic integration (one's empathizing with and accommodating to the demands of the institution), which results in satisfactory grades, a positive experience with distance education, and expectations for future success in similar academic endeavors. When a student fails to renegotiate pre-existing commitments and does not fit academic demands into an already full life, Kember calls this external attribution. The student blames work, family, and social commitments (and a lack of support by those to whom he or she is committed) for his or her failure to integrate.

Foundational to Kember's theory is the part-time nature of adult students. The amount of time available for study by adults who work and have family and / or social commitments sets the parameters for Kember's theory and for this

study. For this study, the environment in which many seminary students study is characterized by part-time study in the midst of work, family and social commitments. Social integration for this study, then, represents student feelings about how conducive their environment is to the study of Greek and Hebrew part-time.

<u>Assumptions</u>

Based on a social cognitive approach to motivation, this study assumes that one's thoughts and feelings about how conducive one's environment is to study demands (i.e., one's level of social integration) impact one's motivational orientation to study, and consequently impact one's self-regulated learning strategies. This is because of "triadic reciprocality" (Bandura, 1986), which proposes that one's environment, cognitive and other personal factors, and one's behavior constantly interact with each other, affecting how one thinks and feels about learning, how motivated one is to learn, and even how one approaches learning (self-regulated learning strategies). For older non-traditional part-time seminary students, who are juggling so many roles at once, as long as they feel they can negotiate their work, family, and community commitments into an environment that is conducive to part-time study (i.e., they fit or socially integrate), they will be equally motivated to study—regardless of course format (online versus face-to-face). And consequently, they will employ equally effective self-regulated learning strategies. If this is true, then one could argue that format is not a key factor in the motivation and self-regulated learning strategies of part-

time seminary Greek or Hebrew students, but their perception of their environment is.

Hypotheses

This study posits the following three hypotheses concerning the sense of fit (level of social integration) and the motivation and learning strategies of older, non-traditional part-time seminary students who study Greek or Hebrew in either of two formats—online or face-to-face:

1. There will be no significant difference between the scores of Greek or Hebrew students on the three motivational components (expectancy, value, and affect) and the two components of self-regulated learning strategies (cognitive strategies and self-regulation), based on perceived level of fit (social integration).

2. There will be no significant difference between the scores of Greek or Hebrew students on the three motivational components (expectancy, value, and affect) and the two components of self-regulated learning strategies (cognitive strategies and self-regulation), based on course format (i.e., online vs. face-to-face).

3. There will be no significant difference in the combined effect (the interaction) of level of social integration and course format three motivational components (expectancy, value, and affect) and the two components of self-regulated learning strategies (cognitive strategies and self-regulation).

<u>Scope and Delimitations</u>

This study included Greek and Hebrew students from five residential campuses of the same theological seminary, and online Greek and Hebrew students from various locations around the world. Demographic data was collected, and only those students who were over 30 years of age, and work at least 15 hours per week were included. The focus of the study was student thoughts and feelings about how well studying Greek and Hebrew fits with their busy lives. The data collection employed two instruments: the Motivated Strategies for Learning Questionnaire (Pintrich et al, 1991) and the Distance Education Student Progress (Kember, 1995) inventory. The duration of the study was seven months.

<u>Summary</u>

The combination of the flexibility of online courses, their appeal to the older non-traditional student, and the motivational problems reported by distance educators present challenges to the stakeholders of higher educational institutions. As interest in and demand for online offerings increase, and the age of graduate and professional school students rises, questions persist about the ability of online courses to keep students motivated.

The social cognitive theory of motivation provides a valuable framework for examining the motivation of part-time, non-traditional students. Its focus on the interaction of one's environment, personal factors and cognition, and one's behavior highlights the role that student thoughts and feelings play in their

motivation and approach to learning, as they attempt to juggle the demands of studying online with their multiple life roles. Moreover, Kember's social integration scale helps to quantify students' feelings about the fit between part-time study and their already full lives.

By comparing some of the thoughts and feelings that older, non-traditional students experience as they attempt to juggle the rigors of study—in both the formal classroom and online—with their multiple life roles, and by comparing the motivation and learning strategies of these two groups, stakeholders can increase their understanding of the role that course format (i.e., online versus face-to-face) plays in the motivation and learning of this increasing demographic group.

CHAPTER II

LITERATURE REVIEW

As stated in the preceding chapter, research suggests that the decision to drop out or continue in higher education is a result of student thoughts and feelings about the fit between their lives and their studies (i.e., whether or not they socially integrate). Moreover, research suggests that this sense of fit grows out of the interaction of student, institutional, and environmental variables. This study proposes a link between student perception of fit and motivation. In particular, this study proposes that, so long as older non-traditional part-time students—who are juggling multiple life roles—sense a fit between their lives and their studies (as indicated by Kember's social integration scale [1995]), they will be equally motivated to study—no matter in which format they study (online or face-to-face); moreover, they will exhibit equally effective learning strategies—no matter in which format they study (online or face-to-face). The theory underlying this proposition is the social cognitive view of motivation.

This literature review, then, will first discuss the sense of fit construct in general, and then proceed to Kember's (1995) reworking of Tinto's (1975, 1982) sense of fit model. In particular, the review will discuss Kember's redefinition of social integration in the context of part-time adult students at a distance. From there, the discussion will turn to the interaction of one's personal, behavioral, and

environmental factors (triadic reciprocality [Bandura, 1986]) and how it provides a

psychological background for understanding the fit construct. Next the review will

discuss the components of the social cognitive view of motivation, and how

student beliefs and feelings interact with the learning strategies one employs.

Finally, the discussion will summarize how a social cognitive view of motivation

informs us as to why older non-traditional part-time students—so long as they

sense a fit between their lives and their studies—might be equally motivated to

study and might exhibit equally effective learning strategies, no matter in which

format they study (online or face-to-face).

The Sense of "Fit" Construct

Among the most influential models of college student retention are the

student-institution congruence models, or fit models. "Fit" refers to the student's

sense of belonging to the institution. This sense of fit proceeds from the process

of the student's interactions with the institution at both a social and an academic

level. This process of interactions, it is argued, leads to persistence or dropout

decisions.

Tinto's model (1975, 1982) is perhaps the most influential of the fit

models. Drawing on Spady's (1971) application of Durkheim's (1961) theory of

egotistical suicide, Tinto published his seminal work on college student

persistence in 1975. According to Durkeim, the likelihood of suicide increases if

an individual fails to integrate or fit at two levels of society: moral integration

(values) and collective affiliation (personal interaction). When an individual holds

values significantly different from those of society, while at the same time one fails to achieve sufficient interaction with other members of society, there is no fit. Consequently, the chances of suicide increase.

Tinto extended this concept to the residential college campus in his Student Integration Model (1975), which views college as a mini social system with its own values and social structures into which a student must integrate, or fit. He goes on to say that voluntary withdrawal (as opposed to those who are academically dismissed) appears to relate to a lack of fit between the individual and the institution at two levels: *social* and *academic*. Social integration is the incorporation of the student into the fabric of college society, including both relationships with fellow students as well as those with faculty and administration. This is the adaptation of Durkheim's "collective affiliation." Academic integration is the student's successful academic development and grade performance. This is the adaptation of Durkheim's "moral integration (values)." Tinto suggested that a reciprocal relationship would be expected between social and academic integration, and that excessive emphasis on one mode of integration would eventually detract from the other.

Tinto (1975) also noted the importance of support from others within the social structure of the college (peers, extracurricular activities, faculty, staff, administration, etc.). He proposed that successful encounters with these persons result in varying levels of communication, support, and collective affiliation. These positive interactions, he argued, provide incentive for the student to

continue; for these indicate that the benefits of college are worth the costs. Other things being equal, suggested Tinto, social integration should increase the chances of persistence.

Thus, as long as students socially integrate, according to Tinto, they should persist—regardless of whether they study online or face-to-face. We, however, are interested in part-time, non-traditional adult seminary students, not college students—the subject of Tinto's study. And we are interested in processes that lead up to persistence decisions. How does Tinto inform this study?

Kember's Adaptation of Tinto's Model

Tinto (1982) advised that his model would need to be modified for use with nontraditional forms of education. Kember's Model of Student Progress (Kember et al., 1991; Kember et al., 1994; Kember, 1995) has arguably provided the most comprehensive adaptation of Tinto's model to fit distance education. Woodley et al. (2001), in a replication study of Kember's research, challenged the internal consistency of Kember's sub-scales and causal relationships. Walker (1995) wondered how applicable for today research from the early seventies through the early nineties could be, given how much distance education has changed. On the other hand, Moore & Kearsley (2005) observed that Kember's model is among "…the best illustrations of how theory should affect practice, and vice versa" (p. 209). Roberts (1995) called Kember's work the "first comprehensible and

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workable model on … distance learning to be tested by qualitative and quantitative methods" (p. 63).

Kember redefines both social integration and academic integration to fit the part-time adult distance student environment. His reasoning for these redefinitions is as follows.

Whereas Tinto views social integration as the incorporation of the student into the fabric of college society, Kember felt he must redefine social integration because distance students spend little or no time on campus; hence, they are not greatly influenced by the social environment of the institution. Adult distance students are chiefly concerned with the school's academic curriculum. Their social circle is outside the institution—among friends, co-workers, family, and more. Cabrera et al. (1992) pointed out that Tinto's model lacks attention to the influence of forces beyond the institution in the decision to continue study or drop out. Bean and Metzner (1985) argue a similar point, maintaining that factors such as hours of employment, family responsibilities, and encouragement from the social circle outside the institution play an important role in the non-traditional student's decision to continue study or drop out. In short, Kember's point is that the scenario of introducing study into the already full life of a working non-traditional student—with a family and social commitments—represents not only a different "mini social system" from the one Tinto described, but it also consequently represents an overemphasis on social integration for these

students. Therefore, social integration must be redefined for part-time non-traditional students.

For Kember, the part-time status of many or most distance students also necessitates a reworking of Tinto's model. The role of student, argues Kember, is a new one that must be assimilated into the on-going prior commitments of the busy part-time adult student—commitments that are, at best, only partly negotiable. Such students cannot merely jettison the majority of these existing commitments. Consequently, Kember redefines social integration as the degree to which the adult distance student feels that he or she can integrate part-time study and the many demands of work, family, and community.

Whereas Tinto sees academic integration as the student's successful academic development and grade performance, Kember reinterpreted it to encompass all that is involved in the delivery and administration of a distance course—e.g., the study package, tutoring, and communications with the faculty, administration, and staff. This broadening of academic integration stems from the fact that media, not face-to-face contact, is the conduit for most or all of course delivery and administration in a distance course. Kember also adds the degree to which a student is able to empathize with the different academic environment of distance learning, and to accommodate its study demands, to his definition of academic integration.

Not only does Kember redefine social and academic integration, but he also posits that social integration precedes academic integration. As Tinto

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suggested (1975), a reciprocal relationship exists between social and academic integration. Thus Tinto posited, "an excessive overemphasis on integration in one would, at some point, detract from one's integration into the other" (1975, p. 92). Houle's study (2004) supports this claim. She found that the social integration construct had a positive statistically significant effect on the academic integration factor. For Kember, since the role of student is a new one that must be assimilated into existing prior commitments—ones that are at best only partly negotiable, a significant overemphasis on social integration characterizes part-time adult distance study. Therefore, since busy part-time adult students cannot merely discard the majority of these existing commitments, those who cannot juggle current commitments with the new demands of study will not academically integrate. Consequently, they will blame competing work, family, and social pressures for the lack of integration. Kember calls this "external attribution."
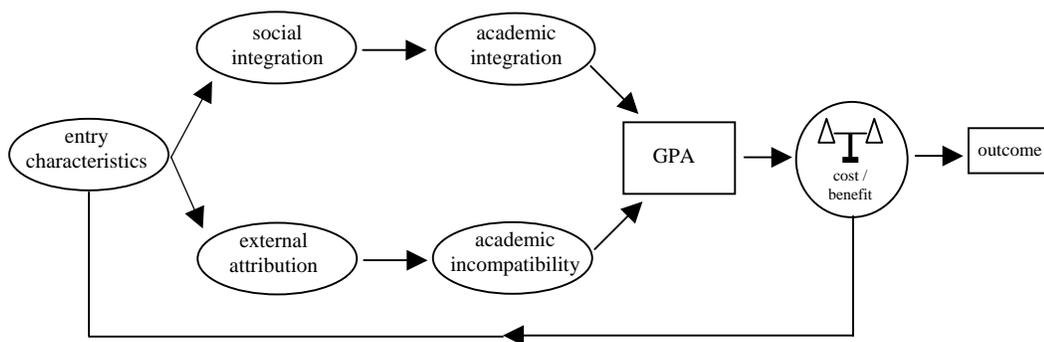
Kember's *Model of Student Progress* (1995, p. 55)

Kember's (1995) model has two parallel tracks: positive for those likely to succeed (social integration), and negative for those unlikely to do so (external attribution). Entry characteristics (e.g., family makeup, educational background, employment status, community involvement, etc.) tend to predispose students into either the positive or negative track. The degree to which one socially integrates influences the degree to which one academically integrates. Those who socially integrate see the program or course as a good fit for them, are more intrinsically motivated to study, take a more mastery approach to learning, and have a more positive impression of way the course is delivered and supported. Those, conversely, who fail to integrate (external attribution) feel a lack of fit between their lives and the program or course, are more extrinsically motivated to study, take a more surface approach to learning, and have a more negative impression of way the course is delivered and supported. Kember's social integration / external attribution spectrum also measures the role of environmental factors outside the institution. In particular, his model measures the perceived impact of family, work, and social commitments on academic achievement (GPA).

Kember's model is based on four important assumptions. First, he assumes that the students for whom his model applies spend the majority of their time away from the campus: they are distance learners. Second, he assumes they are part-time, adult students. Third, he assumes the students have significant commitments to work, family, and society or community. Finally,

Kember argues that the role of student is a new role that must be assimilated into the existing and on-going prior commitments of the busy part-time adult student. Such students, often classified as "non-traditional," have had an interruption in their studies between high school and college, or between undergraduate and graduate school. And during this time, they have taken on important, life-long commitments—work, family, and social in nature.

Kember's model, then, informs the present study in three regards. First, while Kember's theory is directed towards distance students, his definition of his target audience can apply to busy adult students at RTS "residential" campuses as well. Four of the five RTS face-to-face campuses used in this study have no dormitories. These students spend the majority of their time away from campus as well. Additionally, students used in this study meet the other three assumptions of Kember's study: they are part-time adults, they have significant commitments to work, family, and community, and the role of student is a new one that be assimilated into an already full plate. In fact, these assumptions can even apply to the one RTS campus with student housing. While some of these students live on campus, their multiple life roles keep them engaged in many non-campus commitments.

A second way that Kember's model informs the study is that he redesigned Tinto's model to fit the kinds of students mentioned just above— something Tinto himself agreed would need to be done. Such students must

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renegotiate preexisting commitments to make room for part-time study. This describes many theological seminary students.

The third way in which Kember's model informs the present study is that he offers a key proposition, integral to this study: social integration precedes academic integration. This informs our quest to understand some of what lies behind persistence. Students who do not academically integrate are less like to remain in school. And Kember argues that part-time students who do not socially integrate (i.e., successfully renegotiate work, family, and social commitments to make room for study demands) are less like to do so academically. It follows, then, that RTS Greek or Hebrew students who fail to socially integrate will be unlikely to academically integrate. And for the present study, the question arises, "Will there be any relationship between course format (online vs. face-to-face) and level of social integration for RTS Greek or Hebrew students?" Could online students be as motivated as their classroom counterparts, and might they employ equally effective learning strategies?

To further investigate this question, we need to examine how Kember's redefinition of social integration measures the sense of fit for non-traditional, part-time students.

Kember's Social Integration Construct as a Measure of Sense of Fit

As noted above, "fit" refers to the student's sense of belonging to the institution. This sense of fit encompasses the thoughts, feelings, and attitudes regarding the match between an individual and his or her institution. Instead of

measuring perceived fit with an institution (per Tinto), the "social integration" construct of Kember's Student Progress Model measures student perceptions about how well he or she feels able to integrate study with work, family, and social life. Thus one can see that entry characteristics relating to employment status, family makeup, and social life impact one's ability to integrate socially. For example, a student who works full-time and has a spouse and children is likely to have a greater challenge socially integrating than a single student who works part-time. It can also be seen, as Kember (1995) argued, that the attitudes of family, employers, workmates, and social colleagues play a role in social integration for the part-time adult student.

Kember, Lai, Murphy, Siaw, and Yuen (1991) developed the Distance Education Student Progress inventory as the data source for Kember's model of student progress in distance education. Through factor analysis, reliability testing, and path analysis, Kember et al. (1991, 1992) confirmed that the DESP was a workable model for measuring variables that influence student progress in distance education. The factor analysis revealed that social integration was a salient factor, with three corresponding sub-scales: enrollment encouragement, study encouragement, and family support.

Enrollment encouragement indicates the degree to which others in the adult student's life convey a positive attitude toward his or her enrolling in school. If a part-time adult student's employer, family, and social circle are supportive of his or her enrolling in a given course, it suggests that they will be supportive and

cooperative in the ensuing renegotiation that will be necessary for social integration. A positive attitude by others, Kember argues, assists the student in entering a course with a positive, confident frame of mind.

Study encouragement indicates that the same people who encouraged the adult student to begin studies actually support him or her once study begins. This is the time when renegotiation is needed. When a working adult with family responsibilities begins studies, something has "to give" (Kember & Leung, 2004). Employers, family, and friends can either facilitate the adjustments needed for study or impede them. In other words, for part-time adults to successfully juggle study with their other commitments, their immediate environment must adapt as well.

Family support is indicative of the degree to which one's home environment is supportive of the certain intrusions which part-time study will precipitate in the home. It is highly likely that family members will need to make some sacrifice in support of the student's study needs. Routines must be adapted to the added stress of study demands. Other family members will likely have to take on additional responsibilities, and all will need to cooperate to insure that a suitable time and place for study can be procured. At the same time, the student's ability to maintain family relationships may impact the support he or she receives.

Another salient factor to emerge from the factor analysis (Kember et al. (1991, 1992) was external attribution. The other end of the spectrum from social

integration, external attribution—based on attribution theory (Weiner, 1974)—is manifested by a tendency to blame one's lack of social integration on the external pressures of work, family, and community—i.e., on things beyond one's control. External attribution has three corresponding sub-scales: insufficient time, unexpected events, and distractions.

Insufficient time is the most common reason cited by adult students for dropout, and represents a failure to reconcile the competing priorities of one's life. Work, which often occupies as much time as sleep in an adult's life, is usually the biggest drain on study time cited by students. Family obligations, of course, can exact a heavy toll on study time as well. Finally, some students cite social or community obligations as excuses for not finding enough time to study.

Unexpected events present themselves in the lives of all students. Since part-time adult students usually take longer to finish a degree, changes in work demands, family or personal problems, or illness (one's own or a family member's)—unforeseen at the time of enrollment—are not uncommon over the duration of their extended academic career. Even a small change of this nature can impact one's ability to socially integrate, since the part-time adult student's life is often already filled with prior, on-going commitments.

Distractions crop up for every student on almost a daily basis, no matter how much time he or she may have for study. Here, as above, any number of distractions may arise from one's work, home and family, or social environment.

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Kember notes that some students who socially integrate face very similar challenges in their work, family, and social situations as those who exhibit external attribution. And while no two student's situations are the same, and while students experience a spectrum of conflicting demands, Kember argues that the difference between those who socially integrate and those who fail to do so is not necessarily the frequency and level of these challenges, but rather how much responsibility the student owns for giving study the time it requires.

To summarize Kember's social integration construct as a sense of fit, Kember's redefinition of the social integration construct is a workable measure of how well part-time adult students—in this case seminary Greek or Hebrew students studying in either format—feel able to carve out a niche for studying part-time in the midst of prior commitments to work, family, and one's social circle. The balance of the perceived level of support for enrollment and study by one's employer, family, and friends—combined with the time-pressures, unexpected events, and daily distractions of the part-time adult student's life— shape one's thoughts, feelings, and attitudes about the fit between his or her busy life and school demands (social integration). This in turn, argues Kember, impacts one's ability to academically integrate, i.e. to juggle successfully all the disparate demands of study.

This ongoing balancing act of one's environment (work, family, and social commitments), one's personal feelings and other attributes, and one's study performance fits squarely within the social cognitive framework of motivation. The

discussion now turns to the social cognitive view of motivation and how it informs the present study.

The Social Cognitive View of Motivation

Triadic Reciprocality

Triadic reciprocality (Bandura, 1986) is at the heart of the social cognitive view of motivation. It is seen as a reciprocal causation of three sets of factors that determine each other, to varying degrees in varying situations. One's environment, one's cognitive and other personal factors, and one's behavior bi-directionally determine each other, providing individuals opportunities to have some control over outcomes in their lives. The influence of the determinants—personal, behavioral, and environmental—is not symmetric in strength. Bandura (1986) argues that their influence varies by person, activity, and situation. Nor do they always operate simultaneously, since it takes some time for one's for environment to influence behavior, or behavior to influence personal characteristics, etc.

Triadic reciprocality is very important for learning. The interaction of these three determinants (environment, cognitive and other personal factors, and behavior) affects how one thinks and feels about learning, how motivated one is to learn, and even how one approaches learning. And triadic reciprocality provides a motivational theoretical framework within which to place social integration, i.e., how one's thoughts and feelings about how one's work, family, and social commitments interact with one's study demands and performance.

The Main Constructs of Social Cognitive Theory

The social cognitive model sees motivation as consisting of three general constructs, each of which plays an important role in motivation: expectancy, value, and affect (Pintrich & Garcia, 1991). The expectancy construct consists of self-efficacy and control of learning beliefs. Value comprises intrinsic and extrinsic motivation, as well as the utility of learning the particular material. Affect deals with emotional reactions (pride, shame, self-worth, etc.), primarily test anxiety.

Expectancy

The expectancy construct falls under a general expectancy-value model of human motivation (Eccles et al., 1983), and relates primarily to one's beliefs about one's ability to perform a task and one's value of that task. The expectancy-value model can be simply framed with two questions: (1) "Can I do this" (expectancy) and (2) "Why should I do this?" (value). The basic concept of expectancy-value is that individuals will not undertake or continue in a task which they neither value nor at which they expect to be successful (Pintrich & Schunk, 1996). Researchers have linked both expectancy and value not only to achievement (Eccles et al., 1993; Wigfield, 1994; Wigfield & Eccles, 2000), but also—relevant to this study—to cognitive processing and learning strategies (Dweck & Leggett, 1988; Feather, 1988; Pintrich & De Groot, 1990; Pintrich & Garcia, 1991; Pintrich & Schunk, 1996). Student attitudes about the task at hand interact with how they go about learning the material, supporting this study's

claim that students who are equally motivated will exhibit equally effective

learning strategies. The discussion now turns, then, to studies that link

expectancy—specifically self-efficacy—and value to how one actually learns.

Self-Efficacy

A social cognitive view of expectancy focuses on self-efficacy. Bandura

defines self-efficacy as "people's judgments of their capabilities to organize and

execute courses of action required to attain designated types of performances"

(1986, p.391). Indeed, Bandura (1997) argues that performance is mediated by

ability beliefs. Implicit in this concept is the idea of control: the individual feels

responsible for his or her own performance (Pintrich and De Groot, 1990.)

According to the social cognitive theory, self-efficacy beliefs play the pivotal role

in human behavior (Bandura, 1977). Graham and Weiner (as cited in Pajares,

2003) concluded that self-efficacy predicts behavioral outcomes more than other

self-beliefs. Unless people believe they have some power over their situations,

they will not attempt to effect any changes. More specifically for this study, unless

a student feels some control over the outcome related to a Greek or Hebrew

course he or she will not employ effective means for achieving success. Indeed,

research indicates that self-efficacy impacts effort expended and persistence at a

task (Bandura, 1997; Schunk, 1991; Zimmerman, 2000).

Research indicates, then, that self-efficacy impacts the way students

approach learning. Self-efficacious students are hypothesized to work harder and

stay with a difficult task longer than those who have doubts about their ability (Schunk, 1991).

The expectancy construct, and self-efficacy in particular, is important for this study because we seek to understand something of what lies behind persistence decisions. There are three contributions that the expectancy construct makes to this study. First, self-efficacy is argued to play the key role human behavior, and affect outcomes more than any other self-belief. Secondly, the expectancy construct suggests that students will not persist at something which they feel they cannot succeed. And finally, the established link between expectancy and cognitive processes and learning strategies may lend some support to Kember's claim that social integration (here linked to expectancy beliefs) leads to academic integration. In short, the expectancy construct is compatible with the Kember's fit construct in this study. If Greek or Hebrew students do not feel that they are capable of juggling all their other responsibilities and still find time and energy to study, then it is hypothesized that their learning strategies will be affected and they will be less likely to do well in the course, and are thus likely to consider dropping it.

Goal Orientation

Within a social cognitive framework, goal orientation has received ample attention in the literature. Goal orientation refers the question "Why am I doing this?" Indeed, goals are believed to provide direction for behavior. A social cognitive perspective, according to Garcia and Pintrich (1995), sees goal

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orientation as three-fold: intrinsic (seeing worth in the task itself); extrinsic (seeing worth in the results of accomplishing the task); and task value or utility (the usefulness, interest, or importance one attaches to the task).

While other researchers in the field of goal orientation differ somewhat from Garcia and Pintrich, most generally agree to something similar to their intrinsic / extrinsic spectrum. Among the labels researchers use for these orientations are "learning versus performance goals" (Dweck & Leggett, 1988; Elliot & Dweck, 1988) and "mastery versus performance goals" (Ames & Archer, 1988). Students with a mastery / learning / intrinsic goal orientation tend to focus themselves on learning itself, improving skills, and meeting the challenge (Dweck & Leggett, 1988; Pintrich & Schunk, 1996). They are inclined to see success as directly related to the amount of effort they exert. Conversely, students with a performance / extrinsic orientation generally seek to gain the favor of those around them and avoid risk of failure (Elliott & Dweck, 1988; Pintrich & Garcia; 1991; Pintrich & Schunk, 1996). Such students see high effort as an indication of low ability.

Student goal orientation has been linked to task selection, control beliefs, cognition, affect, behavior, and achievement—in children as well as college students (Bergin, 1995; Chalupa, Chen, & Charles, 2001; Dweck & Leggett, 1988; Feather, 1988; Pintrich & De Groot, 1990; Pintrich & Garcia, 1991; Pintrich & Schunk, 1996; VanZile-Tamsen, 2001). Research also suggests that a mastery / learning / intrinsic goal orientation is linked to persistence, i.e., adaptability and

effort maintenance in the face of difficulties (Bandura, 1986; Elliott & Dweck, 1988; Pintrich & Garcia; 1991; Pintrich & Schunk, 1996).

Student goal orientation informs this study by suggesting a link between it and learning strategies, control beliefs, achievement, and persistence. Greek or Hebrew students with similar goal orientations should, then, posses similar control beliefs, employ similar learning strategies, and perform at similar levels— again regardless of course format. And all these qualities are thought to be antecedents to persistence decisions, the understanding of which is an underlying goal of the present study.

Affect

The affect construct deals with emotional reactions (anxiety, pride, shame, self-worth, etc.), particularly test anxiety. It can be framed by the question "How do I feel about doing this?" The impact of test anxiety on academic performance has received considerable attention in the literature. Hill and Wigfield (1984) cited correlations between test anxiety and academic performance as high as –.60. In a meta-analysis of 562 studies on test anxiety and academic performance, Hembree (1988) reported that test anxiety was a regular cause of poor performance. Some researchers suggest that anxiety interferes with thought processes, leading to poor performance. Tobias (1985) postulates a model of test anxiety that combines two key cognitive elements. First, he argues that anxiety depletes cognitive resources needed to focus on the test. And he also argues that highly anxious students have inferior study skills.

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We may see then that Greek or Hebrew students with high test anxiety may not function well cognitively, may have poor study skills, and thus not perform well. This study suggests that this will hold true for Greek or Hebrew students in general, whether studying online or face-to-face.

Not only are beliefs, attitudes, and emotions important components of the social cognitive view of motivation, so are learning strategies—i.e., how one goes about learning. The discussion now turns to these.

Self-regulated Learning Strategies

For purposes of this study, Zimmerman's (2000) definition of self-regulation is posited. Self-regulation comprises "self-generated thoughts, feelings, and actions that are planned and cyclically adapted to the attainment of personal goals" (p. 14). From this definition, it can be seen that self-regulation is a social cognitive construct: thoughts (cognition) and feelings (beliefs and affect) impact behavior with respect to one's goals. Our measurement of the gap between our behavior and our standards, and our reaction to that gap, lead us to plan changes in our subsequent behavior. This is our attempt to bring future performance more in line with our internal standards (Bandura, 1986; Printrich, 1995).

Self-regulation is important for the present study because one of our goals is to attempt to learn something of certain processes that lead to persistence decisions. Studies indicate that self-regulating students perform better—no matter what the level of study (Pintrich & De Groot, 1990; VanZile-Tamsen &

Livingston, 1999; Williams, 1996; Zimmerman & Kitsantas, 2002; Zimmerman & Martinez-Pons, 1986).

That self-regulation is rooted in social cognitive theory can also be seen in the three domains in which students self-regulate: their behavior, their motivation, and their cognition (Pintrich, 1995; Zimmerman 1989). Examples of a student's regulating his or her behavior would be the setting of a study schedule and monitoring progress through course material. Examples of motivational self-regulation would be a student's adjusting short-term goals and monitoring progress on these goals. And an example of cognitive self-regulation would be a student who quizzes him or herself on material recently read.

The thoughts that represent self-regulation are termed "cognitive," and in learning refer to how students encode new material, and then organize and retrieve it (Pintrich,1995; Pintrich and De Groot, 1990). Examples of cognitive learning strategies are: (1) repeating key concepts over and over (rehearsal); (2) restating important concepts in one's own words (elaboration); and (3) outlining chapters as one reads them (organization).

There are self-regulatory thought processes beyond cognition, termed "metacognition." Metacognition refers to strategies students use to plan, monitor, and regulate the cognitive strategies mentioned above (Pintrich et al., 1991). Planning involves setting goals for oneself and analyzing tasks to facilitate rehearsal, elaboration, or organization of material. Effective students monitor their learning activities by checking their attention level, and questioning and

testing themselves—thereby enhancing their understanding and integration of the material. Finally, self-regulating students fine-tune their cognition and continually make adjustments, to maximize their learning.

Among the self-regulatory actions are those that are termed "resource management." Such actions include strategies used by students to manage their time and their study environment, regulate their effort, learn from their peers, and avail themselves of available sources of assistance. Self-regulating students schedule study time and use this time effectively. They also manage their study environment, making it organized, quiet, and otherwise conducive to study (Pintrich & De Groot, 1990).

Some students are strong self-regulators, while others are not. What accounts for this difference? Could course format be a factor? Or could it be that, from a social-cognitive perspective, online students might employ self-regulated learning strategies similar to those used by in-class students? Sankaran & Bui (2001) compared the learning strategies of students in the same four-week undergraduate business computer course, offered either online or face-to-face. Using their own instrument, they found that students who employed similar learning strategies (deep or surface) performed equally well no matter in which format they studied. What might explain why course format may not be a factor in self-regulated strategy?

The answer can be seen in our above definition of self-regulated learning strategies: they are self-generated. Self-regulated learners seek to control their

environment, behavior, attitudes, and feelings—all in a effort to achieve a desired goal (Pintrich, 1995). Moreover, the impetus for self-regulatory behavior comes from within the individual—not from without, by means of a professor or one's peers (Pintrich, 1995). Indeed, though environmental influences such as instruction in self-regulation or encouragement to self-regulate might encourage self-regulatory behavior, such behaviors would not be properly be termed "self-regulatory" until they came under the mediating influence of personal processes such as goal orientation or self-efficacy (Pintrich, 1988; Pintrich & De Groot, 1990; Zimmerman, 1989). We may conclude, then, that the driving force behind self-regulatory behavior in students is the student him- or herself. For this reason, the format in which one studies would not be a significant factor in self-regulation.

At this point, a concise summary of the literature review thus far may prove helpful. Kember redefines social integration as the degree to which the adult distance student feels able to integrate part-time study and the many demands of work, family, and community. Such feelings and ability beliefs (expectancy, value, and affect) are the product of the ongoing interaction (triadic reciprocality) of the student's environment, personal feelings and other attributes, and his or her study behaviors. Moreover, such feelings and beliefs represent the motivational orientation upon which the employment of self-regulated learning strategies is contingent. Thus we see that how RTS Greek or Hebrew students think and feel about learning, how motivated they are to learn, and even how they approach learning are all linked together. This leads us to our next

discussion: research on the relationship between motivational orientation and self-regulation, and why this relationship might render course format irrelevant.

<u>The Link between Motivation and Self-Regulation</u>

As was noted above, researchers posit that the motivational constructs of expectancy, value, and affect correlate with the learning strategies that students employ. Indeed, a social cognitive model proposes that both motivation (expectancy, value, and affect) and learning strategies (cognition, metacognition, and resource management) play a key role in learning (Pintrich & Garcia, 1991). Pintrich and De Groot (1990) found that the efficacy beliefs of seventh graders were positively related to their reported use of learning strategies. Zimmerman and Martinez-Pons (1990) found similar correlations between efficacy and strategy use among fifth, eighth, and eleventh graders. Zimmerman (2000) cites several studies that indicate that self-efficacy affects such self-regulatory processes as self-monitoring, self-evaluation, and use of learning strategies.

Pintrich and Garcia (1991) found that intrinsic orientation was linked to both motivational beliefs and self-regulatory strategies in college students. They also found that college students who were high in intrinsic goal orientation were more likely to employ elaborative learning strategies, be more metacognitive, and were more likely to regulate resources than were students low in intrinsic orientation. VanZile-Tamsen (2001) found that both expectancy beliefs and value correlated with self-regulated strategy use in college undergraduates.

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Studies lend support to the premise that test anxiety negatively impacts cognition. Highly anxious students apparently have difficulty retrieving, encoding, and organizing material (Gross, 1990; Hill & Wigfield, 1984; Naveh-Benjamin, 1991). Some theorize that this is due to anxiety's interfering with motivational tendencies and student use of effective cognitive strategies (Bembenutty et al., 1998). As noted above, Tobias (1985) argues that anxiety depletes cognitive resources needed to focus on the test.

Since ability beliefs, goal orientation, test anxiety, and learning strategies are all related, it is reasonable to suggest that students with similar expectancy beliefs, similar goal orientation, and similar test anxiety would employ similar learning strategies—regardless of the format in which they study (i.e., online versus face-to-face.). Indeed, Sankaran & Bui (2001) found no difference in the motivation or learning strategies of students in the same course, offered either online or face-to-face. It is plausible, then, that Greek or Hebrew students will be equally motivated to study, and will exhibit equally effective self-regulated learning strategies—no matter in which format they study (online or face-to-face).

Since student motivational orientation (one's ability and control beliefs, one's value of the learning task, and one's emotions associated with a given task) provides impetus for the employment of self-regulated learning strategies, an important question at this juncture is what accounts these beliefs? In other words, what are the sources of student motivational thoughts and feelings?

Sources of Motivational Thoughts and Feelings

Research indicates that student ability beliefs (self-efficacy), the importance and usefulness that students perceive in a task (value), and student affect impact their employment of self-regulated learning strategies. And of these, research suggests that self-efficacy plays the key role in how people behave (Bandura, 1977). Moreover, research suggests that self-efficacy is related to all other constructs of social cognitive theory: to self-regulation (VanZile-Tamsen, 2001; Zimmerman, 1989), to goal orientation (Dweck & Leggett, 1988; Pintrich & De Groot, 1990; Pintrich & Garcia, 1991; VanZile-Tamsen, 2001) , and to affect (Zimmerman, 1989). Indeed, Bandura (1977) argues that people's level of motivation, emotional states, and behavior are based more on their beliefs than on objective truth. Consequently, sources of efficacy beliefs merit discussion. By understanding how self-efficacy is acquired we will better understand why Greek or Hebrew students might be equally motivated to study, and might exhibit equally effective self-regulated learning strategies—no matter in which format they study (online or face-to-face).

Self-efficacy theory (Bandura, 1997) postulates that people acquire information to judge their ability beliefs from four sources. The first, and most influential, is enactive mastery experience. Personal experience provides the most valid data for the setting of one's expectations for mastery of a given task. The reason for this, Bandura maintains, is that people have a sense of their own capabilities, the level of difficulty of the task, how much effort they expend, any

help they receive, and the circumstances under which they perform the task. Successes build a strong efficacy belief; failures undermine it. Bandura argues, though, that once a strong sense of efficacy has been developed, occasional failure may not impact it.

Also falling within the scope of enactive mastery is the influence which self-regulatory processes exert on ability and value beliefs, primarily during the self-reflection phase of self-regulation (Zimmerman, 2000). Indeed, a circular relationship between self-regulation and motivational beliefs has been posited (Borkowski, Carr, and Pressley, 1987; Entwistle, 1988; Zimmerman, 1989). One's views on the reasons for success or failure impact one's ability and control beliefs, which in turn affect one's strategies, which are then evaluated in the self-reflection phase.

A second source of efficacy beliefs is vicarious experience—that of comparing oneself with the outcomes, behavior, and strategies of a model. Bandura (1986) argues that essentially all learning from direct experience can occur vicariously by watching others behave, and by watching the consequences of that behavior. This means that we can learn things like rules, procedures, and outcomes by watching others; we don't have to learn them ourselves over time by acting them out again and again. If the model, however, is perceived to be more capable than the observer, the model's successes may not be seen as applicable to the observer. Moreover, the observer is not privy to the full range of data on the model's sense of his or her capabilities, the perceived level of

difficulty of the task, how much effort he or she expended, any help he or she received, and the circumstances under which he or she performed the task. And since vicarious input is not personal experience, efficacy gained by it can be negated by subsequent failures (Schunk, 1991).

The third and fourth sources of efficacy beliefs are verbal / social persuasion and physiological indices. Others may provide feedback to an individual, aimed at persuading him or her about their capability to succeed. And such persuasion can play a role in self-efficacy beliefs. Herein, though, success is only projected; it is neither personally experienced nor witnessed in others. Therefore, persuasive feedback has less impact, and is subject to the credibility of the persuaders. Finally, physiological reactions impact self-efficacy. Stress, fatigue, anxiety, and other emotions can be interpreted as indicators of inability.

We can see, then, that self-efficacy beliefs stem from personal successes and failures, from observing others, from verbal / social persuasion, and from emotional and physical reactions. And, as was noted above, efficacy beliefs play the pivotal role in human behavior, impacting all four measures of motivation (choice of task, effort, persistence, and achievement).

The question that now presents itself is how an understanding of self-efficacy and its sources—particularly personal enactive experience and the self-reflection phase or self-regulation—might help us understand why part-time adult Greek or Hebrew students might be equally motivated to study, and might exhibit

equally effective self-regulated learning strategies—no matter in which format they study (online or face-to-face).

To answer this question, we will examine Kember's social integration construct (sense of fit) as a measure of some of the sources of self-efficacy, in particular concerning one's interaction with his or her work, family, and social environment—as he or she attempts to squeeze study into an already full schedule.

Kember's Social Integration Construct (Sense of Fit) as a Measure of Some of the Sources of Self-efficacy

Kember's social integration construct gives us, as it were, a glimpse of some of the sources of the self-efficacy (personal experience and verbal or social persuasion) of older non-traditional part-time students. And if I can demonstrate that Kember's social integration construct may overlap with triadic reciprocality, expectancy and value, test anxiety, and self-regulation, then the proposition that adult Greek or Hebrew students who feel a fit between themselves and their part-time studies (as measured by Kember's social integration construct) might be equally motivated to study, and employ equally effective self-regulated learning strategies—regardless of course format (online or face-to-face) will become plausible.

The reason for this connection is that, as indicators of the busy adult student's perception of the "struggle to juggle" part-time study with an already full life, the social integration items from Kember's DESP portray something of the

process of the renegotiation of the busy adult student's environment, in order to attempt to accommodate the new demands of part-time study. This renegotiation affects—and is affected by—the student's cognitive processes, personal beliefs and goal orientation, and his or her learning behaviors. Thus we see that the idea of renegotiating one's environment fits well with the social cognitive theory of motivation because of triadic reciprocality.

That the interaction of one's environment, personal characteristics, and behavior influences how one thinks and feels is also evident in the afore-mentioned sources of efficacy beliefs. The reader will recall that enactive experience (personal successes and failures, and one's views on their causes) provides the most valid evidence of one's expectations for mastery of a given task. How successful a busy adult student feels he or she is at finding the time, the energy, and a quiet place to study—as well as their perceived success at studying and the learning strategies they employ—will impact their beliefs about their ability to manage and accomplish all that is needed in order to learn. Comparing him- or herself to others who are studying in a similar family, work and social situation may also influence the busy part-time adult. Such vicarious input, as Bandura (1986) argues, can have some raising or lowering effect on ability beliefs. Feedback—verbal and otherwise—from those around the student also can play a role in self-efficacy beliefs. And finally, stress, fatigue, anxiety, and other emotions can be interpreted as indicators of inability. All of these

influences on one's self-efficacy stem from the interplay of one's environment, behavior, and personal beliefs and factors.

The literature on self-efficacy, along with Kember's social integration construct, suggest the perceptions a student develops about his her ability to juggle the multiple responsibilities of work, family, community, and study overlaps with their self-efficacy beliefs. These beliefs impact one's self-regulatory learning strategies, which in turn can affect one's ability beliefs. So once again, we can entertain the possibility that course format may not be a significant factor in the motivation and learning strategies of part-time Greek or Hebrew students at RTS.

<u>Summary</u>

To summarize this literature review, Tinto (1975) produced the seminal work on sense of fit as a model of college student persistence. His basic argument was that as long as students integrate into the society of the college and into its academic demands, their chances of persistence increased. Kember (1995) adapted Tinto's model to fit the part-time adult distance student. Such students, argue Kember, fit the following criteria: (1) they spend most of their time away from the campus; (2) they have preexisting commitments to work, family, and community; and (3) they are adults, studying part-time, while juggling their preexisting commitments. Not only did Kember redefine the students for whom Tinto's model applied, but he also proposed a key relationship between social and academic integration not present in Tinto's model: social integration precedes academic integration. Kember's model then becomes a measure of fit

that portrays the process of a busy adult's attempt to carve out a niche for study in the midst of work, family, and social commitments. And one's thoughts and feelings about success at this attempt, his or her behavior, and the perceived impact of his or her environment on this success is measured by the social integration scale.

Kember's reciprocal interactions between work, family, community, and one's personal thoughts and feelings self appear to overlap with the social cognitive view of motivation. His interaction is similar to Bandura's (1986) triadic reciprocality, which Bandura argues—and ample literature supports—is related to how one thinks and feels about study(expectancy, value, and affect), and even how one approaches it (self-regulated learning strategies). Of particular relevance is self-efficacy, since it plays the pivotal role in the way students approach learning (learning strategies). Self-efficacy is, at the same time, impacted by one's self-regulated learning strategies. Self-regulated learning strategies are also very important for this study in that their impetus comes from within the individual, not from external sources such as professors or fellow students.

It follows, then, that as long as Greek or Hebrew students in this study feel a sense of fit (measured by Kember's social integration scale), they should report similar levels of self-efficacy, task value and utility, and test anxiety—regardless of whether they study online or face-to-face. It also follows, then, that since cognitive and affective constructs (or thoughts and feelings) are related to self-

regulatory learning strategies, Greek or Hebrew students in this study who report similar measures of self-efficacy, task value and utility, and test anxiety will report similar levels of self-regulated learning strategies—regardless of whether they study online or face-to-face. Indeed, self-regulation is, after all, self-initiated. Thus we may conclude that the format in which a busy, part-time adult student studies (online vs. face-to-face) is not a significant factor in their motivation and learning; rather, their self-efficacy—and its related construct sense of fit—are significant factors.

CHAPTER III

METHODOLOGY

<u>Overview</u>

This study sought to compare older non-traditional part-time students'

mean scores on their perception of how conducive their environment is ("fit") to

the study of Greek or Hebrew online versus in the classroom (measured by

Kember's social integration scale), and mean scores on their motivation and

learning strategies (measured by the Motivated Strategies for Learning

Questionnaire [MSLQ]). The purpose was to see if the format in which students

study (online vs. face-to-face), or their perception of how conducive their

environment is to study demands (social integration or external attribution),

impacted their motivational orientation and self-regulated learning strategy use.

This chapter provides an explanation of the study's setting, sample,

instrumentation employed, design of the study, data collection methods, and

procedures.

<u>Research Setting</u>

Reformed Theological Seminary (henceforth "RTS") consists of six

campuses in the South and Mid-Atlantic. Instruction at five of these campuses is

by traditional face-to-face, while instruction through the Virtual Campus is by

distance, including online courses. Greek and Hebrew are optional for some

degrees and required for others. The Greek and Hebrew courses compared in this study were offered the summer of 2005 through the winter of 2006. The instruction offered through the Virtual Campus was completely online. The classroom instruction was offered at five different RTS face-to-face campuses: Atlanta, GA; Bethesda, MD; Charlotte, NC; Orlando, FL; and Jackson, MS.

The writer was both researcher for this study and instructor for the online sections of both the Greek and Hebrew courses. A different instructor taught each of the face-to-face Greek and Hebrew courses. The content of the courses in either delivery mode was similar (grammar, syntax, and vocabulary). The textbooks used in the Greek and Hebrew courses differed at the various locations. Exams were similar in content. Online students had six months to finish their course, while the face-to-face students had three and one-half months.

Sample

Convenience samples were used for this study. Both instruments (Kember's DESP and the MSLQ) were emailed to all online students enrolled for Greek or Hebrew and to all students at the smaller RTS campuses in Atlanta GA and Bethesda MD. The questionnaires were given in person in the Greek and Hebrew classrooms at the Charlotte, NC, Jackson, MS, and Orlando FL campuses. There were students from both levels (1st and 2nd semester) of both languages in this study. A total of 184 students filled out both the DESP and the

MSLQ. Table 1 represents the composition of the sample by group and subgroups on delivery mode.

Table 1. *Sample of Greek and Hebrew students by group and subgroups on delivery mode*

Face-to-face (N=120)	*Online* (N=64)
Greek I	Greek I
Greek II	Greek II
Hebrew I	Hebrew I
	Hebrew II

Instrumentation

Kember et al. (1995) developed the Distance Education Student Progress inventory as the data source for Kember's (1995) Model of Student Progress in distance education. Through factor analysis, reliability testing, and path analysis, Kember et al. (1992, 1994), and Kember (1995) reported that the DESP was a robust model, stating that it "can, with reasonable confidence, be used to make predictions and derive implications for practice" (1995, p. 155). In this present study, a slightly modified version of the DESP (modified for this research setting) was used for measuring variables that play a role in the development of non-traditional part-time gradate students' sense of fit between their busy lives and their study demands.

The DESP measures four scales (Likert-type: 1 = "not at all true of me," 5 = "very true of me" —with 6 as "not applicable"): social integration; external attribution; academic accommodation; and academic incompatibility. Each of the four scales has subscales, with three to seven statements each. This study measured only the social integration construct. Kember himself (2005) concurred that this was a valid use of this instrument, and acknowledged that he and his colleagues has conducted studies using on the social integration scale. The subscales under social integration are: enrollment encouragement; study encouragement; and family support. A copy of the DESP is located in the Appendix to this study.

The DESP has not been widely used, so its reliability remains to be demonstrated. Its validity also remains to be proven. The DESP reliability coefficients for social integration are in the high sixties in Kember's studies (1995), and the low to mid seventies in a replication study by Woodley, de Lange, and Tanewski (2001). Table 2 lists the reliability coefficients for the DESP.

Table 2. *Reliabilities of Scales in Kember's DESP*

Scale	*Reliability*		
	Kember's Original study	Kember's Replication study	Woodley et al. study
Social integration	**0.68**	**0.67**	**0.72**
External attribution	0.61	0.68	0.75
Academic integration	0.65	0.61	0.74
Academic incompatibility	0.55	0.59	0.62

A slightly modified version (modified for this research setting) of the Motivated Strategies for Learning Questionnaire (MSLQ) was employed. The MSLQ is a well-established and widely used tool in educational research. A Likert-type (1 = "not at all true of me", 7 = "very true of me") self-report instrument that assesses motivational orientations and self-regulated learning strategies, the MSLQ represents the culmination of several years of work in the mid eighties by Pintrich, Smith, Garcia, & McKeahcie (1991). The MSLQ has been demonstrated to be reliable and valid. Table 3 lists the reliability coefficients for the MSLQ.

Table 3. *Reliabilities of Scales in the MSLQ*

Scale	Subscale	Component	α
Motivation	value		
		intrinsic motivation	.74
		extrinsic motivation	.62
		task value	.90
	self-efficacy		
		control of learning beliefs	.68
		self-efficacy for learning & performance	.93
	test anxiety		.80
Learning Strategies	cognitive and metacognitive		
		Rehearsal	.69
		Elaboration	.76
		Organization	.64
		critical thinking	.80
		metacognitive self-regulation	.79
	resource management		
		time and study environment	.76
		effort regulation	.69
		peer learning	.76
		help seeking	.52

The reader is referred to Pintrich, Smith, Garcia, & McKeahcie (1991), Pintrich & Smith (1993), and Pintrich and Garcia (1995) for a detailed description of reliability and validity.

Design of the Study

Participants were grouped by format (online vs. face-to-face) and by DESP scores. These two groups represent the two independent variables. DESP scores were adjusted in the following manner. Descriptive statistics were run using SPSS©. Scores were divided into high and low using the median score for social integration (earlier referred to as the enrollment encouragement scale by Kember). Table 4 displays this data.

Table 4. *Descriptives from the DESP, N=184*

	Social Integration
mean	3.67
median	3.75
SD	.725
minimum	1.00
maximum	5.00

Consequently, students whose score was below 3.75 on social integration "low." Students whose social integration score was 3.75 or above were labeled "high."

The dependent variables for this study were the mean scores of selected motivational and learning strategy scores, from the MSLQ, based on their

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relationship to each other as reported in the literature. The motivational

constructs of intrinsic value, task value, and self-efficacy have been shown to

strongly correlate to such learning strategy constructs as elaboration,

organization, metacognitive strategy use, and those termed resource

management (Bandura, 1986, 1977; Eccles, 1983; Pintrich & De Groot, 1990;

Pintrich & Garcia, 1991; Schunk, 1911; VanZiele-Tamzen, 2001; Zimmerman,

1989, 2000.). Test anxiety has been shown to negatively correlate with learning

strategy use (Hill and Wigfield, 1984; Zimmerman, 1989; Tobias, 1985). For

these reasons, these eight constructs were measured in this study.

    The result is a 2 X 2 factorial design, social integration level X format, on

each of the eight selected MSLQ subcomponents. Table 5 represents the design

of the study.

Table 5. *Design of the Study*

	Course Format							
	Face-to-Face				Online			
Low social integration	IV	TV	SE	TA	IV	TV	SE	TA
	EL	ORG	MSR	RM	EL	ORG	MSR	RM
High social integration	IV	TV	SE	TA	IV	TV	SE	TA
	EL	ORG	MSR	RM	EL	ORG	MSR	RM

  Key: IV = intrinsic value; TV = task value; SE = self-efficacy; TA = test anxiety;
           EL=elaboration; ORG=organization; MSR = metacognitive self-regulation;
           RM = resource management

It is important to understand the structure of the table above. There are

two rows for social integration (low and high) and two columns for course format

(face-to-face and online). This matrix produces thirty-two mean scores, one for

each of the eight dependent variables in each of the two levels of both

independent variables (social integration score and course format). The

advantage of a factorial design is that not only can we see where students scores

on our eight dependent variables fall by format and by social integration level

(our two independent variables), we can also look at how scores are distributed

across both independent variables at the same time, i.e., face-to-face students

with low and high social integration, and online students with low and high social

integration. This way we can see how high and low social integration students

fair on motivation and learning strategies when studying face-to-face compared

to those who are studying online. And this is the very purpose of this study: to

see if the format in which older, part-time non-traditional students study Greek or

Hebrew (online vs. face-to-face), or their perception of how conducive their

environment is to study demands (social integration or external attribution),

impacts their motivational orientation and self-regulated learning strategy use.

Data Collection

Participants in this study (N=184) completed both the DESP and the

MSLQ. Answers were kept anonymous and were stored in a computer database

for retrieval. The DESP was emailed or given in class as soon as possible after

the one-third point of each course. This time was chosen in order to give sufficient time for obstacles related to study environment to present themselves and be perceived by the student. The MSLQ was given to students three to four weeks after the DESP. This time was chosen so as to not impose on the students with two instruments in rapid succession. One-hundred and twenty face-to-face students completed both surveys, and 64 online students completed both surveys. Upon termination of the study, the database containing the student answers was deleted and all paper records of the data were shredded.

Procedures

A good first step in any data analysis is to get a feel for the data by examining the characteristics and distribution of the properties of each variable (Howell, 1997; Huck, 2004; Newton & Rudestam, 1999). In a quantitative study this is accomplished by running descriptive statistics. This serves at least two purposes. First, it helps us "see" the data, to get more of a big picture of how the variables are actually distributed in the data, as opposed to how our theory and the research literature suggested they might be. A second, and perhaps more important reason to examine the characteristics and distribution of the properties of each variable in a quantitative study, is to see if the assumptions are met that underlie the inferential procedures I intend to employ in this study. First, then, we will discuss the frequencies and other descriptive qualities of the data collected in this study. From there, the study will proceed to the remaining procedures employed in this study.

Frequencies on Demographics

Using SPSS, frequencies and descriptives were run on the total corpus of data (N=184), with a specific eye toward what could be learned from the demographic data collected from the DESP. Several important issues emerged.

First, an examination of the frequencies and histograms revealed that the criterion "older, non-traditional students" (i.e., over 30) was problematic for the face-to-face sample. Of the 120 students in this sample, 79 (66%) were 30 or younger. The mean age of face-to-face students was 29.9 years, with a median of 27 years. The distribution was rather positively skewed (1.43 coefficient), with scores peaking at 24 years. This means that the distribution of age was not a normal distribution. This is not uncommon with non-random samples (Howell, 1997).

While the face-to-face mean age of 30 was not a surprise, the median of 27 was somewhat surprising; and the peak at 24 was quite surprising (12.5% of all students in this group). Indeed, 37.6% of the face-to-face students were 25 years of younger. The reader may recall from chapter one that The Association of Theological Schools in the United States and Canada (2003) reported that 72% of first-degree seminary students in the fall of 2001 were over 30 years of age. Yet with our face-to-face sample, only 41 (34%) students were 31 or order.

It became apparent, then, that the face-to-face sample in the current study was not characteristic of the overall age reported by seminaries in the U.S. and Canada. Furthermore, to exclude 66% of this sample would leave an N of only 42

for that group. Obviously, the age criterion set for this study would have to be reevaluated concerning the face-to-face sample. Perhaps the age criterion proposed herein (over 30) would work with a population that was more representative of the statistics released by The Association of Theological Schools in the United States and Canada.

Even more problematic was the age distribution of the online students. While this distribution was only slightly positively skewed (.545), with a mean age of 35.89 and a median of 35 (around the expected range), scores herein also peaked well left of the median—congregating around the range of 25 to 30 years, with the center of this peak at 26 (6.1% of all students in this group). Here again the data did not fit what was expected, given the number reported by The Association of Theological Schools in the United States and Canada (2003). In fact, 25 of the online students (39%) were 30 or younger—a larger percentage than the face-to-face group (34%). This was quite surprising, given the general tendency of distance students to be older. So this, too, presented a challenge to the demographic criteria for the present study. To exclude online students 30 and under (as was planned for this study) would yield an N of only 39.

It became apparent, then, that excluding students by the age criterion originally set in the study would have to be abandoned, since its result would be a total N of only 81 (42 face-to-face and 39 online)—too low for a 2x2 factorial design. Newton and Rudestam (1999) site a minimum recommended ratio of four-to-one subjects to variables for a factorial design. That would mean a

minimum of 32 online students per level of social integration (four students for each the eight MSLQ variables)—a minimum total N of 64 online students. In a similar vein, Howell (1997)—as well as Huck (2004)—states that a sample size of at least 30 may be needed for the means therein to approach a normal distribution, an important assumption of inferential statistics. I shall say more of this below. For now, the study continues with the examination of the demographic variables.

Another challenge to this study was encountered with the "part-time" criterion (working at least 15 hours per week). Descriptive statistics revealed that 29 of the face-to-face students (17%) worked less than 15 hours per week, as did 10 (16%) of the face-to-face students. Thus the author decided that both demographic criteria—over 30 years of age and working at least 15 hours per week—would have to be abandoned for this sample. The sample size would be too severely limited by these restrictions to yield any power for the study. The total sample, then (N=184), became the sample to be analyzed in the 2x2 factorial design, with 120 students in the face-to-face group and 64 in the online group.

Frequencies on the Dependent Variables

Frequencies on the dependent variables of the face-to-face group revealed that the distribution of all eight MSLQ constructs was normal (skew between −1 and +1; kurtosis between −2 and +2 [Huck, 2004]). For the online group, however, the distributions for intrinsic value, task value, and self-efficacy

were significantly skewed (-1.70 and 2.17, and 1.09 respectively). Moreover, the distributions for intrinsic value and task value were severely leptokurdic (4.79 and 6.11, respectively); and self-efficacy was slightly lepotkurdic (2.07). Thus, three of the variables for the MSLQ were not normally distributed in the online group. Given the small sample size (64), this is not a surprise. More will be said of this non-normal distribution below.

Test of Significance

Based on DESP scores of either high or low social integration, and based on course format (online or face-to-face), univariate 2 X 2 ANOVAs were run on the eight dependent variables: four motivational scores (intrinsic value, task value, self-efficacy, and test anxiety) and four learning strategy scores (meta-cognitive self-regulation, elaboration, organization, and resource management). Since comparison between two groups on multiple dependent variables inflates the risk of Type I error (Newton & Rudestam, 1999; Huck, 2004), a Bonferroni correction was employed. The result was an operational alpha level of .006 (.05/8).

Null Hypotheses

Hypothesis testing is the most common approach researchers use to compare means. Hypothesis testing involves using statistical procedures to infer any differences found in the study's sample to the "population"—i.e., to infer these differences to other seminary Greek and Hebrew students who meet the criteria set forth in a sample's study. For this study I seek to infer that any

differences I find between RTS Greek or Hebrew students studying online and in the classroom, at either of two levels of social integration (high or low), should apply to the entire number of seminary students studying Greek or Hebrew online with the same characteristics as those in the present study. In this study, the reader will recall that I hypothesized no difference between the motivation and learning strategies of seminary Greek or Hebrew students, based on either course format (online versus face-to-face) or based on level of social integration (high versus low).

A "no difference" hypothesis such as this is called a "null" hypothesis. The formula for a null hypothesis concerning two means is $H_0: \mu_1 = \mu_2$. The "0" subscript represents "null" hypothesis. The Greek letter μ refers to the mean score for variable x for everyone in the world (i.e., the population). And the subscripts (1 and 2) stand for other seminary Greek and Hebrew who meet the criteria set forth for group 1 and 2 in the sample. It is essential that we understand that null hypotheses refer to the population, and not to the sample used in a given study.

In this study, as with any 2x2 factorial design, there are three null hypotheses to be tested for each dependent variable. For the convenience of the reader, Table 5 is presented again below, to facilitate this discussion.

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Table 5. *Design of the Study*

	Course Format							
	Face-to-Face				Online			
Low social integration	IV	TV	SE	TA	IV	TV	SE	TA
	EL	ORG	MSR	RM	EL	ORG	MSR	RM
High social integration	IV	TV	SE	TA	IV	TV	SE	TA
	EL	ORG	MSR	RM	EL	ORG	MSR	RM

Key: IV = intrinsic value; TV = task value; SE = self-efficacy; TA = test anxiety; EL=elaboration; ORG=organization; MSR = metacognitive self-regulation; RM = resource management

The first null hypothesis (H_0: $\mu_1 = \mu_2$, or better yet H_0: $\mu_1 - \mu_2 = 0$) is called "main effect for rows." This test compares the mean of the two mean scores for a given dependent variable (IV, TV, etc.) in the top row to those in the bottom row. For example, we add the means score for IV in the face-to-face column to the mean score for IV in the online column and then divide by two. This mean (called a "marginal mean") for the "low social integration" row is compared to marginal mean of the IV scores for the two columns in the bottom row (high social integration). Thus our first null hypothesis states the marginal mean for the top row minus the marginal mean for the bottom row will equal zero (H_0: $\mu_{row1} - \mu_{row2} = 0$). This process is repeated for each of the other seven motivational (intrinsic value, task value, self-efficacy, and test anxiety) and learning strategy means (elaboration, organization, metacognitive self-regulation, and resource

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management)—a total of eight dependent variables in all, and a total of eight null hypotheses.

The second null hypothesis test is for the main effect for the two columns, i.e., face-to-face and online. This test looks for a significant difference between the marginal mean of face-to-face students with low and high social integration and the marginal mean of online students with low and high social integration (H_0: $\mu_{column1}-\mu_{column2}=0$).

The third null hypothesis to be tested (for interaction) is not for main effect means (i.e., the mean of two means), but for the actual difference between the mean scores themselves in each row and each column (cf. Table 5 above). In other words, this test looks for a significant difference between the mean scores themselves of a given dependent variable. The mean score for low social integration for face-to-face students is subtracted from the mean score for high social integration for face-to-face students. This difference is then subtracted from the difference between the mean score of low social integration for online students minus the mean score of high social integration for online students (H_0: $[\mu_{row1/column1}-\mu_{row2/column1}] - [\mu_{row1/column2}-\mu_{row2/column2}] = 0$, where "row" equals level of social integration and "column" equals course format). If this difference is anything other than zero, then there is an interaction. This interaction tells us if instructional format is related at all to high or low levels of social integration.

<u>Underlying Assumptions of Inferential Statistics</u>

One can imagine the implications of claiming that any differences found among 184 Greek or Hebrew students at a single seminary in the southern U.S., with a certain set of characteristics, apply to any other students with those same characteristics. Therefore, whenever statistical inferences are made concerning means from two groups using an ANOVA (F- test), four key assumptions must be met (Huck, 2004), in an attempt to reinforce the inferences. These assumptions are:

1. Each sample should be a random subset of the population it represents.

2. The scores should be independent of each other.

3. The dependent variable(s) should be normally distributed in both groups.

4. The variance on the dependent variable(s) should be approximately equal between the two groups.

The first of these assumptions is not-applicable in this study: the groups were not randomly assigned. Rather, they were already in place. Such a situation is common in the social sciences, and this assumption is commonly waived for quantitative studies. We must keep in mind, nonetheless, that this limits the generalizability of these findings, and indeed those of any study that uses convenience samples.

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The other three assumptions are more important concerning the validity of the statistical test to be performed. We may readily note that assumption two is met, since the students in the face-to-face courses and the online courses are independent of each other concerning their scores. The frequencies for the dependent variables from the MSLQ reveal that assumption three (normal distribution) is not met concerning three of the dependent variables (intrinsic value, task value, and self-efficacy); thus they are not normally distributed between the two groups. Again, with the relatively small sample size in the online group, this is not a total surprise.

Concerning assumption four (approximate equal variance in both groups), Levene's Test for Equality of Variance was not significant for any of the dependent variables: equal variance is assumed.

Let us summarize where this study stands, then, concerning the underlying assumptions of inferential statistics. First, assumption one (random samples) is not applicable for quasi-experimental research. Second, our samples are independent, so assumption two is met. As for the third assumption, the online group did not display a normal distribution on three of the dependent variables (intrinsic value, task value, and self-efficacy). Finally, Levene's test was not significant for any of the dependent variables: equal variance is assumed.

Conclusions

So where does all the above leave the present study? Howell (1997) states that ANOVA is a very robust procedure, and that assumptions—especially concerning normality—can be violated with relatively minor effects.

Some caution, however, is still warranted as we proceed. Any significant differences on the dependent variables that did not meet the assumptions above (intrinsic value, task value, and self-efficacy) should be interpreted with reservations. And extra caution is warranted concerning any interaction effects for these three dependent variables. Howell (1997) points out that with a factorial design unequal sample sizes may skew the results, since the row, column, and interaction effects are interrelated. We shall pay special attention, then, to these cautions as we discuss the results of the study.

CHAPTER IV

RESULTS

Hypotheses

This chapter is framed around the hypotheses proposed in the study. The reader will recall from chapter one that they were:

1. There will be no significant difference between the scores of Greek or Hebrew students on the three motivational components (expectancy, value, and affect) and the two components of self-regulated learning strategies (cognitive strategies and self-regulation), based on perceived level of fit (social integration).

2. There will be no significant difference between the scores of Greek or Hebrew students on the three motivational components (expectancy, value, and affect) and the two components of self-regulated learning strategies (cognitive strategies and self-regulation), based on course format (i.e., online vs. face-to-face).

3. There will be no significant difference in the combined effect (the interaction) of level of social integration and course format on the three motivational components (expectancy, value, and affect) and the two components of self-regulated learning strategies (cognitive strategies and self-regulation).

Once again, Table 5 is presented below for the convenience of the reader, to facilitate our examination of the study's three null hypotheses.

Table 5. *Design of the Study*

	Course Format							
	<u>Face-to-Face</u>				<u>Online</u>			
Low social integration	IV	TV	SE	TA	IV	TV	SE	TA
	EL	ORG	MSR	RM	EL	ORG	MSR	RM
High social integration	IV	TV	SE	TA	IV	TV	SE	TA
	EL	ORG	MSR	RM	EL	ORG	MSR	RM

Key: IV = intrinsic value; TV = task value; SE = self-efficacy; TA = test anxiety;
EL=elaboration; ORG=organization; MSR = metacognitive self-regulation;
RM = resource management

We shall now take these three hypotheses in order, dealing first with the motivational constructs and then the cognitive ones.

<u>Hypothesis One: The Main Effect Impact of Social Integration</u>

I hypothesized that there would be no significant difference on either motivation or self-regulated learning strategies, based on perceived level of social integration (high versus low).

<u>Social Integration and Motivation</u>

The mean scores and standard deviations for the four motivational constructs selected for this study are displayed in Table 6 below.

Table 6. *Means and Standard Deviations on Motivational Constructs (N=184)*

	Low Social Integration (N=91)	High Social Integration (N=93)
Construct	*Mean* (S.D.)	*Mean* (S.D.)
Intrinsic value	5.31 (1.04)	5.24 (1.02)
Task value	5.88 (.98)	5.81 (1.14)
Self-efficacy	5.37 (1.10)	5.28 (1.16)
Test anxiety	3.27 (1.36)	3.54 (1.34)

Six of the eight means fell between 5.28 and 5.88. Differences between these six means were small indeed. The two means for test anxiety fell between 3.0 and 4.0, and showed the biggest difference, with high social integration students scoring .27 higher. Univariate ANOVA (operational alpha level of .006) revealed no significant difference for any of these constructs, based on perceived level of fit (social integration). F-statistics were as follows (F-critical = 7.89): intrinsic value, F (1,180) = .871; task value, F (1,180) = .609; self-efficacy, F (1,180) = .372; and test anxiety F (1,180) = 2.95.

<u>Social Integration and Self-Regulated Learning Strategies</u>

The mean scores and standard deviations for the four self-regulated learning strategy constructs selected for this study are displayed in Table 7 below.

Table 7. *Means and Standard Deviations on Self-Regulated Learning*

Strategies (N=184)

	Low Social Integration (N=91)	High Social Integration (N=93)
Construct	*Mean* (S.D.)	*Mean* (S.D.)
Elaboration	4.53 (1.02)	4.67 (1.09)
Organization	4.44 (1.29)	4.73 (1.37)
Metacognitive Self-Regulation	4.49 (.76)	4.61 (.81)
Resource Management	4.69 (.78)	4.90 (.82)

All means fell between 4.0 and 5.0, with the lowest being organization for the low social integration group; the highest mean was for resource management in the high social integration group. Differences between these eight means were larger than those for the motivational constructs, with the largest difference being on organization, with high social integration students scoring .29 higher. Univariate ANOVA (operational alpha level of .006) revealed no significant difference for any cognitive constructs, based on perceived level of fit (social integration). F-statistics were as follows (F-critical = 7.89): elaboration, $F(1,180) = .342$; organization, $F(1,180) = .447$; metacognitive self-regulation, $F(1,180) = .730$; and resource management $F(1,180) = 2.28$.

<u>Conclusions</u>

We may conclude, then, that whether students scored low or high on social integration, their motivational and self-regulated learning strategies did not significantly differ. Thus the first null hypothesis is not rejected: there is no significant difference between scores of Greek or Hebrew students on the motivational components (intrinsic value, task value, self-efficacy, and test anxiety) or the self-regulated learning strategies (elaboration, organization, metacognitive self-regulation, and resource management), based on perceived level of fit (social integration).

<u>Hypothesis Two: The Main Effect Impact of Course Format</u>

Secondly, I hypothesized that there would be no significant difference on either motivation or self-regulated learning strategies, based on course format (face-to-face versus online).

<u>Course Format and Motivation</u>

The mean scores and standard deviations for the four motivational constructs selected for this study are displayed in Table 8 below.

Table 8. *Means and Standard Deviations on Motivational Constructs (N=184)*

	Face-to-Face (N=120)	Online (N=64)
Construct	*Mean* (S.D.)	*Mean* (S.D.)
Intrinsic value	5.13 (1.04)	5.55 (.96)
Task value	5.72 (1.08)	6.08 (.99)
Self-efficacy	5.15 (1.19)	5.66 (.92)
Test anxiety	3.55 (1.39)	3.13 (1.25)

Six of the eight means fell between 5.13 and 6.08. Differences between these six means varied. The greatest differences were for intrinsic value (.42) and self-efficacy (.51), with online students scoring higher on both. The two means for test anxiety fell between 3.0 and 3.5, with face-to-face students scoring .42 higher. Univariate ANOVA (operational alpha level of .006, F-critical = 7.89) revealed no significant difference for task value F (1,180) = 5.37; nor was test anxiety significant, F (1,180) = 4.75. Intrinsic value, F (1,180) = 7.89, p = .006, was on the threshold of significance. The only significant difference found for course format was on self-efficacy, F (1,180) = 8.93, p = .003. Self-efficacy refers to the question "Can I do this?", and refers to one's perceived ability to perform that task properly and effectively. Table 9 below presents the ANOVA results for self-efficacy.

Table 9. *ANOVA Results for Influence of Course Format on Self-Efficacy*

Source	*Df*	*SS*	*MS*	*F*	*P*
Social Integration	1	.458	.458	.372	.542
Format	**1**	**10.991**	**10.991**	**8.931**	**.003****
Interaction	1	.078	. 078	.063	.616
Error	180	221.510	1.231		
Total	183				

**p < .006

Course Format and Self-Regulated Learning Strategies

The mean scores and standard deviations for the four self-regulated learning strategy constructs selected for this study are displayed in Table 10 below.

Table 10. *Means and Standard Deviations on Self-Regulated Learning Strategies (N=184)*

	Face-to-Face (N=120)	Online (N=64)
Construct	*Mean* (S.D.)	*Mean* (S.D.)
Elaboration	4.49 (1.02)	4.79 (1.11)
Organization	4.34 (1.28)	5.04 (1.33)
Metacognitive Self-Regulation	4.39 (.82)	4.85 (.62)
Resource Management	4.78 (.85)	4.81 (.73)

All eight means fell between 4.34 and 5.04. Differences between these six means varied, with a minuscule difference for resource management. The greatest differences were for organization (.70) and metacognitive self-regulation (.46), with online students scoring higher on both. Univariate two-way ANOVA (operational alpha level of .006, F-critical = 7.89) revealed no significant difference for either elaboration (F [1,180] = 3.28) or resource management (F [1,180] = .023) . Organization (F [1,180] = 12.55, p = .001) and metacognitive self-regulation (F [1,180] = 14.53, p = .000) were significantly different. Organization is the arrangement of material covered, for the purpose of processing it and recalling it later; metacognitive self-regulation refers to strategies students use to plan, monitor, and regulate the way they process

material to be learned. Table 11 below presents the ANOVA table for organization and metacognitive self-regulation.

Table 11. *ANOVA Results for Influence of Course Format on Organization and Metacognitive Self-Regulation*

Source	df	SS	MS	F	P
Organization					
Social Integration	1	.737	.737	.447	.505
Format	**1**	**20.710**	**20.710**	**12.548**	**.001*****
Interaction	1	6.173	6.173	3.74	.0565
Error	180	297.085	1.65		
Total	183				
Metacognitive Self-Regulation					
Social Integration	1	.422	.422	.730	.394
Format	**1**	**8.401**	**8.401**	**14.530**	**.000*****
Interaction	1	.0144	.0144	.025	.875
Error	180	104.075	.578		
Total	183				

***p <.001

Conclusions

This research suggests, then, that the format in which students study may well impact their motivational orientation in terms of their self-efficacy ($p = .002$,

η_p^2 = .047, power .58). And given intrinsic value's being at the very margin of

significance (p = .006, η_p^2 = .042, power .51), format may impact this as well.

Format appears to also affect the self-regulated learning strategies of

organization (p = .001, η_p^2 = .065, power .78) and metacognitive self-regulation

(p = .000, η_p^2 = .075, power .85).

      Thus the second null hypothesis is to be rejected: there are some

significant differences between scores of Greek or Hebrew students on some

motivational components and self-regulated learning strategies, based on the

format in which students study.

Hypothesis Three: The Interaction of Social Integration and Course Format

      Finally I hypothesized that there would be no significant interactions on

motivation or learning strategies, based on the combined levels of social

integration and course format. In other words, students who report a given level

of social integration (e.g., low) will not be significantly more or less motivated

based on whether they study in the classroom or online. Likewise, students

studying in a given format (e.g., online) will not be significantly more or less

motivated based on their level of social integration.

      The cell mean scores and differences for all eight constructs selected for

this study are displayed in Table 12 below.

Table 12. *Cell Mean Differences for Interaction Effect (N=184)*

	Face-to-Face (N=120)	Online (N=64)	
Construct	*Marginal Mean*	*Marginal Mean*	*Difference*
Intrinsic value	.01	.31	.30
Task value	.003	.25	.247
Self-efficacy	.15	.06	.09
Test anxiety	.17	.58	.41
Elaboration	.19	.002	.188
Organization	.52	.25	.27
Metacognitive Self-Regulation	.08	.12	.04
Resource Management	.25	.13	.12

Whenever these differences do not equal zero, interaction exists, meaning that the combination of social integration and course format did have some impact on the constructs above. However, none of the differences exceeded .30, meaning that all of them were relatively minor. Indeed, were the two lines representing metacognitive self-regulation to be graphed, they would be nearly parallel (.04); the same would be true of self-efficacy.   Since, however, there is some difference in these means, these lines would at some point intersect. Thus there is interaction for these two variables, as well as for the other six.

The Interaction and Motivation

Univariate ANOVA (operational alpha level of .006) revealed no significant difference for any of the interaction terms on motivation. F-statistics were as follows (F-critical = 7.89): intrinsic value, $F(1,180)$ = .973; task value, $F(1,180)$ = .640; self-efficacy, $F(1,180)$ = .063; and test anxiety $F(1,180)$ = .748.

The Interaction and Self-Regulated Learning Strategies

Nor did univariate ANOVA (operational alpha level of .006) reveal any significant difference for any interaction terms on learning strategies. F-statistics were as follows (F-critical = 7.89): elaboration, $F(1,180)$ = . 332; organization, $F(1,180)$ = 3.74; metacognitive self-regulation, $F(1,180)$ = .025; and resource management $F(1,180)$ = .196.

Conclusions

We may conclude, then, that student levels of social integration did not significantly interact with course format on any of the dependent variables. I therefore fail to reject the third null hypothesis (interaction).

Summary

The analyses led me to reject the second null hypothesis (main effect for course format). At the operational level of .006 there were significant differences for the motivational construct of self-efficacy (p = .002), and for the self-regulated learning strategy constructs of organization (p = .002) and metacognitive self-regulation (p = .000). It is worth noting that, had I not opted for the Bonferroni

adjustment, intrinsic value (p = .006) would be highly significant at the more commonly used alpha level of .05. Also, had I not made the Bonferroni adjustment, task value (p = .022) would also be significant at the .05 level.

The analyses lead me to fail to reject the first and third null hypotheses. At the operational level of .006 no significant differences emerged on any dependent variables for either the main effect of social integration or for the interaction of social integration level and course format.

The final questions one should ask after analysis relate to the "so what" of one's findings. What are their implications? What, if anything, should be done based on these findings? Such topics as these occupy the final chapter.

CHAPTER V

CONCLUSIONS

Summary

Given the boom in distance education over the past decade—especially with Internet courses, and given the higher rates of dropout reported in distance courses, this study to sought explore some of the issues behind a student's decision to continue or drop out of an online course. In particular, I sought to study older, non-traditional part-time students studying Greek or Hebrew online at the seminary level.

Viewing course persistence issues as motivational in nature, I argued that how one approaches the learning process and how one thinks and feels about learning give an indication of some of the antecedents to dropout or persistence decisions. Thus I set this study within a combined framework of Kember's Student Progress Model (sense of fit) and the social cognitive theory of motivation. Research suggests that a student develops a sense of fit through the process of his or her interactions with the institution, at both a social and an academic level (called "social" and "academic" integration). This process of interactions, it is argued, leads to persistence or dropout decisions.

This study, then, proposed a link between student perception of fit and the social cognitive theory of motivation. In particular, this study proposed some

overlap between the process of interactions that result in one's sense of fit and the triadic reciprocality concept of the social cognitive theory of motivation—and with its key, dominate construct of self-efficacy. I posited, then, that so long as older non-traditional part-time students—who are juggling multiple life roles—sensed a fit between their lives and their studies (as indicated by Kember's social integration scale), they would be equally motivated to study—no matter in which format they study (online or face-to-face); moreover, they would exhibit equally effective learning strategies—no matter in which format they study (online or face-to-face). And I used Kember's DESP instrument and the MSLQ to measure these constructs.

The data collected from this convenience sample (N=184) did not meet the criteria originally proposed for the study, i.e., students over 30 years of age who work at least 15 hours per week. Descriptive statistics demonstrated that excluding students by this age criterion would result in cells with too low an N for a 2x2 factorial design. Moreover, descriptive statistics revealed that excluding students who worked less than 15 hours per week would also diminish the cells to an unacceptable size. The total sample, then (N=184), became the sample to be analyzed in this 2x2 factorial design, with 120 students in the face-to-face group and 64 in the online group.

Findings Concerning Hypothesis One

The essence of hypothesis one concerned the impact of social integration on motivational orientation and learning strategy use. Contrary to what I argued

for in chapter two, there was no difference in the motivational orientation and learning strategy use of Greek or Hebrew students in this study based on level of social integration (low versus high). This means that how well students in this study felt that they were carving out a niche for study in the midst of preexisting work, family, and social commitments had no statistically significant effect on the value they placed on the course, their ability beliefs concerning success in the course, or their emotional state while taking the course. Nor did it significantly affect how they processed course material, monitored their progress, or managed their learning environment and resources.

What does one make of this? First, it is clear that using the median score on social integration (3.75) to dichotomize high versus low did not skew the findings. Even though students who scored in a mid range on social integration, i.e., those who did not particularly feel that they were or were not integrating, were forced into "high" or "low," bivariate correlations (Pearson's product-moment) yielded no significant relationship between social integration as a continuous variable and either intrinsic value, self-efficacy, organization, or metacognitive self-regulation.

One possible reason for social integration's not being a factor may be the demographics of the sample. The reader will recall that 34% of face-to-face students and 39% of the online students were under 30. Moreover, 17% of the 34% of face-to-face students and 11% of the online students worked less than 15 hours per week. The reader is reminded that Kember's model assumes that the

students are adults with significant commitments to work, and that the role of student is a new one that must be assimilated into existing and ongoing prior commitments. The younger age and lower weekly work commitment of some of the students in this sample may have affected the applicability of Kember's model to the present study.

Another possible reason for social integration's not being a factor may be Kember's DESP. The theoretical validity of Kember's model may be compromised somewhat by the psychometric properties of the DESP. The reader will recall from chapter three that the DESP has not been widely used, so its reliability remains to be demonstrated. Its validity also remains to be proven. The reliability coefficients for Kember's social integration scale ranged from the high sixties to mid seventies (Kember's 1995; Woodley, de Lange, and Tanewski (2001). Minimum levels of acceptable reliability coefficients vary, depending on the stage of research. Nunnally (1978) argued that coefficients around 0.60 are allowable early on in research, but that .70 and above are needed when comparing group differences.

Another possible explanation for the lack of social integration's impact on motivation in this study may be the differences between what Kember's social integration scale measures and what is measured by the MSLQ—particularly concerning self-efficacy, the key construct in social cognitive theory. Social integration is primarily environmental in nature: its sources stem from the support one perceives to get from one's family, friends, and employer. While these

external sources of encouragement do partly contribute to self-efficacy, self-efficacy finds its major source in enactive mastery experience with the task at hand (Bandura, 1997). It may be that both face-to-face and online students were having similar levels of success in their respective courses, and thus increased self-efficacy through this. As a result, the external forces of family, friends, and employer did not exert significant influence on their motivation. In other words, whether or not students felt they were juggling all their responsibilities was not as important as the actual success they were having at Greek or Hebrew (enactive mastery experience), and the positive effects these successes were exerting on all students' self-efficacy.

Before we leave hypothesis one, it is noteworthy that breaking down the social integration scores into low, mid, and high (< 2.34, 2.35-2.66, > 2.66)—as originally planned—revealed that only six percent (7 of 120) of face-to-face students and only six percent (4 of 64) of the online students scored "low" on social integration. The percentage of mid-scoring students among the face-to-face group was 42% (50 of 120), while 34% of online group (22 of 64) scored in the mid range. Finally, 55% of all students (101 of 184) scored "high" on social integration (63 face-to-face students and 38 online students). We may conclude, then, that the majority of Greek and Hebrew students in this sample sensed a good fit between themselves and study demands—irrespective of course format.

In summary, there was no significant difference between the motivation and learning strategies of Greek and Hebrew students in this study, based on

social integration level. While Kember's social integration construct and the social

cognitive theory of motivation may overlap (i.e., they both measure personal

beliefs and environmental influences), the results of this study leave open the

question of whether or not Kember's DESP measures constructs that significantly

impact student motivational orientation and learning strategies. As was noted

above, bivariate correlations yielded no significant relationship between social

integration as a continuous variable and either intrinsic value, self-efficacy,

organization, or metacognitive self-regulation. This may have been due to the

psychometric properties of the DESP, the difference between what the DESP

measures and the constructs measured by the MSLQ, or some combination of

these.

Findings Concerning Hypothesis Two

Hypothesis two proposed that course format would not be a factor in

motivational orientation and learning strategy use. Again, contrary to what I

expected, there were a few significant differences. While the analyses showed no

significant differences between online and face-to-face students in most

motivational and learning strategy constructs, there was a significant difference in

self-efficacy based on course format: online students scored higher (p = .002)

than face-to-face students. Intrinsic value was on the verge of significance (p =

.006), again with online students scoring higher. Online students also reported

higher levels of two learning strategies (organization [$p = .001$] and metacognitive

self-regulation [$p = .000$]). What might account for these outcomes?

First, the age difference between the two groups is informative. The

reader will recall from chapter three that the mean age of the face-to-face group

was 29.9 years, while the mean age of the online group was 35.9. Bivariate

correlations (Pearson's product-moment) between age as a continuous variable

and intrinsic value yielded a significant relationship ($r = .165$, $p < .05$). Thus the

older a student is, the more he or she values Greek or Hebrew for its own sake.

Age difference alone, then, may account for online students having higher

intrinsic value ($p = .006$) than their classroom counterparts.

The higher intrinsic value of online students may well account for their

higher scores on self-efficacy, as well as their higher scores in the self-regulated

learning strategies of organization and meta-cognitive self-regulation. Ample

research suggests a strong link between all of these (Dweck & Leggett, 1988;

Feather, 1988; Pintrich & De Groot, 1990; Pintrich & Garcia, 1991; Pintrich &

Schunk, 1996). Indeed, the reader may recall from chapter two that a circular

relationship between self-regulation and motivational beliefs has been posited

(Borkowski, Carr, and Pressley, 1987; Entwistle, 1988; Zimmerman, 1989).

Higher intrinsic value and self-efficacy for older students would be in line with

some adult education principles (Brookfield, 1986; Cross, 1981; Knowles, 1980).

According to these theorists, among several commonalities adults bring to study

are a wide range of experience, purposeful and pragmatic goals, their being in social roles that make them ready to learn, and their voluntary participation due to their intrinsic value of learning.

Another reason that may account for higher self-efficacy among online students may be the flexibility afforded them by the online courses. Feeling in control of one's learning is posited as an important factor in motivation (Bandura, 1986). Student expectations for success may well be raised by the fact that they can start the course any time they wish, take exams or quizzes whenever they wish, and have six months to finish the course. And given that self-efficacy is argued to be the pivotal construct which impacts all others (Bandura, 1997), it was no surprise to find that online students were higher on some learning strategies (organization and metacognitive self-regulation).

Before we leave hypothesis two, it is noteworthy that while there was a difference by course format in self efficacy, intrinsic value, organization, and metacognitive self-regulation—quite possibly related to the age difference of the two groups—students in both formats scored quite high in these constructs. Both groups averaged over 5 (out of 7) on self-efficacy and intrinsic value, and over 4.25 on organization, and metacognitive self-regulation. This indicates that both instructional formats worked quite well, and that students in either format were highly motivated and employed effective learning strategies.

To summarize the findings concerning hypothesis two, online students scored higher on self-efficacy, intrinsic value, organization, and metacognitive

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learning strategies than did face-to-face students. The age difference between

the two groups (mean of six years) may help explain the online students' higher

intrinsic value. And intrinsic value's link to self-efficacy may shed light on its

being higher among online students as well. Adult learning theory supports these

differences. Moreover, the possibility that the flexibility online students enjoy may

raise their self-efficacy is supported by the social cognitive theory of motivation.

Thus, to the extent that students have control over their tasks and experience

repeated success, then their efficacy increases.

<u>Findings Concerning Hypothesis Three</u>

Hypothesis three dealt with the effect of the combination of social

integration level and course format. My theoretical framework argued against any

interaction. My thesis was that low social integration students would be low in

motivation and learning strategy use, and that high social integration students

would be high in motivation and learning strategy use. And I argued this would be

irrespective of course format. As it turns out, there was no significant interaction

between level of social integration and course format. This was most likely due to

the high levels of self-efficacy and intrinsic value of students in both course

formats. Students who were more efficacious and valued Greek and Hebrew

more were more motivated on some levels, and employed more effective

organization and metacognitive self-regulation—just as previous research has

suggested.

So then, what does one make of these findings? What is the practical significance of discovering that the format in which students study Greek or Hebrew makes at least some difference in their motivational orientation and their employment of self-regulated learning strategies? And what conclusions can we draw from the finding that students in both formats scored high on intrinsic value, self-efficacy, and some attendant learning strategies? Finally, what might we learn from the finding that only 11 of 184 students in this study scored "low" on social integration? The findings of this study are timely and relevant from several theoretical perspectives, and from a higher education policy perspective.

Theory

First, the findings of this study are timely and relevant for the field of online education. Research into the effectiveness of online education is relatively new, and has mostly centered on achievement or persistence in online courses. Little has been done with respect to factors lying behind achievement and persistence or comparing online students and classroom students on motivational issues. This study is among the earliest to suggest that online students may be more motivated and employ more effective learning strategies than in-class students. We must keep in mind, however, the age difference (average of six years) between the two groups, and entertain the possibility that this is a factor. The students' having self-selected into one group or the other, based on age and

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other demographics or personal preferences—such as self-efficacy or intrinsic value, is also a factor to bear in mind.

Second, this study is timely and relevant for the field of adult education. Much of what little research that has been done in motivation in distance education has focused on undergraduates. By focusing on graduate students, this study makes a small contribution to knowledge about graduate students and how their multiple roles may affect their motivation and learning, and that course format—in and of itself—may indeed be a factor in their motivation and learning.

Thirdly, this study is timely and relevant on several fronts concerning Kember's Model of Student Progress (1995). First, Kember used his model to measure course completion rates—as did Woodley, de Lange, and Tanewski (2001). Thompson (1999) used Kember's model to predict dropout from one particular course. This study was perhaps the first to seek to combine Kember's model with motivational theory, to help us understand some of what lies behind the internal processes that lead to dropout or persistence decisions.

In particular, I sought to examine whether students' sense of fit between their lives and their studies (as indicated by Kember's social integration scale) impacted their motivational orientation and self-regulated learning strategies, as measured by the MSLQ. While no relationship emerged between level of social integration and motivation, the link between Kember's social integration construct and the social cognitive theory of motivation remains plausible. Since only 11 of 184 students were low on social integration, and 101 were high, we may

entertain the possibility that these 101 students (plus those at the high end of the "mid" range on social integration) did, in fact, sense a fit between their studies and their lives, and that this is related to their high motivation and learning strategy use. The fact that older students (i.e., the online group) were more motivated and utilized more effective learning strategies does not rule out the possibility that sensing a fit increases one's motivation. Indeed, Kember (1995) argues that students who socially integrate are more intrinsically motivated. He also contends that they approach their studies with a more positive attitude, and recognize that they are responsible for their learning (expectancy and control beliefs). And finally, Kember maintains that these traits lead to academic integration, i.e., successfully meeting study demands.

Finally, this study is timely and relevant concerning the social-cognitive theory of motivation. Very little research has been done in distance education that has been grounded in motivational theory. The social cognitive theory of motivation provides a framework for studying some of what lies the behind persistence or achievement of graduate students, constructs such as: beliefs about the value of the course and their chances for success, test anxiety, how they approach learning, and even how they monitor their own progress and take corrective actions. And these findings suggest that online seminary Greek and Hebrew students are at least slightly more motivated and employ effective learning strategies slightly more than do face-to-face students. Both groups, however, were quite motivated to study Greek or Hebrew.

We must take this finding with caution, for several reasons. First, we must keep in mind the age difference of the students in the two groups and the sharp distinction between the flexibility allowed the students in the two formats. We should also keep in mind that self-efficacy and intrinsic value were not normally distributed among the online group, as noted in chapter three. Finally, we should keep in mind the nature of theological seminary students, as regards their religious vocation and any concomitant value they may place on their studies.

Policy and Practice

This study is both timely and relevant for theological seminary stakeholders, and has possible applications to distance education policy and practice in general. First, as schools continue to face decisions about funding distance education, and committing faculty and staff time to distance courses, these findings suggest that course format alone may be at least a small factor in the motivation and learning strategies of older students: online students can—in some situations—be more motivated than face-to-face students. Therefore, stakeholders should give online courses due consideration. At the same time, other issues that possibly affect persistence merit serious inquiry, such as how a course is designed, delivered, or supported—as well as a host of issues that lie at the core of distance education (Keegan, 1986; Moore and Kearsley, 2005).

Another possible application emerges from findings of this study concerning the target audience of distance courses. These findings suggest that

online courses may be better suited for older students—as opposed to those right out of college.

Still another application of this study's findings is that allowing older students with family commitments some flexibility in enrollment times, due dates for exams, and course end periods may possibly be contribute to higher student self-efficacy. One could argue that both formats should be an option for all courses, thus allowing students to choose for themselves the format which "fits" them best. Indeed, this seems to be what happened in the present study. There were only minor differences in the motivation and learning strategies of students in the two formats; students seem to have selected the format that was the best fit for them, and both groups scored quite high on motivation and learning strategy use.

These findings may be applicable beyond theological seminaries as well, given that national statistics show that 23% of graduate or first-professional degree students are over 40, and 80% are working (NCES, 2003). Perhaps graduate school stakeholders in general can benefit from such a study as well, since they face similar decisions about committing resources to distance education.

Effect Size and Power

Before we leave our discussion of this study's findings and their implications, a brief discussion is in order concerning the magnitude of any differences found. When we say a finding is "statistically significant," all we are

saying is that the difference between the means in this study are bigger than the inferential procedures indicate it should be by mere chance. In other words, the difference is argued to be due to the influence of the independent variable(s). As Hays (1993) notes, a result that is significant means that this result is unlikely— given the hypothetical situation of this study; and it means nothing more.

How big a difference may be, or how strong its impact is, can be measured by *effect size.* Effect size is the strength of a relationship between two or more variables (Newton & Rudestam, 1999). For an F-test, effect size can be computed using partial eta squared (η_p^2). The effect sizes for the significant differences in the present study were as follows: self-efficacy ($\eta_p^2 = .047$ [$p = .002$]); organization ($\eta_p^2 = .065$ [$p = .001$]); and metacognitive self-regulation ($\eta_p^2 = .075$ [$p = .000,$]).

One might next ask how big of an effect size is relevant. If prior research exists in a field, a relevant effect size may be obtained from the literature. In research of a more exploratory nature, one may use preset, conventional effect sizes. For an F-test with eta squared, Cohen (1977) suggests .10 for a small effect size, .25 for medium, and .40 for large. Most researchers opt for a medium effect size (Newton & Rudestam, 1999) in exploratory research, thereby assuring that they are noting a difference big enough to matter, but not so big as to be

obvious. The effect sizes in this study were very small indeed: none had partial eta squared above .10.

A final word about the magnitude of any differences found relates to the *power* of a given experiment. Power measures one's chances of failing to reject false null hypothesis (i.e., one's chances of committing a Type II error). In other words, researchers commit a Type II error when they fail to recognize a difference on the dependent variable(s) among the population (all subjects out there who meet the criteria used to determine this particular sample), when such a difference actually exists. The minimum acceptable power level normally used in the social sciences is .80. While the power for intrinsic value and self-efficacy was low (.51 and .58, respectively), power for organization approached an acceptable level (.78), and power for metacognitive self-regulation exceeded it (.85).

We may conclude, then, that this study revealed small differences on a few constructs related to motivation and learning strategies, and that our ability to find the difference in organization and metacognitive self-regulation was sufficiently powerful. While these differences were statistically small, this should not minimize the import of the study's findings: online Greek and Hebrew students were significantly more motivated than face-to-face students, and employed significantly more effective learning strategies. It is also important to note that both groups of students were highly motivated to study Greek and Hebrew. This indicates that offering Greek and Hebrew online can be at least as

effective at maintaining student motivation and promoting effective learning

strategy use as is the traditional classroom. And given motivation's link to task

persistence (Bandura, 1997; Schunk, 1984, 1991; Zimmerman, 2000), these

findings suggest that online courses may not be—in and of themselves—

hindrances to student persistence.

<u>Limitations of the Study</u>

This ex-post facto study faced inevitable limitations. One is the nature of

ex-post facto research (Gay, 1996). Such a design compares differences

between existing, non-random, self-selected groups on some variable and offers

a possible reason behind any difference or lack thereof. Any differences,

however, have already occurred—as have any effects these differences might

have on the dependent variables. Moreover, in an ex-post facto study the

researcher cannot manipulate the independent variables. The level of social

integration already existed, as did course format (online versus face-to-face).

This violates one of the assumptions underlying the significance tests employed

in this study (F-test), and therefore may skew the impact of the independent

variables (level of social integration and course format), which in turn may limit

the applicability of this study to other groups of students.

Other limitations in this study include the reliability and validity of Kember's

Distance Education Student Progress (DESP) inventory, confounding variables,

and the size of the online sample. Since I already addressed the challenges of

the DESP above, I shall only address confounding variables and the sample.

<u>Confounding Variables</u>

There are several confounding variables in this study. The first of these is the instructor. The writer is the instructor for the four online courses (two Greek courses and two Hebrew courses). A different instructor taught each of the seven face-to-face Greek and Hebrew courses. So there were eleven different courses with seven different instructors. The degree to which different instructors effect the motivation of their students may have skewed the data in this study.

A second confounding variable is course length. The face-to-face students have 16 weeks to finish the course, while the online students have 25 weeks. (Some online students finish in 16 weeks, but they do not have to do so.) The effects of course length on motivation and learning strategies are not accounted for in this study.

A third confounding variable is curriculum. While all Greek courses use the same textbook, Hebrew courses do not. The face-to-face Hebrew courses use different texts than the online Hebrew course. Material covered also differs between the various courses. Since the online students have more time to complete the course, they are responsible for more material than the face-to-face students. Finally, differences in exams represent a difference between the courses. The exams are different for the online students than for the face-to-face students. The online students' exams generally cover more material and go more in depth.

A fourth confounding variable is demographics. The online students to averaged six years older than the face-to-face students. Online students are generally taking only one or two courses, while the face-to-face students are generally taking four or more courses at a time. And online students are working an average of 35 hours per week, while face-to-face students worked an average of 23 hours per week.

Finally, the issue of whether or not Greek or Hebrew is required for the participants in this study may be a confounding variable. Given, however, the high intrinsic value reported by students in both formats, this remains to be seen.

<u>Online Sample Size</u>

A final and obviously important limitation of this study is the size of the online sample. The online group (N=64) was smaller than desirable for a 2x2 factorial design. The reader will recall from chapter three that Newton and Rudestam (1999) site a minimum recommended ratio of four-to-one subjects to variables for a factorial design. Ideally, then, I would want at least 32 students in each cell (eight dependent variables x four); I had only 29 in the low-social integration / online group. The reader will also recall Howell (1997) states—as does Huck (2004)—that a sample size of at least 30 may be needed for the means therein to approach a normal distribution, an important assumption of inferential statistics. The reader should keep in mind that the dependent variables of intrinsic value and self-efficacy were not normally distributed among the online group—perhaps a result of the small sample size. And while this is a violation of

an assumption underlying an F-test, ANOVA is robust against violations of normality (Howell, 1977; Huck, 2004).

<u>Generalizability of the Study</u>

This study revealed small differences in the self-efficacy, organization, and metacognitive self-regulation of Greek and Hebrew students in this sample, based on course format. The study also found that students in both formats scored high on social integration, motivation, and learning strategy use. How applicable might these findings be to other Greek and Hebrew students with similar characteristics?

There are several issues concerning the generalizability of this study. First, studies involving existing groups (ex post facto studies) have limitations (Gay, 1996), as noted above. Since the independent variable has already occurred, and cannot manipulated, there is no real "experimental" control in the research. This merits caution. Any "cause" suggested may only be one of several causes, or may in fact be the effect—and not the cause. We simply cannot know for sure which variable "causes" the other, since we cannot know which comes first.

In addition to the design of this study, there are several other limitations to its generalizability to other areas of distance education. First, this sample represents only one population of Greek and Hebrew students in one theological institution, with its own particular ethos. A study that measured these constructs across several theological institutions would be more widely applicable. The

small size of the online group (64) also limits the generalizability of the results. Secondly, it is possible that theological seminary students who are preparing themselves for ministry may be more naturally intrinsically motivated, due to their sense of vocation. Consequently, similar levels of intrinsic value may not emerge outside of theological education or other professions where one sense a deep "call" to service.

Another limitation is that this study only measures Greek and Hebrew students. Foreign language study is an entity all its own, and it is unknown how these results would apply to other seminary courses, or other distance graduate courses.

Despite the limits on the generalizability of the study, it is nonetheless a useful one. It represents a real-life comparison of an educational setting that is similar to many seminaries or departments within universities, where various groups of students are taking similar classes in a variety of formats and settings.

Directions for Future Research

There are several ways this study could be extended, which would possibly contribute further to the question of motivation and learning strategy use of seminary or graduate students studying at a distance. Several are related to the confounding variables in this study. For example, a study that could compare students studying online and in the classroom under the same instructors, using the same texts and exams, would control for instructor effects on student motivation. Another useful study would be one where both online students and

classroom students had to finish the course in the same amount of time. While this would put some limit on the flexibility afforded the online students, they could still have the freedom of starting the course whenever they wish, and turning in assignments and taking tests on their own schedule. And, of course, accounting for whether or not Greek or Hebrew were required for the participants may shed further light on the issue.

Another option for extending this study would be to obtain a much larger N. Perhaps someone could conduct a study under the auspices of the Association of Theological Schools, with online and classroom Greek and Hebrew students from several or many ATS affiliated schools. Either of these scenarios should yield a much larger N, and thus enable the researcher to use the criteria originally posited for this study (over 30 years or age; working at least 15 hours per week; and exclude students who score in the mid range on social integration). A larger N would possibly also produce an online group that was more normally distributed on all dependent variables.

Not only would a replication of this study be useful in theological seminaries, but a similar study in graduate and professional programs or courses in secular institutions would be informative. Comparing online versus face-to-face students on fit, motivational orientation, and learning strategies may shed some light on the possible impact of religious vocation upon the motivation of students in this study.

Another useful follow up to the present study might be a qualitative study, interviewing students from both formats and levels of social integration, in an attempt to understand what factors they perceive to affect their motivation, and what role, if any, the classroom plays in it.

A final option that could strengthen this study would be to locate some other instrument with higher reliability coefficients than the DESP, to measure the social integration / fit concept, or some similar construct.

REFERENCES

Ames, C., & Archer, J. (1988). Achievement goals in the classroom: Students' learning strategies and motivational processes. Journal of Educational Psychology, 80, 260-267.

Association of Theological Schools of the United States and Canada. (2003) The Factbook on Theological Education. Pittsburgh. [On-line].Available: http://www.ats.edu/download/factbook/factbook.pdf

Baker's guide to Christian distance education. (2006). [On-line]. Available: http://www.bakersguide.com/.

Bandura, A. (1977). Social learning theory. Englewood Cliffs, NJ: Prentice Hall.

Bandura, A. (1986). Social foundations of thought and action: A social cognitive theory. Englewood Cliffs, NJ: Prentice Hall.

Bandura, A. (1997). Self-efficacy: The exercise of control. New York: William Freeman and Company.

Bean, J., & Metzner, B. (1985). A conceptual model of nontraditional undergraduate student attrition. Review of Educational Research, 55, 485-650.

Bembenutty, H., McKeachie, W., Karabenic, S. A., & Lin, Y. (1998). The relationship between test anxiety and self-regulation students' motivation and learning. Paper presented at the Annual Meeting of the American Psychological Society. (ERIC Document Reproduction Service No. ED 424244)

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Bergin, D. A. (1995). Effects of a mastery versus competitive motivation situation on learning. <u>Journal of Experimental Education, 63</u>(4), 303-315.

Bird, J., & Morgan, C. (2003). Adults contemplating university study at a distance: Issues, themes and concerns. <u>International Review of Research in Open and Distance Learning</u>, 14(1). [On-line]. Available: http://www.irrodl.org/-content/v4.1/bird_morgan.html

Bludnicki, M. (1998) Supporting virtual learning for adult students. <u>T.H.E. Journal, 25</u>(11), 73-75.

Brookfield, S. D. (1986). <u>Understanding and facilitating adult learning</u>. San Francisco: Jossey-Bass.

Bures, E. M., Amundsen, C. L., & Abrami, P. C. (2002). Motivation to learn via computer conferencing: Exploring how task-specific motivation and CC expectations are related to student acceptance of learning via CC. <u>Journal of Educational Computing Research, 27</u>(3), 249-264.

Cabrera, A. F., Castañeda, M. B., Nora, A., and Hengstler, D. (1992). The convergence between two theories of college persistence. <u>Journal of Higher Education, 63</u>(2), 143-164.

Carr, S. (2000, February 11). As distance education comes of age, the challenge is keeping the students. <u>The Chronicle of Higher Education</u>, A39-A41.

Care, W. D. (1995, January<u>). Helping students to persist in a distance education program: The role of the teacher.</u> Paper presented to the Faculty of Nursing, University of Manitoba, Winnipeg, Manitoba. (ERIC Document Reproduction Service No. ED 389855)

Chalupa, M., Chen, C., & Charles, T. (2001). An analysis of college students' motivation and learning strategies in computer courses: A cognitive view. The Delta Pi Epsilon Journal, 43(4), 185-199.

Chyung, Y., Winiecki, D. J., & Fenner, J. A. (1998). A case study: Increase enrollment by reducing dropout rates in adult distance education. In Proceedings of the 14th Annual Conference on Distance Education Teaching and Learning (pp. 333-338). Madison, WI: University of Wisconsin.

Cohen, J. (1988). Statistical power analysis for the behavioral sciences (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum.

Cross, K. P. (1981). Adults as learners: Increasing participation and facilitating learning. San Francisco: Jossey-Bass.

Durkheim, E. (1961). Suicide (Spaulding, J., & Simpson, G. Trans.). Glencoe: The Free Press.

Dweck, C. S., & Leggett, E. L. (1988). A social-cognitive approach to motivation and personality. Psychological Review, 95, 256-273.

Eccles (Parsons), J., Adler, T. F., Futterman, R., Goff, S. B., Kaczala, C. M., Meece, J. L., & Midgely, C. (1983). Expectancies, values, and academic behaviors. In J. T. Spence (Ed.), Achievement and achievement motivation (pp. 75-146). San Francisco: W. H. Freedman.

Elliott, E. S. & Dweck, E. S. (1988). Goals: An approach to motivation and achievement. Journal of Personality and Social Psychology, 54, 5-12.

Essex, C., & Cagiltay, K. (2001). Evaluating an online course: Feedback from "distressed" students. Quarterly Review of Distance Education 2(3), 233-239.

Fairchild, E. E. (2003). Multiple Roles of Adult Learners. <u>New directions for student services, 102</u>, 11-16.

Feather, N. T. (1988). Values, valences, and course enrollment: Testing the role of personal values within an expectancy-value framework. <u>Journal of Educational Psychology, 80</u>, 381-391.

Fjortoft, N. (1995, October). <u>Predicting Persistence in Distance Learning Programs</u>. Paper presented at the Mid-Western Educational Research Meeting, Chicago, IL.

Galusha, J. M. (1997). Barriers to learning in distance education. <u>Interpersonal Computing and Technology 5</u>(3-4), 6-14.

Garcia, T. and Pintrich, P. R. (1995, April). <u>Assessing students' motivation and learning strategies: The Motivated Strategies for Learning Questionnaire</u>. Paper presented at the American Educational Research Association, San Francisco.

Garland, M. R. (1993). Student perceptions of the situational, institutional, dispositional, and epistemological barriers to persistence. <u>Distance Education 14</u>(2), 181-198.

Gay, L. R. (1996). <u>Educational research: Competencies for analysis and application</u>. (5th ed.). Upper Saddle River, NJ: Prentiss-Hall, Inc.

Gross, T. F. (1990). General test and state anxiety in real anxiety: State is not test anxiety. <u>Educational research quarterly, 14(3)</u>, 11-20.

Hays, W. 1993. <u>Statistics</u> (4th Edition). New York: Holt, Rinehart, & Winston.

Hembree, R. (1988). Correlates, causes, effects, and treatment of test anxiety. <u>Review of Educational Research, 58(1)</u>, 47-77.

Hill, K. T. & Wigfield, A. (1984). Test anxiety: A major educational problem and what can be done about it. <u>The Elementary School Journal 85(1)</u>, 105-126.

Home, A. (1998). Predicting role conflict, overload and contagion in adult women university students with families and jobs. <u>Adult Education Quarterly, 48</u>(2), 85-98.

Houle, B. (2004). <u>Adult student persistence in web-based education</u>. Un published doctoral dissertation. New York University.

Houle, C. O. (1961). <u>The inquiring mind</u>. Madison: The University of Wisconsin Press.

Howell, D. C. (1997). <u>Statistical methods for psychology</u>. Belmont, CA: Wadsworth Publishing.

Huck, S. W. (2004) <u>Reading statistics and research</u> (5th ed.). Boston: Pearson Education, Inc.

Hurd, S., Beaven, T., & Ortega, A. (2001). Developing autonomy in a distance language learning context: issues and dilemmas for course writers. <u>System, 29</u>(3), 341-355.

Keegan. D. (1986). <u>The foundations of distance education</u>. London: Croom Helm.

Kember, D. (1989). A linear process model of drop-out from distance education. <u>Journal of Higher Education,</u>18(1), 79-87.

Kember, D. (1995). <u>Open learning courses for adults: A model of student progress</u>. Englewood Cliffs, NJ: Educational Technology Publications.

Kember, D. (personal communication, January 19, 2005)

Kember, D. & Leung, D. Y. P. (2004). Relationship between the employment of coping mechanisms and a sense of belonging for part-time students. Educational Psychology, 24(3), 345-357.

Kember, D., Lai, T., Murphy, D., Shaw, I, & Yuen, K. S. (1992). Student progress in distance education: Identification of explanatory constructs. British Journal of Educational Psychology, 62, 285-298.

Kember, D., Lai, T., Murphy, D., Siaw, I., & Yuen, K. S. (1994).Student progress in distance education: a replication study. Adult Education Quarterly, 45(1), 286-301.

Kember, D., Lai, T., Murphy, D., Siaw, I., & Yuen, K. S. (1995). Student progress in distance education. A handbook for the DESP inventory and the interview schedule. Unpublished manuscript, Hong Kong Polytechnic University, Hong Kong.

Kemp, W. C. (2001). Persistence of adult learners in distance education. The American Journal of Distance Education, 16(2), 65-81.

Knowles, M. S. (1980). The Modern practice of adult education: Andragogy versus pedagogy (Rev. ed.). Chicago: Follett.

Kooker, B. M., Itano, J., and Okimoto, H. (2000). Using focus groups to evaluate the impact of a Masters in Nursing distance education program. Journal of Nursing Education, 39(7), 329-332.

Lee, In-Sook. (2002). Gender differences in self-regulated on-line learning strategies within Korea's university context. Educational Technology Review and Development, 50(1), 101-111.

Moore, M. G, & Kearsley, G. (2005). <u>Distance education: a systems view</u> (2nd ed.). Belmont, CA: Wadsworth.

Morgan, K., & Tam, M. 1999. Unraveling the complexities of distance education attrition. <u>Distance Education 20</u>(1), 96-108.

Nunnally, J. (1978). <u>Psychometric theory</u> (2nd ed.). New York: McGraw-Hill.

Naretto, J. A. (1995). Adult student retention: The influence of internal and external communities. <u>NASPA Journal, 32</u>(2), 90-97.

<u>National Center for Education Statistics</u>. [On-line]. Available: http://nces.ed.gov/.

Naveh-Benjaim, M. (1991). A comparison of training programs intended for different types of test-anxious students: Further support for an information-processing model. <u>Journal of Educational Psychology, 83</u>, 134-139.

Newton, R. R., & Rudestam, K. E. (1999). <u>Your statistical consultant</u>. Thousand Oaks, CA: Sage Publications.

Pajares, F. (2003). Self-efficacy beliefs, motivation, and achievement in writing: A review of the literature. <u>Reading and Writing Quarterly, 19</u>, 139-158.

Parker, A. (1999). A study of variables that predict dropout from distance education. <u>International Journal of Educational Technology, 1</u>(2), 1-10.

Pintrich, P. R. (1995). Understanding self-regulated learning. <u>New Directions for Teaching and Learning, 63</u>, 3-12.

Pintrich, P. R. (1998). A process-oriented view of student motivation and cognition. In J. Stark & L. Metts (Eds.), <u>Improving teaching and learning through</u>

research: New directions for institutional research (Vol. 57, pp. 65-79). San Francisco: Jossey-Bass.

Pintrich, P. R., & De Groot, E. V. (1991). Motivational and self-regulated learning components of classroom academic performance. Journal of Educational Psychology, 82(1), 33-40.

Pintrich. P. R. & Garcia, T. (1991). Student goal orientation and self-regulation in the college classroom. In M. L. Maehr & P. R. Pintrich (Eds.), Advances in motivation and achievement: Goals and self-regulatory processes. (Vol. 7, pp. 371-402). Greenwich, CT: JAI Press.

Pintrich, P. R., Smith, D. A. F., Garcia, T., & McKeachie, W. J. (1991). A manual for the use of the Motivated Strategies for Learning Questionnaire (MSLQ). Ann Arbor: National Center for Research to Improve Postsecondary Teaching and Learning, University of Michigan.

Pintrich P. R., & Schunk, D. H. (1996). Motivation in education: Theory, research, and applications. Englewood Cliffs, NJ: Prentice Hall.

Roberts, D. (1995). [Open learning courses for adults: A model of student progress]. Open Learning, 10(2), 63-64.

Rovai, A. P. (2003). In search of higher persistence rates in distance education online programs. The Internet and Higher Education, 6, 1-13.

Sankaran, S. R., & Bui, T. (2001). Impact of learning strategies and motivation on performance: A study in web-based instruction. Journal of Instructional Psychology, 28(3), 191-98.

Schunk, D. H. (1991). Self-efficacy and academic motivation. Educational Psychologist 26(3&4), 207-231.

Shin, K., & Kim, J. (1999). An exploration of learner progress and drop-out in Korea National Open University. Distance Education, 20(1), 81-95.

Song, H. S. (2000). Research issues of motivation in web-based instruction. The Quarterly Review of Distance Education, 13(3), 225-229.

Spady, W. (1971). Dropouts from higher education: Toward an empirical model. Interchange, 2, 38-62.

Sweet, R. (1986). Student dropout in distance education: an application of Tinto's model. Distance Education, 7(2), 201-213.

Taplin, M., Yum, J. C. K., Jegede, O., Fan, R. Y. K., & Chan, M. S. (2001). Help-seeking strategies used by high-achieving and low-achieving distance education students. Journal of Distance Education, 16(1), 56-69.

Thompson, E. (1999). Can the Distance Education Student Progress (DESP) Inventory be used as a tool to predict attrition in distance education? Higher Education Research & Development, 18(1), 77-84.

Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent research. Review of Educational Research, 45, 89-127.

Tinto, V. (1982). Limits of theory and practice in student attrition. Research in Higher Education, 26, 115-129.

Tobias, S. (1985). Test anxiety: Interference, defective skills, and cognitive capacity. Educational Psychologist, 20, 135-142.

Tough, A. M. (1979) The adult's learning projects. 2nd ed. Toronto: Ontario Institute for Studies in Education.

VanZile-Tamsen, C. (2001). The predictive power of expectancy of success and task value for college students' self-regulated strategy use. <u>Journal of College Student Development, 42</u>(3), 233-241.

VanZile-Tamsen, C., & Livingston, J. (1999). The differential impact of motivation on the self-regulated strategy use of high- and low-achieving college students. <u>Journal of College Student Development, 40</u>(1), 54-60.

Walker, J. [Open learning courses for adults: A model of student progress]. <u>Distance Education, 16</u>(1), 174-1,180.

Wang, A. Y., & Newlin, M. H. (2002). Predictors of web-student performance: The role of self-efficacy and reasons for taking an on-line class. <u>Computers in Human Behavior, 18</u>(12), 151-163.

Weiner, B. (Ed.) (1974). <u>Achievement motivation attribution theory</u>. Morristown, NJ: General Learning Press.

Wigfield, A. (1994). Expectancy-value theory of achievement motivation: A developmental perspective. <u>Educational Psychology Review, 6</u>, 49-78.

Wigfield, A., & Eccles, J. (2000). Expectancy-value theory of achievement motivation. <u>Contemporary Educational Psychology, 25</u>, 68-81.

Williams, J. E. (1996). The relation between efficacy for self-regulated learning and domain-specific academic performance controlling for test- anxiety. <u>Journal of Research and Development in Education, 29</u> 77-80.

Wlodkowski, R. (1999). <u>Enhancing adult motivation to learn: A comprehensive guide for teaching all adults </u>(Rev. ed.). San Francisco: Jossey-Bass.

Woodley, A., De Lange, P, and Tanewski, G. (2001). Student progress in distance education: Kember's model revisited. Open Learning 16(2), 113-131.

Yum, J. C., Kember, D., and Siaw, I. (2001). Coping mechanisms of part-time students. In Evaluation of the Part-time Student Experience: Report of a Teaching Development Grant (pp. 103-115). Hong Kong: Educational Technology and Publishing Unit.

Zimmerman, B. J. (1989). A social cognitive view of self-regulated academic learning. Journal of Educational Psychololgy, 81(3), 329-339.

Zimmerman, B. J. (2000a). Attaining self-regulation: A social cognitive perspective. In M. Boekarts, P. Pintrich, & M. Zeidner (Eds.), Handbook of self-regulation (pp. 13-39). San Diego, CA: Academic Press.

Zimmerman, B. J. (2000b). Self-efficacy: An essential motive to learn. Contemporary Educational Psychology, 25, 82-91.

Zimmerman, B.J., & Kitsantas, A. (2002). Acquiring writing revision and self-efficacy skill through observation and emulation. Journal of Educational Psychology, 94(4), 660-668.

Zimmeran, B. J., & Martinez-Pons, M. (1986). Development of a structured interview for assessing student use of self-regulated learning strategies. American Journal of Educational Research, 23, 614-628.

APPENDIX A

KEMBER'S DESP

(Modified to accommodate both online and the classroom in the U.S.
Bold items below are from the Social Integration Scale.)

1. Your age is: _____

2. Hours you work per week: _____ (Numbers only, please.)

3. Are you married? _____ Yes _____ No

4. Hours your spouse works per week: _____ (Enter a zero if not married or spouse does not work)

5. Number of children living at home. _____ (Enter a zero if no children at home)

6. You're taking Greek or Hebrew at:
   ATL ___ CLT ___ DC ___ JAX ___ ORL ___ VIRTUAL ___

7. Total number of hours you're currently taking: _____

8. Average hours per week you spend in community activities (e. g., sports, civic clubs, church, etc.): _____

The following statements relate to your feelings, attitudes, and study habits. There are no right or wrong answers. Use the scale below to give your answers. If you think the statement is very true of you, choose 5; if a statement is not at all true of you, choose 1. If a statement is more or less true of you, find the number between 1 and 5 that best describes you. If a statement does not fit your situation, choose 6.

9. I find the lecture notes / handouts useful.

10. The learning materials are presented in a confusing manner.

11. The exercises / drills have helped me to learn.

12. I do not understand a lot of the concepts in the lectures or notes.

13. The type of work required in the assignments is very different from what I expected.

14. **My spouse encouraged me to enroll in this course or program.**

15. I enjoy reading, so I'm suited to learning on my own.

16. **My employer is supportive concerning my study needs.**

17. The course schedule is not as suitable as it could be.

18. **My spouse is supportive during my study times.**

19. **I usually spend a lot of time with my family.**

20. **I don't need the support of my family to succeed in this course.**

21. **My family encouraged me to enroll in this course or program.**

22. The instructor's materials are easy to learn from.

23. I would rather do other things than study.

24. Because I work long hours, it's hard to find time to study.

25. I have a busy social life.

26. **The support of my family means a lot to me.**

27. I read other material for this course beyond the study materials and texts.

28. **My employer encouraged me to enroll in this course or program.**

29. Talking with or emailing the instructor is useful.

30. Long hours at work leave me little time for study.

31. The assignments are too difficult.

32. The instructor's comments on my quizzes or exams have helped me to study.

33. This course is administered very efficiently.

34. Talking with or emailing the instructor provides help when I need it.

35. The time allotted to complete this course is too short.

36. **My friends encouraged me to enroll in this course or program.**

37. I seem to have so many other things to do, there is never enough time to study.

38. A change in my job situation makes it difficult to finish this course.

39. I am very determined to finish this course.

40. I go out a lot with friends or family instead of studying.

41. I often consider dropping this course.

42. I often wonder whether all this study is worth the effort.

43. Talking to the instructor in person or on the phone is **_not_** helpful.

44. A change in my job situation left me without enough time to study.

45. My fellow workers encourage me in my studies.

46. I've been sick during the course, so keeping up is difficult.

47. Personal or family circumstances, unforeseen when I enrolled, are hindering my studies.

48. I read widely.

49. My family encourages me to study because they feel seminary is important.

50. My spouse gets annoyed because I study so much.

51. My children interfere with my studies.

52. I do not let anything interfere with my studies.

53. Activities beyond work and family interfere with my studies.

54. I talk to the instructor in person or by phone often.

I would like to be considered for a $50 gift certificate to the RTS Bookstore of my choice, or one of 10 $100 packages of material from the RTS Virtual Bookstore.

My name is: _____ My email address is: _____

Even if you give your name and email, your answers will remain anonymous and will be deleted when the research is complete.

ANOVA TABLES

Appendix tables 1 through 8 list the two-way ANOVA tables for each of the eight dependent variables measured in this study. The *F*-critical for a = .006, with *df* of 1 and 180 is 7.89.

Table 1. *Social Integration X Course Format on Intrinsic Value*

Source	Df	SS	MS	F	P
Social Integration	1	.89	.89	.871	. 352
Format	**1**	8.022	8.022	7.885	.006
Interaction	1	.078	. 078	.801	.616
Error	180	183.831	1.021		
Total	183				

Table 2. *Social Integration X Course Format on Task Value*

Source	Df	SS	MS	F	P
Social Integration	1	.674	.674	.609	.436
Format	1	5.95	5.95	5.371	.022*
Interaction	1	.709	. 709	.640	.425
Error	180	199.411	1.108		
Total	183				

**$p < .05$

Table 3. *Social Integration X Course Format on Self-Efficacy*

Source	Df	SS	MS	F	P
Social Integration	1	.458	.458	.372	.542
Format	**1**	**10.991**	**10.991**	**8.931**	**.003****
Interaction	1	.07803	. 07803	.063	.616
Error	180	221.510	1.231		
Total	183				

**$p < .006$

Table 4. *Social Integration X Course Format on Test Anxiety*

Source	Df	SS	MS	F	P
Social Integration	1	5.287	5.287	2.945	.088
Format	1	8.525	8.525	4.748	.031*
Interaction	1	1.343	1.343	.748	.388
Error	180	323.216	1.796		
Total	183				

*$p < .05$

Table 5. *Social Integration X Course Format on Elaboration*

Source	Df	SS	MS	F	P
Social Integration	1	.380	.380	.342	.559
Format	1	3.637	3.637	3.273	.072
Interaction	1	.368	.368	.332	.565
Error	180	200.009	1.111		
Total	183				

Table 6. *Social Integration X Course Format on Organization*

Source	Df	SS	MS	F	P
Social Integration	1	.737	.737	.447	.505
Format	1	20.710	20.710	12.548	.001***
Interaction	1	6.173	6.173	3.74	.055
Error	1,180	297.085	1.65		
Total	183				

***$p < .001$

Table 7. *Social Integration X Course Format on Metacognitive Self Regulation*

Source	Df	SS	MS	F	P
Social Integration	1	.422	.422	.730	.394
Format	1	8.401	8.401	14.530	.000***
Interaction	1	.0144	.0144	.025	.875
Error	180	104.075	.578		
Total	183				

***$p < .001$

Table 8. *Two-way ANOVA for Influence of Course Format on Resource Management*

Source	Df	SS	MS	F	P
Social Integration	1	1.475	1.475	2.284	.132
Format	1	.01507	.01507	.023	.879
Interaction	1	.127	.127	.196	.659
Error	180	116.227	.646		
Total	183				