International Review of Research in Open and Distance Learning

Volume 7, Number 1. *ISSN: 1492-3831*

June - 2006

Student Success in Face-To-Face and Distance Teleclass Environments: A matter of contact?

Teddi S. Deka and **Patrick McMurry**
Missouri Western State University

Abstract

Learning from a distance continues to gain popularity. An influx of traditional, and even on-campus students attest to its flexibility, but are they equipped to succeed in a low-contact distance environment versus a face-to-face, on-campus environment? This research explored whether several variables including background, preparedness and self-perceptions assessed within the first week of class contributed differently to the success of students completing one-way distance teleclasses (n = 35) versus students completing the same classes in face-to-face, on-campus environments (n = 64). The distance students were less successful than face-to-face students when exam grades were examined (A, B, C versus D, F, drop). For distance learners, higher reading comprehension and scholastic competence were indicative of exam grade success. Student-initiated contact with the instructor was marginally related to distance student success. For face-to-face learners, reading comprehension, reading rate and lower athletic competence was indicative of exam grade success. Suggestions to help students decide whether distance learning is right for them and ways to support distance learners in low-contact environments are discussed.

Keywords: Distance; success; retention; self-efficacy; self-esteem; contact; comprehension

Student Success in Face-To-Face and Distance Teleclass Environments: A Matter of Contact?

Most universities began to offer distance classes to reach students with work and family commitments, or who lived too far away from campus (Galusho, 1997). It is not surprising, then, that when one thinks of the typical distance learner, the non-traditional working student comes to mind (Wallace, 1996). The demographics of distance students have slowly begun to change towards younger students, some of whom concurrently enroll in on-campus and distance classes (Guernsey, 1998; Wallace, 1996). These students report enrolling in distance classes when work demands interfere with class times, or when classes they wanted to enroll in are full (Minich, 1996; Swan, Shea, Fredericksen, Pickett, Pelz, and Maher, 2000).

Taking classes at a distance may pose new challenges for students who are used to taking on-campus classes in terms of studying, time management and autonomy (Moore, 1998). This study seeks to

explore whether there are indications of preparedness that will help students who have the option of taking a class on campus or at a distance decide which medium will best support their success.

Measuring Success

Two common indices for measuring success are class grades and retention rates. Distance students fare well when compared to on-campus, face-to-face (F2F) students, either showing no significant differences or even slight increases in class grades (Schoenfield-Tacher, McConnell, and Graham, 2001; Tucker, 2000). One difficulty with using grades to measure success is that students must not drop out of the class to receive a letter grade. Investigations that use grades to measure success do not appear to include students who drop out, and drop out rates tend to be significantly higher in distance classes (Carr, 2000; Garrison, 1987; Tucker, 2000; Woodley and Parlett, 1983; Zajkowski, 1997). Indeed, lower retention rates can be attributed to situational problems (i.e., job, finances, family) and institutional barriers (i.e., cost, instructor problems, bureaucracy), but we must not forget that some students may have dispositional problems such as learning style and lack of confidence that don't mesh well with the distance format (Garland, 1993).

Several variables have been useful in predicting who successful, and unsuccessful, F2F learners will be, such as grades in high school, performance on standardized measures (i.e., ACT, SAT), study skills, motivation to succeed, demographic variables, and timeliness of the educational experience. Some of these variables have been identified as particularly important for distance learner success, but with very little supporting evidence (Pachnowski and Jurczyk, 2000). These variables can be classified into four categories: Background (particularly age and gender), preparedness (such as study skills and abilities, particularly reading ability) self-esteem/ self-efficacy, and motivation to succeed (Gibson, 1998).

For background, distance students tend to be female, older than F2F students, and to have family or work obligations (U.S. Dept. of Education, 2002). Higher age, grade point average, and being married, correlate with success in distance classes (Dille and Mazack, 1991). Very little information is available for how preparedness, self-esteem/ self-efficacy and motivation to succeed relate to distance student success, but it seems fair to assume that students who are more prepared with higher self-efficacy and higher motivation will perform better in any class, regardless of whether it is taught at a distance or F2F. There is good reason to suppose that these variables are very important for success in the distance classroom: The distance student will have a reduced level of contact with the instructor and other classmates, so he or she will have to rely more on the self to provide pacing, study strategies and momentum for continuing the class (Moore, 1989). Reduced contact also increases reliance on the text rather than direct contact with the instructor or other classmates, and this may particularly affect students with poor reading skills.

Contact with the Instructor

The most straightforward way to investigate whether contact with the instructor, in and of itself, impacts the success of distance students is to compare grades or retention rates between the same classes taught at a distance versus F2F, with the assumption that distance students have less contact with the instructor. Students taking distance classes fare the same, or even better, in terms of grades, yet worse in terms of retention rates when compared to F2F students (Denton, Clark, Rossing, and O'Connor, 1984; Hogan, 1997; Schoenfeld-Tacher, McConnell, and Graham, 2001). These results suggest that contact with the instructor has little effect, at least on grades. The main problem with this conclusion is that lower contact between faculty and students is assumed, and this may not be the case at all!

Many distance learning formats offer easy contact with the instructor, such as computer-based classes with *WebCT* or chat capabilities, and two-way interactive teleclasses with audio and video feed. Most comparisons between distance and F2F student success have involved such higher-contact formats. Few investigations have examined success in situations where contact is harder to achieve, such as with the traditional teleclass or one-way teleclass.

With a traditional teleclass, learners receive videotapes of lectures, usually by mail, and view these lectures at their own pace. With the one-way teleclass, the instructor's lectures are aired live over cable television. Students taking the class can then engage in synchronous learning, calling in to the classroom to talk directly with the instructor, or they can engage in asynchronous learning, taping the classes to watch at their own pace. Student-instructor interaction, with either format, usually requires more effort on the part of the student than the higher-contact formats, and sometimes requires public effort that some students may find undesirable.

Investigations comparing success of distance students in lower-contact environments with students in F2F environments has yielded mixed results. The Ritchie and Newby study (1989) found no test score differences when information was presented in a 13-minute face-to-face format versus a one-way teleclass format, and the Towles, Ellis and Spencer (1993) study found marginal increases in retention rates when students in a one-way teleclass were contacted by their instructor during the semester when compared to students who were not contacted at all, although the amount of contact was not reported. The Hogan (1997) study compared grades from several one-way teleclasses with their F2F counterparts and found greater success for students in the telecourses in terms of grades, but lower success in terms of retention rates. Regardless of whether actual contact contributes to success, distance students who report more contact with their instructors report more satisfaction with their distance class (Fulford and Zhang, 1993; Ritchie and Newby, 1989; Swan et al., 2000).

The purpose of the current study is to investigate whether contact with the instructor, as well as other variables within the categories of background (i.e., age, gender), preparedness (e.g., study skills, reading comprehension), and self-esteem/ self-efficacy/ motivation contribute to the success of distance learners in low-contact environments versus F2F, on-campus learners. All variables except contact with the instructor are assessed either before or within the first week of the semester because early detection of possible success was a goal of this research. Particular attention is paid to the definition of success, to include students who dropped the class who were failing at the time, as well as the amount of contact that ensued between instructor and student in the distance environment.

Method

Context and Participants

The mid-sized, Midwestern university where the research was conducted offers both F2F classes and distance classes. Distance classes have been offered since 1991, and are either computer-based or video-based (teleclasses). Since its inception, 127 computer-based classes with 2,778 enrollments and 94 video-based classes with 3,756 enrollments have been offered.
The current research was limited to one-way teleclasses for two reasons: First, each teleclass has its exact, F2F equivalent. The one-way teleclass is broadcast from an on-campus classroom with students who are taking the class as the audience. Therefore, each class contains both F2F students and distance students who see the same lecture with the same instructor. While F2F students attend class on campus, distance students have the option of watching the broadcast as it is being aired, in real time on the university's cable channel (which is available to the surrounding community), a re-

broadcast in the evening, taping the broadcast and watching it later, renting the tapes from our Instructional Media Center, or viewing the tapes in the library on campus.

The second reason why only one-way teleclasses were examined was because the research focused on the success of students in low-contact environments. The internet classes have greater potential to involve more immediate contact. There are varying levels of contact that are potential in the one-way teleclass as well, especially if the student watches the broadcast in real-time and calls in. Of the individuals surveyed, only 20 percent planned to watch the broadcast in real time. The majority, 65 percent, reported that they would tape the broadcast to watch it later, would watch the re-broadcast at night, or would watch the tapes in the library at their convenience. The remaining 15 percent would rent the tapes from the Instructional Media Center. Thus, the majority of individuals in this research planned to take the class in a lower-contact environment, whether by preference or circumstance. The only required contact in these classes was that students had to come to the institution to complete exams, and the instructors had to offer one time at night that students could do so. If a student could not come in at that time, individual arrangements were made with an exam proctor.

Four classes were examined: Two sections of introductory psychology and two sections of basic economics. Each section contained F2F students within the classroom and distance students watching the class on TV. An orientation meeting was held with distance students the weekend before the semester began to better prepare them for their distance learning experience. The orientation included explanations of the format and requirements of distance classes in general, as well as personal meetings with the various instructors. During the orientation, students were asked to participate in the research and complete the questionnaires. The ones who did not attend the session were contacted by phone and asked to complete the survey within the first week of the semester, which yielded five additional students. Of the 69 distance students enrolled in these four courses, 52 percent (22 females and 13 males) completed the questionnaires, ranging in age from 18 to 52 with a mean age of 25.71. Of these distance students, 90 percent reported simultaneously completing classes on-campus in F2F environments, and 72 percent were full-time students. The F2F students were asked to participate in the research during the first week of the semester. Of 107 F2F students, 60 percent (40 females and 24 males) completed the questionnaires during one class period in the first week of the semester, ranging in age from 18 to 44 with a mean age of 20.58. None of these students were simultaneously enrolled in a distance teleclass, and 92 percent described themselves as full-time students. For both the distance and F2F students, information on non-participants is not available. There were very few refusals for participating at the orientation session for the distance students or during the class period for the F2F students. Most non-participators simply were not present when it was most convenient to complete the questionnaires, which could have affected the type of distance learner completing the questionnaires. However, the research focus was on students who have opportunity to complete F2F classes yet take distance classes. Since 90 percent of the distance students were also completing F2F classes on campus, this group was the desired group for this investigation.

Procedures and Methodology

Participants completed all questionnaires either during their orientation session or within the first week of the semester. Questionnaires pertained to reading, study skills, self-perceptions and background information.

Reading: The Nelson-Denny Reading Test[1] (Brown, Fishco, and Hanna, 1993) assesses reading comprehension and reading rate. The reading comprehension scale contains seven reading passages and 38 questions with five answer choices, and is limited to a completion time of 20 minutes. Reading rate is measured by how much of the first reading comprehension passage is read within the first minute of testing. Scores for both measures are converted to percentiles ranging from 0 to 1.00 based on national standardized data for four-year colleges.

Study skills: The Study Skills Self-Report[2] (Deka, 2000) presents participants with a list of 65 successful study skills based on suggestions by Walter and Siebert (1990). For each study skill, participants circle True or False depending on whether they have used the skill repeatedly in the past. Each item is focused on one of five themes: Confidence, time management, general study skills, reading practices and preparation for exams. Individual scores can range from 0 (no use of study skills) to 65 (use of all study skills) and shows good reliability (Chronbach's Alpha [n = 70] = .74). Subscales were not examined to maximize the reliability of the measure.

Self-perceptions: The Self-Perception Profile for College Students (Neeman and Harter, 1986) is a 54-item paper-and-pencil questionnaire that measures self-esteem across 13 dimensions: Creativity, intellectual ability, scholastic competence, job competence, athletic competence, appearance, romantic relationships, social acceptance, close friendships, parent relationships, finding humor in one's life, morality and global self-worth. Chronbach's Alpha reliabilities for the subscales range from .92 to .76. Items for each subscale are scored from 4 (high self-esteem) to 1 (low self-esteem). Items within each dimension were averaged so that the maximum score for each dimension was 4 and the minimum was 1.

A background questionnaire was administered last, on which students indicated information such as gender and age. Distance students were asked to indicate best times for instructors to contact them by phone.

Contact with instructor: The 35 distance students who completed the questionnaires were divided into two groups based on their scores on the reading comprehension, reading rate, study skills, and global self-worth questionnaires, in addition to gender and age so that the resulting two groups did not differ significantly on any of these variables. Students in the Contact Group received one phone call per week for 13 weeks during the semester from their instructor asking how they were progressing and if they had any questions about the course material. These students were contacted at times and days they indicated would be good for contact on their background questionnaire. If a student was not home, the instructor left a message, and called the student the next day. Students in the No Contact group did not receive these calls, but could contact the instructor via phone or email, just as any other student in the distance or F2F sections. The minutes in contact with each distance student were recorded by the instructor, and whether the contact was instructor-initiated or student-initiated. Actual time in contact was logged for phone contact, and two minutes of contact time was logged for one-to-one email to either the student or instructor, depending on who initiated the contact. Instructors did not send mass information over email to students. Instead, announcements were made in class since

the distance learners viewed the class either live, on a re-broadcast or on videotape and were not logged as "contact."

Success: Success was measured with exam grades and retention rates. Exam grades were chosen because the Psychology and Economics courses both involved four exams, and at least 90 percent of the final grade was determined by exam grades. In addition, distance students had to complete the same requirements as their F2F counterparts within the same time frame, but were usually allowed an additional week because some distance students received their videotapes by mail. Based on the exam grades alone, students were assigned a score of 1 (successful) if they received an A, B, or C average, and a score of 0 (unsuccessful) if they received a D, F, or did not complete the class after taking at least one exam and averaging a D or F at the time of no longer participating. Three non-completers (two distance and one F2F) did not meet these criteria because they did not complete any exams. They were excluded from the analysis. Eight distance and six F2F students did not complete all of the exams and were included in the unsuccessful group. An ANOVA comparing the length of time these non-completers persisted in their classes showed no significant differences, with distance non-completers taking an average of 1.38 exams and F2F non-completers taking an average of 1.83 exams. The remainder of individuals in the unsuccessful groups (10 distance and 14 F2F) completed all required exams yet received D or F grades. In total, the research included 15 successful and 18 unsuccessful distance students, and 43 successful and 20 unsuccessful F2F students.

Results

Comparison of Distance and F2F Students

A Multivariate Analysis of Variance (MANOVA) was conducted to compare the distance and in-class students on all variables. Learning group (distance or F2F) was the independent variable and the background, reading, study skills, self-esteem, and success variables were dependent variables. A significant effect was found (? [18, 77] = 2.22, $p < .009$). Follow-up ANOVAs indicated significant learning group differences in the following variables: Age ($F [1, 94] = 13.06$, $p < .0001$), Reading Comprehension ($F [1, 94] = 4.75$, $p < .04$), and Success ($F [1, 94] = 4.85$, $p < .03$). As indicated in Table 1, distance learners were significantly older than F2F learners. They also had higher reading comprehension rates. However, they were less likely to be successful (A, B, C vs. D, F, Drop).

Table 1. *Comparison of distance and FTF Students*

Variable	Distance *M (SD)*	F2F *M (SD)*	F	Min	Max
	n = 33	*n* = 63			
Background					
Gender	.39 (.50)	.35 (.48)	*ns*	0.00	1.00
Age	26.12 (9.78)	20.60 (5.21)	13.06**	18.00	52.00
Reading					
Comprehen.	58.75 (25.84)	46.67 (25.80)	4.75*	1.00	99.00
Rate	41.30 (27.48)	35.97 (27.97)	*ns*	1.00	99.00
Study Skills	44.09 (8.02)	41.29 (6.80)	*ns*	21.00	58.00
Self-Perceptions					
Job Comp.	3.46 (.54)	3.29 (.57)	*ns*	2.00	4.00
Scholastic Abil.	2.85 (.72)	2.86 (.72)	*ns*	1.50	4.00
Social Accept.	3.12 (.70)	2.86 (.56)	*ns*	1.00	4.00
Appearance	2.65 (.75)	2.71 (.90)	*ns*	1.00	4.00
Parental Acc.	3.49 (.57)	3.39 (.68)	*ns*	1.00	4.00
Close Relat.	3.20 (.76)	3.30 (.74)	*ns*	1.00	4.00
Intelligence	3.17 (.67)	2.98 (.67)	*ns*	1.00	4.00
Moral	3.19 (.73)	3.21 (.60)	*ns*	1.25	4.00
Romantic	2.76 (.86)	2.79 (.82)	*ns*	1.00	4.00
Humor	3.46 (.56)	3.40 (.66)	*ns*	1.25	4.00
Creativity	3.02 (.67)	2.89 (.75)	*ns*	1.25	4.00
Athletic Comp.	2.53 (.86)	2.58 (.98)	*ns*	1.00	4.00
Self-Worth	3.16 (.65)	3.17 (.66)	*ns*	1.50	4.00
Success	.45 (.51)	.68 (.47)	4.85*	0.00	1.00

Note. ** For gender, 1 represented male and 0 represented female.
For reading, means represent percentiles based on normative four-year college data.
For success, mean represents the percent of students receiving A, B or C grades.
$p < .01$, * $p < .05$.

Success of Distance Students

A MANOVA was used to compare successful and unsuccessful distance students on background, reading, study skills, self-esteem and additionally, the contact variables of instructor-initiated contact minutes, student-initiated contact minutes, total contact minutes, and whether the student was called weekly by the instructor. The independent variable was Success (students earning A, B, C grades versus D, F Drop). The MANOVA was marginally significant (? [21, 11] = 2.37, $p < .08$). Follow-up ANOVAs indicated significant differences between successful and unsuccessful distance students in reading comprehension ($F [1, 31] = 15.42$, $p < .0001$), scholastic competence ($F [1, 31] = 6.38$, $p < .02$) and athletic competence ($F [1, 31] = 5.82$, $p < .03$). As indicated in Table 2, successful distance students scored significantly higher in reading comprehension and scholastic competence, and lower in athletic competence, before or within the first week of the semester. None of the contact variables were significant. Of interest was the number of student-initiated contact minutes logged throughout the semester, which approached significance and was higher for successful distance students.

Success of F2F Students

A MANOVA was used to compare successful and unsuccessful students in on-campus classes on the background, reading, study skills and self-esteem variables, but was not significant. ANOVA results indicated significant differences in reading comprehension ($F [1, 62] = 5.54$, $p < .03$), reading rate ($F [1, 62] = 5.59$, $p < .03$) and athletic competence ($F [1, 62] = 8.59$, $p < .001$). As indicated in Table 3, successful on-campus students showed higher reading comprehension and reading rate scores, and lower levels of athletic competence.

Table 2. *Comparison of successful and unsuccessful distance students*

Variable	Successful	Unsuccessful	F	Min	Max
	M (SD)	*M (SD)*			
	n = 15	*n* = 18			
Background					
Gender	.33 (.49)	.44 (.51)	*ns*	0.00	1.00
Age	28.20 (10.47)	24.39 (9.11)	*ns*	18.00	52.00
Reading					
Comprehen.	74.20 (20.43)	45.89 (22.97)	15.42**	12.00	99.00
Rate	42.53 (25.30)	40.28 (29.87)	*ns*	1.00	96.00
Study Skills	44.07 (8.60)	44.11 (7.75)	*ns*	26.00	58.00
Self-Perceptions					
Job Comp.	3.54 (.57)	3.40 (.52)	*ns*	2.00	4.00
Scholastic Abil.	3.20 (.59)	2.60 (.72)	6.38*	1.50	4.00
Social Accept.	3.04 (.71)	3.18 (.71)	*ns*	1.75	4.00
Appearance	2.54 (.71)	2.77 (.77)	*ns*	1.00	4.00
Parental Acc.	3.39 (.65)	3.57 (.50)	*ns*	2.00	4.00
Close Relat.	3.32 (.81)	3.11 (.72)	*ns*	1.50	4.00
Intelligence	3.38 (.79)	3.01 (.54)	*ns*	1.00	4.00
Moral	3.20 (.95)	3.18 (.53)	*ns*	1.25	4.00
Romantic	2.87 (.91)	2.67 (.84)	*ns*	1.00	4.00
Humor	3.39 (.65)	3.51 (.50)	*ns*	2.00	4.00
Creativity	3.25 (.70)	2.85 (.81)	*ns*	2.00	4.00
Athletic Comp.	2.14 (.79)	2.83 (.81)	5.82*	1.00	4.00
Self-Worth	3.26 (.65)	3.07 (.66)	*ns*	1.50	4.00
Contact					
Instr.-Initiated	18.87 (32.62)	20.94 (26.84)	*ns*	0.00	104.00
Stud.-Initiated	10.00 (16.73)	5.50 (9.21)	*ns*	0.00	57.00
Total Minutes	28.87 (39.62)	26.44 (32.40)	*ns*	0.00	139.00
Called by Inst.	1.47 (.52)	1.61 (.50)	*ns*	1.00	2.00

Note. For gender, 1 represented male and 0 represented female.
For reading, means represent percentiles based on normative four-year college data.
For Called by Instructor, students were assigned a 2 if they were called by the instructor and a 1 if they were not called by the instructor.
For Instructor-Initiated, Student-Initiated and Total Minutes, means represent actual minutes spent talking to the student.
** $p < .01$, * $p < .05$

Table 3. *Comparison of successful and unsuccessful FTF students*

Variable	Successful *M (SD)* *n* = 43	Unsuccessful *M (SD)* *n* = 20	F	Min	Max
Background					
Gender	.28 (.45)	.50 (.51)	*ns*	0.00	1.00
Age	21.14 (6.07)	19.45 (2.26)	*ns*	18.00	44.00
Reading					
Comprehension	52.02 (25.00)	35.15 (24.23)	6.34*	1.00	97.00
Rate	41.70 (28.33)	23.65 (23.33)	6.16*	1.00	99.00
Study Skills	41.09 (7.32)	41.70 (5.66)	*ns*	21.00	58.00
Self-Perceptions					
Job Comp.	3.27 (.59)	3.35 (.53)	*ns*	2.25	4.00
Scholastic Abil.	2.85 (.66)	2.68 (.38)	*ns*	1.50	4.00
Social Accept.	2.90 (52)	2.78 (.64)	*ns*	1.00	4.00
Appearance	2.71 (.90)	2.73 (.91)	*ns*	1.00	4.00
Parental Acc.	3.37 (.66)	3.44 (.74)	*ns*	1.00	4.00
Close Relat.	3.35 (.70)	3.19 (.83)	*ns*	1.00	4.00
Intelligence	2.99 (.71)	2.96 (.58)	*ns*	1.75	4.00
Moral	3.19 (.62)	3.28 (.57)	*ns*	2.00	4.00
Romantic	2.73 (.87)	2.93 (.72)	*ns*	1.00	4.00
Humor	3.33 (.73)	3.54 (.50)	*ns*	1.25	4.00
Creativity	2.93 (.74)	2.81 (.79)	*ns*	1.25	4.00
Athletic Comp.	2.34 (.93)	3.08 (.92)	8.52**	1.00	4.00
Self-Worth	3.16 (.67)	3.20 (.66)	*ns*	1.50	4.00

Note. For gender, 1 represented male and 0 represented female.
For reading, means represent percentiles based on normative four-year college data.
** $p < .01$, * $p < .05$

Discussion

Because so many students have become interested in taking distance classes, understanding the unique demands of learning at a distance has become more important for instructors, students and advisors. Several themes emerged from the current research and will be discussed in turn with possible solutions and future directions for research.

Defining Student Success

Past research indicates that distance students are at least, or more successful in grades, but less successful in terms of retention when compared with F2F students (Schoenfield-Tacher et al., 2001; Tucker, 2000). We argued that success as defined by grades should not necessarily be separated from success as defined by retention, especially when students drop or stop after obtaining feedback that indicates they are not passing the class. We were able to include these students because the assessment measures were given either before classes began or within the first week of classes when all students were attending. Using this more inclusive definition of success, F2F students were significantly more successful than distance students, obtaining a higher percentage of A, B, and C grades. The primary difference between the two groups appeared to be that more distance students failed to complete all of the exams, but completed at least one exam (24 percent of the distance students compared to 9.5 percent of the F2F students). Only two distance and one F2F student did not complete any exams, and these three were not considered in the analysis. Our research indicated no significant differences in how long non-completing F2F and distance students persisted (1.83 exams vs. 1.38 exams, respectively). The matter of persistence was not about "how long," but about "how many." Students completing the distance classes in this research were limited in their flexibility to self-pace. They had to complete their assignments and exams within the semester, and usually within one week of the F2F students. Susceptibility to falling behind due to the logistics of completing the distance class, or even a little procrastination, could start the distance learner on a slippery slope to giving up. Providing more flexibility for completion of the course may help increase the success of distance students.

Distance as an Option

At our institution, as well as many others in the U.S., the majority of distance students report simultaneous enrollment in both on-campus (F2F) classes and distance classes. Ninety percent of our participants indicated simultaneous enrollment, and 72 percent reported being full-time students. These figures contradict the typical portrayal of the distance student as living further from campus or not having access to campus (Guernsey, 1998; Wallace, 1996). Our distance learners were, on average, five years older than their F2F counterparts, but age did not contribute to the success of either group.

Preparedness, as measured by study skills and reading comprehension/reading rate, showed mixed results in relationship to success of the distance group. Reading comprehension was strongly related to success but other variables, such as study skills and reading rate, were not. Reading comprehension was also significantly higher for the successful F2F students when the ANOVA was examined, but the MANOVA that compared successful to unsuccessful F2F students was not significant.

For self-perception, some interesting differences emerged between the successful and unsuccessful distance groups: Successful distance students reported more positive feelings about their scholastic competence before or within the first week of class. This result was not evident for the F2F learners. Neeman and Harter (1986) describe scholastic competence as confidence in the ability to master

coursework. Students with high confidence may be accurate judges of their own ability and feel more comfortable with self-directed learning. Other research has shown null results when self-efficacy has been examined for success in online classes (DeTure, 2004), but no research is available for low-contact classes.

Increasing self-efficacy can be achieved in several ways. Gibson (1998) stresses that confidence is enhanced when distance students have access to resources that are available to on-campus students such as tutors or study programs, are offered instruction in time management and stress management, and participate in orientation sessions offering direct contact with the instructor. Although all but two of the distance students participating in this research attended an orientation session that offered direct contact with the instructor, perhaps a more focused agenda emphasizing these skills would improve confidence for those who are less sure about their abilities to succeed in a distance class.

Making the Connection

Contact between instructor and student is considered a central component for learning both in F2F and distance environments (Chickering and Ehrmann, 1996). Contact provides ways for answering questions and making inquiries that can increase the interest and motivation of students (Silverman, 1999). The current research suggests that instructor-initiated contact with teleclass students does not increase chances of success in classes, which contradicts the only study that investigated instructor-initiated contact in low-contact distance environments (Towles, Ellis and Spencer, 1993). Instead, we found that student-initiated contact approached significance, and successful teleclass learners spent more than double the amount of student-initiated contact time with their instructor than unsuccessful ones.

Several suggestions have been made on how to increase contact time between instructor and learner in higher-contact computer-based learning environments. Applying these suggestions in lower-contact teleclass learning environments should be helpful. First, students need to be aware of the ways in which the instructor or mentor can be contacted (Silverman, 1999). Contact mechanisms can involve the computer, phone, video, fax, or in-person interaction (such as orientation, group meetings, field trips, workshops or individual meetings). Using several mechanisms may encourage students to contact the instructor or mentor with questions, or build rapport. The instructor should make sure that students know how to use the contact mechanisms by providing training, or asking students to complete tasks that include feedback to the instructor that verifies the skill, such as providing a location to a message board and asking the student to leave a message that the instructor can check (Baab, 1999).

Second, students should understand that they need to be assertive, active participants in the student-instructor relationship (Chickering and Ehrmann, 1996). Just as in F2F classrooms, the interaction should be encouraged by both instructor and learner. Students need to know that building a relationship with the instructor improves their chance of success in a class, and helps the instructor suit the class to the needs of the students involved (Easton, 2003). In turn, prompt feedback by instructors can further encourage exchange (Baab, 1999).

Assessments of Readiness

Valasek (2001) recommends that screening and advising potential distance students is important for their success, and that “self-tests” should be used to indicate individuals suited for such learning. The current research indicates three areas of importance that show good prediction of success even before the class initially meets. The first is reading ability, especially reading comprehension. The second is

confidence in abilities needed to succeed in the class. The third is willingness to maintain the interaction between instructor and student. Many variables could be related to this willingness, such as motivation and ability in self-directed learning. At the least, distance learners understand the importance of contacting the instructor and feel comfortable calling, emailing or otherwise contacting their instructor when help is needed or when a question arises. Instructors can encourage such contact by being accessible to students and making sure that students know how to use the technology that will enable the contact to continue.

Distance learning is here to stay. As more "traditional," and even on-campus students re-define who the distance student is, faculty and advisors must be equipped to help students achieve success. By recognizing variables that contribute to the success of distance learners versus F2F learners, we can better prepare students to choose between different learning formats and work on the prerequisite skills to increase their probability of success.

References

Baab, L. (1999). Coming and Going in All Directions: Preparing students for online learning. Paper presented at the Teaching in the Community Colleges Online Conference *Best Practices in Delivering, Supporting, and Managing Online Learning* in April 1999 at Honolulu, Hawaii. ERIC Document No. 469901.

Brown, J. I., Fishco, V. V., and Hanna, G. (1993). *Nelson-Denny Reading Test.* Itasca, IL: Riverside Publishing Company.

Carr, S. (2000). As distance education comes of age, the challenge is keeping the students. *Chronical of Higher Education, 46*(22), A39 – A41.

Chickering, A. W. and Ehrmann, S. C. (1996). Implementing the Seven Principles: Technology as lever. *American Association of Higher Education Bulletin 49*(2), 3 – 6.

Deka, T. S. (2000). *Study Skills Self-Report.* Saint Joseph, MO.: Missouri Western State University.

Denton, J. J., Clark, F. E., Rossing, R. G, and O'Connor, M. J. (1984). An examination of instructional strategies used with two-way television. *Journal of Classroom Interaction, 19*(2), 12 – 20.

DeTure, M. (1994). Cognitive style and self-efficacy: Predicting student success in online distance education. *American Journal of Distance Education 18*(1), 21 – 38.

Dille, B., and Mezack, M. (1991). Identifying predictors of high risk among community college telecourse students. *American Journal of Distance Education 5*(1), 24 – 35.

Fulford, C. P., and Zhang, S. (1993). Perceptions of Interaction: The critical predictor in distance education. *The American Journal of Distance Education 7*(3), 8 – 21.

Galusho, J. M. (1997). Barriers to learning in distance education. *The Infrastruction Network.* Retrieved July 15, 2005 from: http://www.infrastruction.com/barriers.htm

Garland, M. (1993). Ethnography penetrates the "I didn't have time" rationale to elucidate higher order reasons for distance education withdrawal. *Research in Distance Education 5*(2), 6 – 10.

Garrison, D. R. (1987). Researching dropout in distance education. *Distance Education 8*(1), 95 – 101.

Gibson, C. C. (1998). The distance learner's academic self-concept. In C.C. Gibson (Ed.) *Distance Learners in Higher Education: Institutional responses for quality outcomes* (p. 65-76). Madison, WI.: Atwood.

Guernsey, L. (1998). Distance education for the not-so-distant. *Chronicle of Higher Education 44*(29), A29 – A30.

Hogan, R. (1997). Analysis of student success in distance learning courses compared to traditional courses. Paper presented at the annual *Conference on Multimedia in Education and Industry* in July 1997 at Chattanooga, TN. ERIC Document No. 412992.

Minich, E. L. (1996). *Using student feedback to improve distance education.* Jacksonville, FL.: Florida Community College. ERIC Document No. 397893.

Moore, M. G. (1988). Introduction. In C.C. Gibson (Ed.) *Distance Learners in Higher Education: Institutional responses for quality outcomes* (p. 65-76). Madison, WI.: Atwood.

Moore, M. G. (1989). Three types of interaction. *The American Journal of Distance Education 3*(2), 1 – 6.

Moore, M. G., and Kearsley, G. (1996). *Distance Education: A systems view.* Albany, NY.: Wadsworth.

Neeman, J., and Harter, S. (1986). *Manual for the self-perception profile for college students.* Denver, CO.: University of Denver.

Pachnowski, L. M., and Jurczyk, J. P. (2000). Correlating self-directed learning with distance learning success. Paper presented at the annual meeting of the *Eastern Educational Research Association* at Clearwater, FL., in February 2000. ERIC Document No. 441000.

Ritchie, H., and Newby, T.(1989). Classroom lecture/discussion vs. live televised instruction: A comparison of effects on student performance, attitude, and interaction. *American Journal of Distance Education 3*(3), 36 – 45.

Schoenfeld-Tacher, R., McConnell, S., and Graham, M. (2001). Do No Harm – A comparison of the effects of on-line vs. traditional delivery media on a science course. *Journal of Science Education and Technology 10*(3), 257 – 265.

Silverman, R. M. (1999). *Guidelines for Good Practices: Effective instructor-student contact in distance learning.* Sacramento, CA.: Academic Senate for California Community Colleges. ERIC Document No. 432338.

Swan, K., Shea, P., Fredericksen, E., Pickett, A., Pelz, W., and Maher, G. (2000). Building knowledge, building communities: Consistency, contact and communication in the virtual classroom. *Journal of Educational Computing Research 23*(4), 359 – 383.

Valasek, T. (2001). *Student Persistence in Web-based Courses: Identifying a profile for success.* New Jersey: Raritan Valley Community College Center for the Advancement of Innovative Teaching and Learning. ERIC Document No. 466276.

Towles, D. E., Ellis, J. R., and Spencer, J. (1993). Student Persistence in a Distance Education Program: The Effect of Faculty-Initiated Contact. Paper presented at the annual forum of the *Association for Institutional Research* in May 1993 at Chicago, Illinois.

Tucker, S. Y. (2000). Assessing the Effectiveness of Distance Education Versus Traditional On-Campus Education. Paper presented at the annual meeting of the *American Educational Research Association* in April 2000 at New Orleans, Louisiana.

U.S. Department of Education. (2002). A profile of participation in distance education: 1999 – 2000. NCES Publication No. 2003-154). Jessup, MD.: Anna C. Sikora.

Wallace, L. (1996). Changes in the demographics and motivations of distance education students. *Journal of Distance Education 9*(1), 1 – 31.

Walter, T. and Siebert, A. (1990). *Student Success: How to succeed in college and still have time for your friends* (5th ed.). Fort Worth, TX.: Holt, Rinehart and Winston.

Woodley, A. and Parlett, M. (1983). Student drop-out. *Teaching at a Distance 24*, 2 – 23.

Zajkowski, M. E.(1997). Price and persistence in distance education. *Open Learning 12*(1), 12 – 23.

Endnotes

1. The *Nelson-Denny Reading Test* (1993) by J. I. Brown, V. V. Fishco, and G. Hanna is available from Riverside Publishing Company, 425 Spring Lake Drive, Itasca, IL 60143-2079.

2. The *Study Skills Self-Report* (2000) is available from T.S. Deka, Missouri Western State University, 4525 Downs Drive, Saint Joseph, MO 64507).

About the Authors

Teddi Deka is an associate professor of Psychology at Missouri Western State University (Western). Like his co-author, Dr. Deka has been teaching teleclasses for several years, and has helped to expand and improve the program at Western.

Patrick McMurry is a professor of Economics at Missouri Western State University (Western). Like his co-author, Dr. McMurry has been teaching teleclasses for several years, and has helped to expand and improve the program at Western.