Student-Advisor Interaction in Undergraduate Online Degree Programs: A Factor in Student Retention

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Higher education institutions struggle in determining the best ways to provide effective academic advising for students in online degree programs. In addition, the dropout rate among online students reaches to 50%. Research on student retention reveals that lack of interaction is a key factor in a student's decision to drop out. I used a mixed-methods research design based on the prescriptive-developmental advising framework to investigate advisor interactions with students in online undergraduate-degree programs. The results indicate the need to establish practices and tools that create a more personalized and collaborative student-advisor interaction where advisors focus on providing cognitive, affective, and systemic support.

KEY WORDS: *Academic Advising Inventory*, advisor role, communcation, develomental advising, Internet, prescriptive advising

Higher educational institutions have experienced a dramatic growth in online enrollment, especially at the undergraduate level. The number of students who enroll in at least one online course has increased 250%, from 1.6 million in 2002 to over 5.6 million in 2009 (Allen & Seaman, 2010). Those enrolled in entire degree-programs online increased 335%, from .48 million in 2002 to more than 2.1 million in 2009 (Garrett, 2009). This growth in online enrollments is expected to continue (Allen & Seaman, 2010): The National Center of Educational Statistics (2006) estimated that by 2015 over 8.0 million students will be taking college courses online.

While more students currently enroll in online courses and degree programs than in the past, several studies indicate that they drop out at a significantly higher rate than do traditional on-campus students (Bocchi, Eastman, & Swift, 2004; Carr, 2000; Chyung, 2001; Diaz, 2002; Herbert, 2006; Liu, Gomez, Khan, & Yen, 2007; Rust, 2006; Terry, 2001). Some studies (Berge & Huang, 2004; Lorenzetti, 2002; Rovai, 2003; Tyler-Smith, 2006) indicate that the dropout rate for online students reaches as high as 50%, presumably 10 to 20% higher than for those in traditional on-campus programs (Rovai, 2003; Tyler-Smith, 2006).

Over the past three decades, extensive research on student attrition revealed that the lack of effective student support services is a key factor in a student's decision to drop out of college (Dahl, 2004; Gibson & Gibson, 1997; Ruth, 2005; Scholl, 1999; Simpson, 2002; Tait, 2000; Tinto, 1987). In fact, the Noel-Levitz (2009) *National Student Satisfaction and Priorities Report*, based on responses from approximately 800 higher education institutions, reaffirmed the link between effective student-support services and student retention. In addition, recent research (Axelson, 2007; Klukas, 2006; Lokken, 2009; Morris & Miller, 2007; Raphael, 2006; Ruth, 2005) regarding student-support services for online students shows that hundreds of colleges and universities still struggle with the best ways to provide effective student-support services for online students. La Padula (2003) stated online students lack support, creating "isolation that can be discouraging and lead to failure" (p. 120).

A review of the literature on student retention reveals that Tinto's model of student retention is the most cited and supported by empirical data (Nash, 2005). Tinto (1987) proposed that the desire to drop out results from student feelings of isolation, caused by lack of interaction within the academic environment that results in unmet personal needs and unattended interests. Administrators, practitioners, and scholars have used Tinto's (1987) work to analyze attrition for both traditional and nontraditional students (Ashar & Skenes, 1993).

Published literature dealing with student-advisor interaction in online degree programs (Conrad & Donaldson, 2004; Diaz & Bontenbal, 2001; Moore, Sener, & Fetzner, 2006; Wojciechowski & Palmer, 2005) offers several strategies for individualizing interactions with off-campus students, such as placing a phone call to the student, providing students with an orientation before the start of their course work (Wojciechowski & Palmer, 2005), making online introductions (Anderson, 2003), and facilitating some informal chat sessions (Carnevale, 2000). In an extensive review of published research on student-advisor interaction in online education, Curry and Barham (2007) found that "while some knowledge of academic advising in distance education has been gained … the review of research demonstrates that voids in the literature exist" (p.

189), and they recommended further research in advising delivery to online students. Due to the limited research on student-advisor interaction in online education, I also reviewed empirical studies associated with student-advisor interaction among undergraduate students earning their degrees on campus (Coll, 2009; Eckhardt, 1992; Milburn, 1994; Moody, 1996; Thiry &Laursen, 2011; Weir, 2003). The findings from studies of on-campus students were consistent, with results showing that most students preferred a developmental style of interaction, and according to Moody (1996), the style of academic advising provided "does have a relationship to their feeling of mattering in the college setting" (p. 1).

Morris and Miller (2007) looked at student-advisor interaction provided to students seeking their undergraduate degree online at 60 private institutions and the students' overall satisfaction with advising. Their results were consistent with results of students in an on-campus environment: "Student satisfaction was positively related to time spent discussing personal values and possible academic majors/concentrations" (p. 5).While these results add valuable understanding to the problem associated with online degree programs, academic affairs officers, not students, responded to the survey. In addition, the response rate was only 40% and only 11 of the 60 colleges that responded offered online degree programs. Morris and Miller concluded by suggesting that future research should be targeted specifically to private institutions offering online degree programs.

A common thread in the cited literature suggests that interaction in education is a fundamental component of effective learning and that interaction extends beyond the traditional classroom (Dewey, 1916). Interaction in online degree programs, often undertaken by students who live far from the college and may feel isolated, may prove more important than for on-campus students (Burham & Walden, 1997). King (1993) suggested that academic advising is "the only structured service on campus that guarantees students some kind of interaction with a concerned representative of the institution… (pp. 21), and numerous studies suggest that effective academic advising significantly affects student retention (Dahl, 2004; Gibson & Gibson, 1997; Ruth, 2005; Scholl, 1999; Simpson, 2002; Tait, 2000; Tinto, 1987); therefore, wise administrators focus on student-advisor interaction as a factor in retaining students in online degree programs. Kuhn (2008) stated, "Academic advising must be examined for its effectiveness in the lives of students. The future history of academic advising will lie in its ability to create and use theory, apply findings in practice, and assess effectiveness through research" (p. 14).

Searching for empirical studies on the academic advising needs of students in online degree programs, I identified four comprehensive studies: Axelson (2007), Klukas, (2006), Raphael (2006), and Waters (2003). Axelson (2007) examined students' use and interest in support services and found that "academic advising must be improved and offered to undergraduate students enrolled in online courses" (p. 108). Furthermore, Axelson found that students in online degree programs seek individualized student-advisor interaction and advocated for future research that defines the elements of effective academic advising services for students in online degree programs.

Klukas (2006) conducted a quantitative research study of undergraduates enrolled in online classes at 29 separate 2- and 4-year public colleges and universities in Wisconsin, focusing on the need, importance, and accessibility of 12 student support services, including academic advising. Results showed that the majority (71%) of the respondents from the 4-year institutions perceived academic advising to be very important for students in online degree programs. However, academic advising was one of the "least commonly offered online student service ... [and was one of the] least effective services offered" (p. 59). While the results of the study make an important contribution to the limited literature related to academic advising services for students in online degree programs, Klukas urged, "Further study of academic advising preferences [is needed] ... in an effort to promote the creation of a multifaceted advising system" (p. 62).

Raphael (2006) investigated students' perceptions of student support services in online degree programs at six 4-year colleges and universities (five public and one private) in the United States. Both undergraduate (72) and graduate (199) students were surveyed, with results showing that, of all 49 student services, "access to individual academic advising" (p. 6) was the fourth most important student service needed by students seeking their entire degree online. However, academic advising was typically not provided by the respondents' institutions. Raphael summarized, "This study shows that online learners [students in online degree programs] are not receiving these services to the level that they perceive they need" (p. 77).

Waters (2003) conducted an action research study that involved advisors from the California

Community College system who advised online students. Waters asked, "Are online students using academic advising services?" (p. 9). The results indicated that online students use advising services, and Waters suggested that advisors critically influence the success of online students because they serve as mentors, guides, teachers, and "educational brokers ... [by addressing] student needs, academic planning, learning styles, and student's personal concerns" (Abstract). Waters recommended that others conduct additional research to seek information directly from students.

The National Academic Advising Association (NACADA), based on input from researchers, policy makers, and practitioners, defined a set of standards for advising online students. The NACADA Standards for Advising Distance Education Students (National Academic Advising Association, 2010) stated that student-advisor interaction needs to be "individualized [so that students] become more effective in dealing with concerns that influence their pursuit of personal learning goals at a distance and at the time and delivery mode preferred by the learner" (p. 2).The findings from empirical studies associated with the academic advising needs of students in online degree programs support these statements. Student support services comprise one of the essential components of any successful online degree program, and online students find student-advisor interaction a critical element in student retention. More specifically, four studies (Axelson, 2007; Conrad & Donaldson, 2004; Diaz & Bontenbal, 2001; Moore et al., 2006) suggested that an individualized, learner-centered approach to student-advisor interaction increases a student's satisfaction with the academic advising services received.

For this study, I determined the perceptions and the essential elements associated with effective student-advisor interaction among students in online undergraduate degree programs. As the theoretical framework chosen for examining student-advisor interaction, I chose Crookston's (1972/1994/2009) styles of academic advising, which embody academic advising as a teaching-learning interaction of shared responsibility between the student and the advisor. Crookston defined styles of student-advisor interaction using the terms *prescriptive* and *developmental* to help shape the larger discussion on research associated with interaction in academic advising. Expanding on the work of individuals such as Chickering (1969), Crookston stated that student-advisor interaction could be measured based on a continuum that ranges from a perspective style of interaction, which is authority-based and advisor-dominated, to a developmental style of interaction, which involves shared decision making (Weir, 2003). Crookston's theoretical framework of academic advising has long been recognized as the established theoretical model of student-advisor interaction, and, thus, is an effective framework to use in this study.

Three research questions guided this study:

RQ1. What styles, prescriptive or developmental, of student-advisor interaction do students in online undergraduate degree programs perceive they currently receive?
RQ2. What topics do undergraduates in online degree programs discuss with their academic advisor?
RQ3. What do undergraduates in online degree programs define as essential elements of a student-advisor relationship?

Method

Sample and Participant Selection

To identify perceptions of student-advisor interaction among students in online undergraduate degree programs, I conducted the study at a nonprofit private university located in New England that had been offering online courses since 1999. Based on responses to a questionnaire, I classified student-advisor interaction in online undergraduate degree programs using Crookston's (1972/1994/2009) prescriptive-developmental continuum. Two hundred eighty-three undergraduates seeking to earn their degree entirely through an online curriculum received an e-mail from the provost that defined the background and benefits of the study. The letter also pointed out that the online survey was available in their online course for a 2-week period. The response rate was 83.4% (236).

I employed a two-phase exploratory mixed-methods study, as defined by Creswell and Planto Clark (2007), to answer the research questions. Two participants who completed the *Academic Advising Inventory* (AAI) (Winston & Sandor, n.d.) subsequently were interviewed for the second phase of the study. I chose them based on two criteria: First, they agreed to be interviewed, and second, the results of Part 1 of the AAI indicated they scored among the highest in terms of receiving a developmental or a prescriptive style of student-advisor interaction.

Table 1 reports the demographic characteristics of the respondents. The majority (79.0%) of

respondents were female, Caucasian (87.3%), and married (55.9%). More than one third (38.6%) reported their age between 25 and 30 years. Table 2 reports the academic status of the respondents. The majority (62.3%) of students attended full-time, almost two thirds (70.8%) had completed more than 7 semesters, and nearly one half (42.2%) had earned a current GPA of at least 3.5.

Instruments and Measures

The research design allowed me to investigate the central overarching research question (RQ3): What do undergraduates in online degree programs define as the essential elements of a student-advisor relationship? Using the theoretical framework of Crookston (1972/1994/2009), I first gathered quantitative and demographic data through a nationally normalized survey, the AAI, because it is based on Crookston's theoretical continuum framework of student-advisor interaction. I used Part 1 of the AAI to classify the participants' responses to RQs 1 and 2. I added Question 22 to the AAI to ask respondents if they would be willing to participate in the one-on-one interview that would allow me seek to gather data to answer RQ3.

In the second phase, I gathered qualitative data through one-on-one interviews and reviewed physical artifacts that further expanded the understanding of student-advisor interaction. To accommodate the geographic distribution of participants and their busy schedules, I conducted the interviews by telephone and recorded the conversations. I also solicited and received data from participants in the form of e-mail interactions between participants and their advisors. Both advisors and advisees agreed to make copies of these e-mails available for the study.

Physical artifacts included internal communications sent to the student from the advisor and student-advisor e-mails sent during the students' program of study. All qualitative data were entered into a database to allow for proper organization, coding, and analysis. I coded the qualitative data using Crookston's (1972/1994/2009) theoretical framework. I used Creswell's (2009) qualitative data analysis process because it is ideal for align-

Table 1. Demographic summary of respondents' gender, cultural or racial background, age, and martial status ($N = 236$)

Characteristic	Frequency	%
Gender		
Female	186	79.0
Male	50	21.0
Cultural Racial Background		
African American or Black	6	2.5
Hispanic American	10	4.2
White or Caucasian	206	87.4
Biracial or Multiracial	1	0.4
Designated as other	1	0.4
Age in years		
23	4	1.7
24	1	0.4
25 to 30	91	38.6
31 to 35	29	12.3
36-40	31	13.1
41.45	46	19.5
46-50	30	12.7
50 plus	4	1.7
Marital status		
Single, never married	53	22.5
Married	132	55.9
Divorced	37	15.7
Separated	10	4.2
Widowed	2	0.8
Preferred not to say	2	0.8

Note. No one responded *Asian American* or *Native American* to questions on cultural or racial background; 12 (5.1%) participants chose not to respond to this question. No participants were between the ages of 18 and 22 years.

Table 2. Demographics of respondents' enrolment status, academic class standing, and current GPA ($N = 236$)

Characteristic	Frequency	%
Enrolment Status		
Full-time	147	62.3
Part-time	89	37.7
Academic Class Standing (semester)		
1st	6	2.5
2nd	24	10.2
3rd	5	2.1
4th	13	5.5
5th	6	2.5
6th	12	5.1
7th	3	1.3
More than 7	167	70.8
Current GPA		
4.0	47	19.9
3.5	102	43.2
3.0	3	1.3
Less than 3.0	16	6.8
Don't know	68	28.8

ing data to a particular theory. Creswell (p. 127) suggested a six-step linear, ascending hierarchical approach:

1. Organize and prepare the data for analysis.
2. Read through all the data.
3. Begin detailed analysis with a coding process.
4. Use the coding process to generate a description of the setting or people as well as categories or themes for analysis.
5. Define how the description and themes will be represented in the qualitative narrative.
6. Interpret the meaning of the data.

Based on Crookston's theoretical framework of student-advisor interaction for both the qualitative and quantitative data collected, the results provide a rich and theoretically based examination of online students' perceptions of the essential elements of a student-advisor relationship.

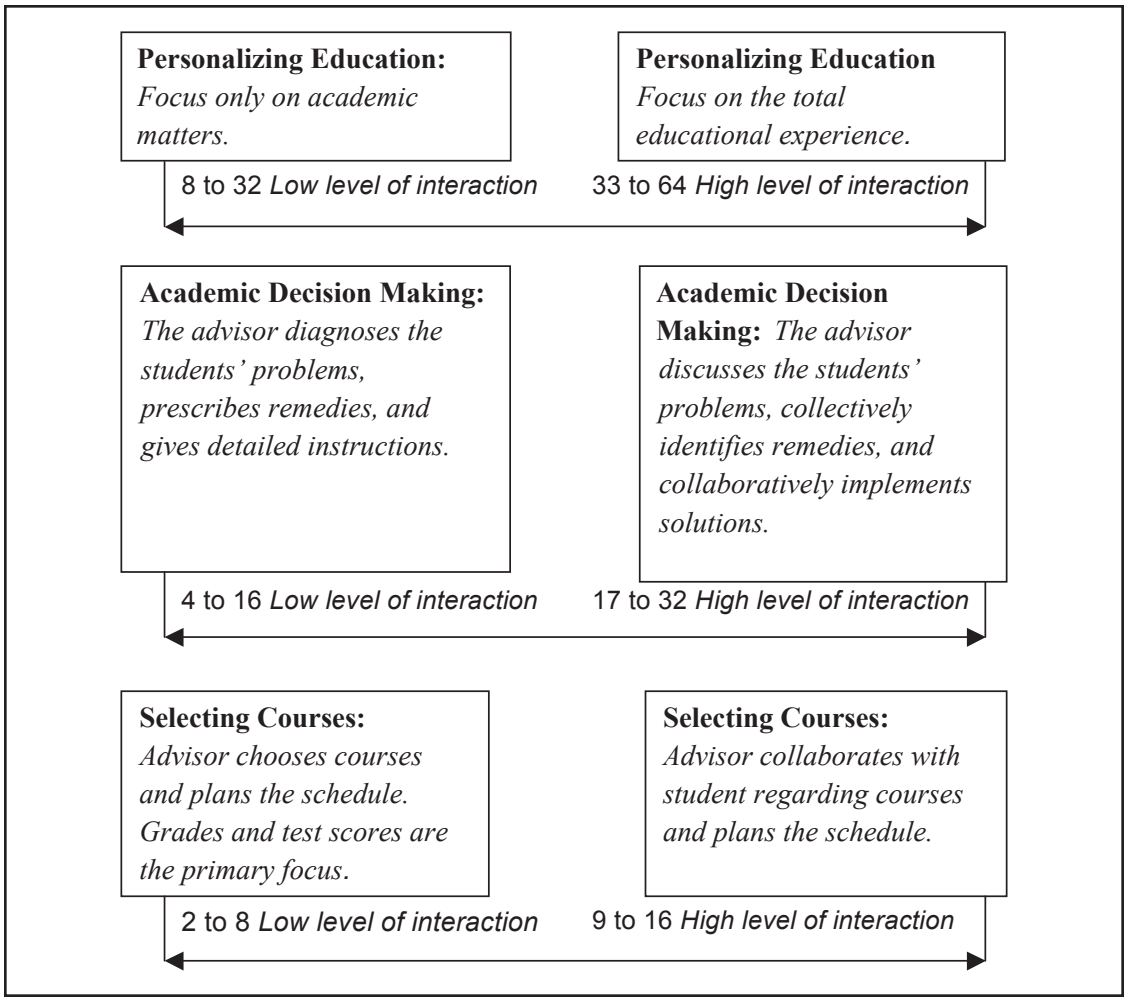
Results

Styles of Student-Advisor Interaction

To answer RQ1 of this study (what styles, prescriptive or developmental, of student-advisor interaction do students in online undergraduate degree programs perceive they currently receive?), I used the mean and standard deviations of participants' answers to the questions from Part 1 of the AAI. See Figure 1 and Table 3.

According to the standards defined in the AAI manual (Winston & Sandor, 2002), a final score of 14 to 56 indicates a prescriptive style of interaction,

Figure 1. Topics students discuss with their advisors.



Note. Based on Winston and Sandor (2002) as used by permission from NACADA.

Table 3. Descriptive statistics for styles of student-advisor interaction currently provided ($N = 236$)

Style of Interaction	Min.	Max.	*M*	*SD*	*n*
Prescriptive	21	56	52	5.1	90
Developmental	57	98	60	11.7	146

Table 4. Descriptive statistics for topics students discuss with their advisor ($N = 236$)

Topics Students Discuss	Min.	Max.	*M*	*SD*
Personalizing Education	8	52	29	31.1
Academic Decision Making	8	32	22	3.5
Selecting Courses	2	16	11	9.9

while a score of 57 to 122 indicates a developmental style of interaction. The majority (146) of respondents perceived they received a developmental style of interaction (see Table 3). However, the mean score ($M = 60$) indicated that of those receiving a developmental style, on average, were on the low end of the Winston and Sandor's (2002) developmental advising scale.

Topics of Advisor-Advisee Session

To answer RQ2 of this study (what topics do undergraduates in online degree programs discuss with their academic advisor?), I used a two-step process. First, based on the standards defined in the AAI manual (Winston & Sandor, 2002), each response to questions from Part 1 of the AAI was categorized by type: a) personalizing advising, b) academic decision making, or c) selecting courses. Second, I calculated the mean and standard deviation for each type (see Table 4).

The data outlined in Table 4 indicate that all respondents communicated with their advisors regarding all three types of matters: a) personalizing education, b) academic decisions, and c) selection of courses. The topic most often discussed with the advisors related to academic decision making. Selecting courses was the second most frequently discussed topic, followed by personalizing education.

Although the frequency levels show differences, the level of student-advisor interaction associated with each type proved less clear-cut. With regard to personalizing education, the wide range ($SD = 31.1$) of responses suggests diversity among the respondents. However, the mean ($M = 29$) indicates that the majority of respondents received a moderately low level of interaction. This finding suggests that the student-advisor interaction associated with personalizing education typically focused only on academic matters (Winston & Sandor, 2002).

Little deviation ($SD = 3.5$) characterized the level of student-advisor interaction regarding discussions associated with academic decisions. The mean of 22 suggests that the advisor and student discussed the student's problems collectively and then they collaboratively implemented solutions (Winston & Sandor, 2002).

When addressing topics associated with selecting courses, the data indicated that a wide variation ($SD = 9.9$) among the levels of interaction experienced by students. This suggests that not every student has a need to interact with his or her advisor regarding the courses to take. However, the mean ($M = 11$) indicated that when students do contact their advisors about course selection there is a moderately high level of student-advisor interaction (Winston & Sandor, 2002).

Essential Elements of a Student-Advisor Relationship

I collected and analyzed qualitative data from interviews and physical artifacts to answer RQ3: What do undergraduates in online degree programs define as essential elements of a student-advisor relationship? I created a detailed summary of the data related to each interview participant to establish thick descriptions of student-advisor interaction (as per Stake, 1995). Using Crookston's theory (1972/1994/2009), I categorize the quantitative data from the AAI.

Interview Data

Participant 1. Participant 1 was a divorced, unemployed, 50-year-old, African American female, who was recently diagnosed with cancer and moved frequently. In the fall of 1983, after graduating from high school, she first attended the university campus full-time to major in elementary education. She left the university as a freshman in the spring of 1985 for financial and personal reasons. In fall of 2008, she returned to the university, again as a freshman, to study human services online. At the time of the interview she was in the 5th semester and had earned a GPA of 2.0.

When asked RQ3 (what do you, as an undergraduate in an online degree program, define as essential elements of a student-advisor relationship?), Participant 1 responded:

> Having a sense of personal attention. When he responds he knows me. He knows what I need.

> He continues the conversation from where we last left off. He remembers me. I never felt like a number. I am a people person. I do not like feeling left out ... like a number. Being online with The university doesn't give you the feeling of being just another number, but you feel like a person. My advisor answers my questions in a relevant manner, not simply answering a question, but answer a need.
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> The main things I talk about with my advisor is how I am doing and where I am going. For example, I enrolled in an Excel [software] course and my advisor asked why I was taking that course, as it was not part of my degree program. I appreciated someone was looking at this for me. I explained that I chose to take this course because I know I would need some computer experience when I did get a job. It is good when someone is watching. I know when I send [him] an e-mail I would get an e-mail right back within a day.
>
> Another item I talked with my advisor about was my GPA. Initially he had all my courses planned, but my GPA dropped. [He] defined what classes I should take this year. [He] has sent me e-mails to help me state what they were looking for to show how I would improve my grades. [He] walked me through the steps I needed to take.

Artifact data consisted of 7 e-mail interactions between Participant 1 and her advisor from May 2009 to November of 2010. I coded the data as indicative of either prescriptive or developmental advising based on a key word search. Participant 1 initiated the interaction with the advisor 6 times in which she asked a question or described a problem that she could not address individually. Five of the 7 interactions were deemed prescriptive in nature, suggesting that the advisor typically dominated the session (Winston & Sandor, 2002).

Participant 2. A 26-year-old, married female employed part-time at a large cellular phone company, Participant 2 enrolled at another university full-time in Fall 2002 as a pre-med major. In the spring of 2003, as a freshman, she left that college citing that a degree in medicine was not a good fit for her. She then began to work at the cellular phone company to earn a salary and determine a career path. In May of 2010, she started at the university as a freshman to study business management online. At the time of the interview, she was in the second semester in the online undergraduate degree program and had achieved a GPA of 3.5. Because the focus of this study is interaction, I noted that Participant 2 worked with four colleagues at the cellular phone company who were also obtaining their degree online at the university, and she indicated interacting occasionally with these colleagues regarding class content, schedules, and faculty expectations.

When asked RQ3 (what do you, as an undergraduate in online an degree program, define as essential elements of a student-advisor relationship?), Participant 2 responded:

> The important element of a student-advisor relationship to me is having a quick response (i.e., within 24 hours). [My advisor] is great at getting back to me quickly. Also, I think it is important that the advisor is friendly, open and honest. The advisor needs to be that cheerleader in the background, the parent sitting in the stands saying, "You can do this!"
>
> The main things I talk about with my advisor is class structure: for example, any outside requirements, such as attending a session or workload for the class. Lots of classes I have taken I have found that I can sit down at a computer three times a week and I am done for the week. However, other classes, such as College English, require more time. The class structure was not as friendly so I required feedback from other students to understand what was expected from the professor. I want to have a sense of the structure of the class so that I can properly prepare and plan. I was scared at first to take an online class, but after a few weeks, I was all set. I rely on myself to get an overview of the class, as I am self-managed.
>
> Another thing I have discussed with my advisor is transfer credits from another college because it was important to understand what courses would transfer. [He] gave me an outline of what classes to take for the first 6 terms. We had to change it a bit, but he was very helpful in providing suggestions. It is good that each term he registers me for the classes I need to take. I do not talk with my advisor about vocational or job-related topics because the career image and management class helped me to define a long-range plan. My expectation is that I have what I want and my advisor is a tool for setting up for the next class. What

may be helpful is to have a mid-term check in to see where my grades are and how I am dong. In summary, I get what I need to be successful and then I get the job done. I am very self-directed.

Artifact data for Participant 2 consisted of 3 e-mail interactions between the participant and the advisor from May 2010 to November of 2010. I coded the artifact data using Crookston's (1972/1994/2009) theory as a framework. As for the data, from Participant 2, I used a key word search to code for prescriptive or developmental advising. The results indicated that 2 of the 3 interactions were prescriptive in nature, suggesting that the advisor typically dominated the session (Winston & Sandor, 2002). In 1 of the 3 interactions, Participant 2's main purpose for contact involved verification that the advisor received the course registrations.

Discussion

The responses to the items on the AAI regarding RQ1 indicated that the majority (n = 146) of respondents perceived a developmental style of student-advisor interaction. However, the mean score (M = 60) for these participants indicated that they rated the developmental interaction on the very low end of the Winston and Sandor's (2002) developmental advising scale. Therefore, I suggest that changes need to be made to create a higher level of developmental style of student-advisor interaction to address the needs of this population.

Responses to the AAI items relevant to RQ2 revealed three topics discussed by advisors and advisees: personalizing advisees education, advisees' academic decision making, and selection of courses. The personalizing education subscale "reflects a concern for the student's total education, including career/vocational planning, extracurricular activities, personal concerns, goal setting, and identification and utilization of resources on the campus" (Winston & Sandor, 1984, p. 11). The AAI results indicated that the majority felt they received a moderately low level of personalization in their education and that the interactions were more prescriptive than developmental (Crookston, 1972/1994/2009). Based on the results, one can see that student-advisor interaction relating to personalizing a student education needs improvement at the university under study.

The academic decision-making subscale allows researchers to focus "on the process of academic decision-making and the responsibilities for making and implementing those decisions" (Winston & Sandor, 1984, p. 11), such as assessing academic progress. The results indicate that the majority of respondents received a relatively high level of interaction with regard to academic decision making, suggesting that they participated in developmental student-advisor interactions (per Crookston, 1972/1994/2009). However, because students were required to contact their academic advisor to obtain information regarding their academic standing, current GPA, and course history, their experiences were likely more prescriptive than developmental. Results from the selecting courses subscale of the AAI indicated that advisors were heavily involved in selecting courses as the participants indicated experiencing a relatively high level of interaction with their advisors.

To answer RQ3 (what do undergraduates in online degree programs define as essential elements of a student-advisor relationship?), I analyzed data from one-on-one interviews. Results indicated that an essential element of the student-advisor relationship was a prompt, but also personalized, type of interaction. This study reaffirmed the advising needs of students in online degree programs: Participants in this study, much like participants in similar studies (Axelson, 2007; Raphael, 2006), sought "access to individual academic advising" (Raphael, 2006, p. 6).

Implications for Practice and Theory

Colleges and universities continue to struggle with effective provisions of academic advising for students in online degree programs. In addition, the dropout rate among online students is significantly higher than that of traditional on-campus students. The results of this study indicate the need to establish practices and tools that would make student-advisor interaction more developmental. Crookston stated that developmental advising is "concerned not only with a specific personal or vocational decision but also with facilitating the student's rational processes, environmental and interpersonal interactions, behavior awareness, and problem-solving, decision-making, and evaluation skills" (1994, p. 5).

O'Banion emphasized that advisors need to focus on student's goals and values rather than simply course selection and registration. O'Banion (1972/1994/2009) provided a five-step approach to developmental advising where the advisor serves as a teacher or guide. While O'Banion's five-step model continued to influence advising practices, changes such as an increase in the num-

ber of students taking online degree programs require a revision to his model. Burton and Wellington (1998) recommended an enhancement to O'Banion's model that integrates the five aspects of the framework to provide a developmental style of advising to online students; it might improve student-advisor interactions for those in online degree programs.

Klukas (2006) similarly suggested that a multifaceted advising system may help address the needs of online students. Such a system would likely involve organizational changes. For example, in an effort to provide a more personalized, but prompt, student-advisor interaction, both asynchronous and synchronous electronic communication technologies, should as e-mail, instant messaging, and Facebook could be used to support interactions associated with Burton and Wellington's (1998) model. Synchronous technologies, such a video conferencing, provide for real-time conversations (Lipshultz & Musser, 2007) and one-on-one personal interaction for advisors and students, also may prove valuable for implementing Burton and Wellington's (1998) model.

An online advising portal may be helpful for accessing administrative types of information, such as current GPA, course registration, unofficial transcripts, and educational policies and procedures. The portal may allow students to obtain answers to questions that do not require dialogue and thus free time in appointments for advisor-advisee developmental engagement. An online portal could also include a greater integration of online support for activities associated with admissions, orientation, course registration, financial aid, career services, and student tutoring support.

Limitations of This Study

The primary limitation of this study was the small surveyed population of students compared to the number represented in national statistics, which indicate that over 2.1 million students enrolled in online degree programs in 2009 (Garrett, 2009). Future research should include larger institutions or several smaller institutions to provide a broader view involving a larger sample.

Recommendations for Future Research

Research conducted over decades reveals that interaction is a key factor in student retention. Within online education, the vast majority of the studies associated with interaction focused on online courses, not degree programs. Because "academic advising is the only structured activity on the campus in which all students have the opportunity for one-to-one interaction with a concerned representative of the institution" (Habley, 1994, p. 10) and the link between effective student-support services and student retention is well documented, further research on student-advisor interaction in online education is needed.

In this study, I employed Crookston's (1972/1994/2009) framework as a model and the AAI (which supported Crookston's model) to analyze student-advisor interaction. Further research using Crookston's framework and the AAI would provide a larger source of data that can be used to enhance the findings of this study and provide a broader perspective on effective academic-advising practices for students in online degree programs.

Furthermore, because academic advising is grounded in teaching and learning (National Academic Advising Association, 2004; Ryan, 1992), an investigation of prior research studies associated with student-teacher interaction could be conducted and used as a guide in identifying practices and techniques for advising online students. In addition, as advising also focuses on human cognition, future research associated with Vygotsky's (1978) teaching model of scaffolding might prove a valuable model for academic advising. I welcome the opportunity to collaborate with others on future research associated with student-advisor or student-teacher interaction in online degree programs.

References

Allen, I. E., & Seaman, J. (2008). *Staying the course: Online education in the United States, 2008.* Retrieved from http://sloanconsortium.org/publications/survey/pdf/class_differences.pdf

Allen, I. E., & Seaman, J. (2010). *Class differences: Online education in the United States, 2010.* Retrieved from http://sloanconsortium.org/publications/survey/index.asp

Anderson, T. (2003). Modes of interaction in distance education: Recent developments and research questions. In M. Moore (Ed.), *Handbook of distance education* (p. 129–144). Mahwah, NJ: Erlbaum.

Ashar, H., & Skenes, R. (1993). Can Tinto's student departure model be applied to nontraditional students? *Adult Education Quarterly, 43*(2), 90–100.

Axelson, S. L. (2007). *The use and value of student support services: A survey of undergraduate students in online classes* (Unpublished doctoral dissertation). Retrieved from ProQuest Disserta-

tions and Theses database. (UMI No. 3259798).

Berge, Z., & Huang, Y. P. (2004). A model for sustainable student retention: A holistic perspective on the student dropout problem with special attention to e-learning. *DEOSNEWS, 13*(5). Retrieved from http://www.ed.psu.edu/acsde/deos/deosnews/deosnews13_5.pdf

Bocchi, J., Eastman, J., & Swift, C. (2004).Retaining the online learner: Profile of students in an online MBA program and implications for teaching them. *Journal of Education for Business, 79*, 245–53.

Burham, B., & Walden, B. (1997, May). *Interactions in distance education: A report from the other side.* Paper presented at the Adult Education Research Conference, Stillwater, OK.

Burton, J., & Wellington, K. (1998).The O'Banion model of academic advising: An integrative approach. *NACADA Journal, 18*(2), 13–20.

Carnevale, D. (2000, February 18). Boot camp helps new online students at Boise State U. C*hronicle of Higher Education, 46*, p. A48.

Carr, S. (2000, February 11). As distance education comes of age, the challenge is keeping students. *Chronicle of Higher Education, 46*, pp. A39–A41.

Chickering, A. W. (1969). *Education and identity.* San Francisco, CA: Jossey-Bass.

Chyung, S. (2001). Systematic and systemic approaches to reducing attrition rates in online higher education. *American Journal of Distance Education, 15*(3), 36–49.

Coll, J. E. (2009).The relationship between academic advising satisfaction and development advising. *Journal of College Student Retention: Research Theory and Practice, 10*(3), 391–404.

Conrad, R., & Donaldson, J. A. (2004). *Engaging the online learner.* San Francisco, CA: Jossey-Bass.

Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed-methods approaches.* Thousand Oaks, CA: Sage.

Creswell, J. W., & Planto Clark, V. L. (2007). *Designing and construction mixed-methods research.* Thousand Oaks, CA: Sage.

Crookston, B. B. (2009). A developmental view of academic advising as teaching. *NACADA Journal, 29*(1), 78–82. (Reprinted from *Journal of College Student Personnel, 13*, 1972, pp. 12–17; *NACADA Journal, 14*[2], 1994, pp. 5–9)

Curry, R. F., & Barham, P. D. (2007).Academic advising in degree programs. In M. Moore (Ed.), *Handbook of distance education* (pp. 181–191). New York, NY: Routledge, Taylor & Francis.

Dahl, J. (2004). Strategies for 100% retention: Feedback, interaction. *Distance Education Report, 8*(16), 1, 6–7.

Dewey, J. (1916). *Democracy and education.* New York, NY: Free Press.

Diaz, D. (2002). *Online drop rates revisited.* Retrieved from http://technologysource.org/article/online_drop_rates_revisited/

Diaz, D. P., & Bontenbal, K. F. (2001).Learner preferences: Developing a learner centered environment in the online or mediated classroom. *Ed at a Distance, 15*(8). Retrieved from http://www.usdla.org/html/journal/AUG01_Issue/article03.html

Eckhardt, C. A. (1992). *Prescriptive vs. developmental academic advising: An examination of advising style experience by community college students* (Unpublished doctoral dissertation). Retrieved from http://ir.library.oregonstate.edu/xmlui/bitstream/handle/1957/13595/EckhardtCarolA1992.pdf?sequence=1

Garrett, R. (2009). *Online higher education market update: Recession, recovery and the long-term.* Boston, MA: Eduventures.

Gibson, C. C., & Gibson, T. L. (1997). Workshops at a distance. *New directions for adult and continuing education, 1997*(76), 59–69.

Habley, W. R. (1994). *Key concepts in academic advising: Summer Institute on Academic Advising session guide.* Manhattan, KS: National Academic Advising Association.

Herbert, M. (2006).Staying the course: A study in online student satisfaction and retention. *Online Journal of Distance Learning Administration, 9*(4). Retrieved from http://www.westga.edu/~distance/ojdla/winter94/herbert94.htm

King, M. C. (Ed.). (1993). Academic advising, retention, and transfer. In M. C. King (Ed.), *Academic advising: Organizing and delivering services for student success.* New Directions for Community Colleges, No. 82 (pp. 21–31). Retrieved from http://www.eric.ed.gov/PDFS/ED357811.pdf

Klukas, G. (2006). *Online student support system at Wisconsin colleges and universities* (Unpublihsed doctoral dissertation). Capella University.

Kuhn, T. L. (2008). Historical foundations in academic advising. In V. N. Gordon, W. R. Habley, & T. J. Grites (Eds.), *Academic Advising: A comprehensive handbook* (2nd ed.) (pp. 3–16). San Francisco, CA: Jossey-Bass.

La Padula, M. (2003). Comprehensive look at online student support services for distance learners. *American Journal of Distance Edu-*

cation, 17(2), 119–28.
Lipshultz, W., & Musser, T. (2007). *Instant messaging: Powerful flexibility and presence.* Retrieved from http://www.nacada.ksu.edu/Clearinghouse/AdvisingIssues/Instant-Messaging.htm
Liu, S., Gomez, J., Khan, B., & Yen, C. J. (2007). Toward a learner-oriented community college online course dropout framework. *International Journal on E-Learning, 6*(4), 519–42.
Lokken, F. (2009). *2008 distance education survey results: Tracking the impact of elearning at community colleges.* Retrieved from http://inpathways.net/distance%20learning%20survey.pdf
Lorenzetti, J. P. (2002).Before they drift away: Two experts pool retention insights. *Distance Education Report, 6*(8), 1–2.
Milburn, S. D. (1994). *An analysis of the influences of gender, race, and age on student preference for the delivery of academic advising services* (Unpublished doctoral dissertation). University of Kentucky, Lexington.
Moody, D. (1996). *The relationship between academic advising philosophy and mattering for adult undergraduate students* (Unpublished doctoral dissertation). Retrieved from ProQuest Dissertations and Theses database. (AAT 9722442)
Moore, J. C., Sener, J., & Fetzner, M. (2006). Getting better: ALN and student success. *Journal of Asynchronous Learning Networks, 10*(3), 55–84.
Morris, A., & Miller, M. (2007). Advising practices of undergraduate online students in private higher education. *Online Journal of Distance Learning Administration, 10*(4). Retrieved from http://www.westga.edu/~distance/ojdla/winter104/morris104.html
Nash, R. D. (2005). Course completion rates among distance learners: Identifying possible methods to improve retention. *Online Journal of Distance Learning Administration, 8*(4). http://www.westga.edu/~distance/ojdla/winter84/nash84.htm
National Academic Advising Association (2004). *Concept of academic advising.* Retrieved from http://www.nacada.ksu.edu/clearinghouse/advisingIssues/Concept-advising-introduction.htm
National Academic Advising Association (2010). *Distance Education Advising Commission standards for advising online students.* Retrieved from http://www.nacada.ksu.edu/Commissions/C23/Documents/DistanceStandards_000.pdf
National Center for Educational Statistics (2006). *Number and percentage of students enrolled in postsecondary institutions, by level, disability status, and selected student characteristics: 2003-04* (NCES 2006–210). Retrieved from http://nces.ed.gov/programs/digest/d05/tables/dt05_210.asp
Noel-Levitz (2009). *2009 National student satisfaction and priorities report.* Retrieved from https://www.noellevitz.com/NR/rdonlyres/07BD5AF4-C3FE-4021-B1C4-6D6186976B80/0/NatSatisfactionReport4yrprivateA09.pdf
O'Banion, T. (2009). 1994 (1972): An academic advising model. *NACADA Journal, 29*(1), 83–89. (Reprinted from *Junior College Journal, 42*, 1972, pp. 62, 63, 66–69; *NACADA Journal*, 1994, *14*[2], pp. 10–16)
Raphael, A. (2006). A needs assessment: A study of perceived need of student services by distance learners. *Online Journal of Distance Learning and Administration, 9*(2). Retrieved from http://www.westga.edu/~distance/ojdla/summer92/raphel92.pdf
Rovai, A. P. (2003).In search of higher persistence rates in distance education online programs. *Internet and Higher Education, 6*(4),4 1–16.
Rust, D. Z. (2006). Examining interaction in online course in relation to student performance and course retention. *Dissertation Abstract International, 67*(03).
Ruth, D. A. (2005). *An investigation into the need for co-curricular student services for distance education students.* (Unpublished doctoral dissertation). Retrieved from ProQuest Dissertations and Theses database. (AAT 3167553)
Ryan, C. D. (1992). Advising as teaching: 1991 NACADA's President's address. *NACADA Journal, 12*(1), 4–8.
Scholl, J. A. (1999). *Improving academic advising in the community college: Retention and cost effectiveness factors impacted by faculty advising and online advising in the academic department* (Unpublished doctoral dissertation). Retrieved from ProQuest Dissertations and Theses database. (AAT 9956922)
Simpson, O. (2002). *Supporting students in online, open and distance learning* (2nd ed.).London, England: Kogan.
Stake, R. E. (1995). *The art of case study research.* Thousand Oaks, CA: Sage.
Tait, A. (2000).Planning student support for open and distance learning. *Open Learning, 15*(3), 287–99.

Terry, N. (2001, February). Assessing enrollment and attrition rates for the online MBA. *THE Journal: Technological Horizons in Education, 28*, 64–68. Retrieved from http://www.thejournal.com/articles/15251

Thiry, H., & Laursen, S. (2011).The role of student-advisor interactions in apprenticing undergraduate researchers into a scientific community of practice. *Journal of Science Education and Technology, 20*(6), 774–84. doi:10.1007/s10956-010-9271-2

Tinto, V. (1987). *Increasing student retention.* San Francisco, CA: Jossey-Bass.

Tyler-Smith, K. (2006). Early attrition among first time elearners: A review of factors that contribute to drop-out, withdrawal and noncompletion rates of adult learners undertaking eLearning programs. *MERLOT Journal of Online Learning and Teaching, 2*, 82–84. Retrieved from http://jolt.merlot.org/documents/Vol2_No2_TylerSmith_000.pdf

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes.* Cambridge, MA: Harvard University Press.

Waters, K. A. (2003). *E-Learning the influence of andragogy/self-directed learning on online counseling and advising* (Unpublished doctoral dissertation). University of San Francisco, CA.

Weir, S. (2003). *The relationship of psychosocial development to preferences for academic advising uses a two-dimensional measure* (Unpublished doctoral dissertation).Retrieved from ProQuest Dissertations and Theses database. (AAT 3094089)

Winston, R. B., & Sandor, J. A. (n.d.). *Academic advising inventory.* Retrieved from http://www.nacada.ksu.edu/clearinghouse/links/AAI-Inventory-Master.pdf

Winston, R. B., & Sandor, J. A. (1984). Development academic advising: What do students want? *NACADA Journal, 24*(1), 5–13.

Winston, R. B., & Sandor, J. A. (2002). *Evaluating academic advising: Manual for the academic advising inventory.* Retrieved from http://www.nacada.ksu.edu/clearinghouse/links/AAI-Manual-02.pdf

Wojciechowski, A., & Palmer, L. B. (2005). Individual student characteristics: Can any be predictors of success in online classes? *Online Journal of Distance Learning Administration, 8*(2). Retrieved from http://www.westga.edu/~distance/ojdla/summer82/wojciechowski82.htm

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