

Technology and Academic Advising: Student Usage and Preferences

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When both time and financial resources are limited, administrators selectively decide upon proper utilization of current technology and determine whether monies should be expended on new, flashy, and attractive technology realizing that it may not contribute to the advising experience. By obtaining feedback from the students whom the academic advising staff serves, administrators can effectively make such decisions. Findings from a student survey on technology preferences and utilization in academic advising for a large department of a public university are presented and discussed.

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Past literature on academic advising reflected the onset of the coming technology tsunami in higher education but offered no way to foresee the full extent of technological advances and their impact. Instructors voiced fears suggesting that moving away from a traditional, residential higher education model would dissolve the values and the benefits accrued by graduates (Mahoney, 1998). These same concerns could affect the academic advising arena, where the value and role of the advisor–advisee relationship, like that between professor and student, could face threat or erosion. As early as the 1980s, the literature on academic advising painted a less-than-favorable picture, with many students reporting that they were dissatisfied with the advising experience (Wehrs, 1992).

As interest in advising theories and practices burgeoned, efforts toward the development of computer-assisted academic advising were also underway. Proponents suggested that increased technology would put responsibility for maintaining the academic record on the students and the responsibility for information would be transferred from the advisor to the advisee. They suggested that technology, expected to facilitate student access to data, would also make many procedures easier and more efficient. Many in the academic advising profession today might argue that these positive outcomes have been realized. However, over the years, the concern about the impact of

technology remains, and policy makers work on ways to effectively and efficiently implement technological advances that serve the advisor–advisee relationship rather than replace it (Fries-Britt, 2008).

This overview of two ways to deliver advising services—face-to-face meetings and technology—addresses concerns about the impact of technology. The treatise also offers a brief discussion of the role of social media and aspects of the net generation as these inextricably constitute parts of student life and illustrate common means of communication among everyone in academe.

Comparison of Advising Through Technology and Face-to-Face Interactions

Balance between face-to-face and online interactions should be maintained in an advising relationship (Feghali, Zbib, & Hallal, 2011). The importance of keeping human contact as a central ingredient in the academic advising experience whenever possible continues to be reinforced in spite of the increasing array of electronic and virtual ways to communicate (Multari, 2004). For instance, in the face-to-face academic advising experience participants respond to visual as well as verbal cues. Nonverbal communication has been identified as an integral ingredient to understanding the meaning of a conversation or nuances about the intention of the speaker (Pentland, 2008). Fortunately, with technologies such as Skype and FaceTime, even at-a-distance sessions can be conducted in a modified face-to-face fashion. These advances, which have become prevalent and readily accessible to anyone with the Internet, change the nature of the conversation about the advisor–advisee relationship.

In fact, neither advisors nor advisees need to choose between electronic or face-to-face communication as the desirable features of each can be overlaid upon the other. For example, Web conferencing is one way in which deficits of both types of communication can be minimized, if not eliminated (Steele & Thurmond, 2009). It may ameliorate the depersonalization effect of technology on the advising experience as it fosters the balance between face-to-face and other online modes of advising (Gordon, 2004).

Although strict choices may be avoided, particular preferences with respect to online versus face-to-face interaction may characterize certain personalities (Harrington & Lofredo, 2010). While perhaps broadly assumed that students prefer face-to-face interactions, academic advisors need to assess the advisees' personality types to choose the variety of interaction opportunities that best fit. For instance, the extroverted type who prefers a face-to-face interaction may appreciate incorporation of technologies such as Skype or FaceTime for engaging with the academic advisor when a physical presence is not possible.

The results of this study support the literature encouraging provisions for students' preferred ways to interact. With the recent heavy emphasis on student retention in higher education, the literature describes the views of many who identify student engagement as a central contributor to retention. A match of advisees with the modes of interaction they prefer certainly seems an effective means of enhancing student satisfaction, which may, by extension, contribute to retention (Schertzer & Schertzer, 2008).

As with the different personality types and respective preferences, emotional maturity influences students' abilities to perform well within a particular setting (Jordan, 2000). With regard to the virtual environment, maturity does not reflect a function of age; that is, those in the younger demographic will likely have more experience with technology and be more facile with it than their older counterparts. However, those with mature judgment may better utilize electronic or virtual modes of information delivery and communication with an advisor.

Advisor accessibility contributes to the electronic environment, which provides for more ongoing opportunities and flexibility than brick-and-mortar venues. Furthermore, today's students (of any age, maturity level, or personality type) have become accustomed to uninterrupted availability of online resources and information, and their expectation transfers to the academic advising experience (Joslin, 2009).

Social Media and Advising

A most prominent dimension of today's technology, social media (e.g., Facebook and Twitter) influences the way many students transmit and receive information; however, student preferences on use of social media, or any technology, inform the way it can be implemented in a positive way, if at all (Ratliff, 2011). Heiberger and Harper (2008)

argued that social media fosters student engagement in higher education; they acknowledge that although the phrase "meeting students where they are" represents a popular rationale for incorporating social media into academic advising, its efficacy remains under scrutiny. Ongoing evaluations of utilization and preferences are important in this rapidly changing technology climate because selection of the appropriate technological tools to foster engagement and commitment is becoming essential as the choices expand. Consistent with the findings of the study presented herein, Walker and Jorn (2009) published results of a survey in which students indicated that social networking should be used judiciously; specifically, the respondents reported a preference for separating their social use of technology from their use of it for academic purposes.

The Net Generation

The Walker and Jorn (2009) survey results focused on postsecondary students' usage of technology with respect to instruction; that is, the researchers investigated the best ways to integrate digital technology as a part of the student learning experience. They referred to the *net generation* as students who have always had access to the Internet and other forms of digital technology as a part of their everyday lives. Their survey findings supported their premise that students think that technology is a good way to receive information. The results also showed that students are primarily consumers, rather than producers, of online information.

Comporting to the trend of increased mobile device use, the Walker and Jorn (2008) survey results indicated age as a predictor of comfort levels with technology use: Older students were found to be less comfortable than younger ones. Also, in general, students criticized use of technologies simply for the sake of using it. That is, results indicate that technologies should be employed purposefully and not as a gimmick to appeal to Generation Net.

Due to the popularity of handheld, wireless devices, such as smart phones, Stanford University generated a custom *app* (computer application) for academic advising, and it has garnered interest and offered insight into ways an app can broadly affect the advising arena (Flood & Black, 2011). Specifically, the Stanford developers learned that a uniform app for use across a large campus does not necessarily prove most useful, and stakeholders

should consider creating unique tools that serve particular students.

To shape the use of technology in the academic advising department, The Teacher Education Student Services (TESS), for the School of Education at the University of West Florida (SOE), I developed and conducted a survey for undergraduates. The overarching question is “What are our students’ preferences and their level of usage with respect to technology as a part of the academic advising experience?”

Method

Participants

Students enrolled in SOE undergraduate teacher education programs, which include three major programs and an education minor, received an e-mail invitation to take the survey. Instructors both in face-to-face and in online classes also asked their students to participate. Students in online classes received invitations via news postings on the course homepage and an e-mail from the instructor. A prior survey study showed that students enrolled in the SOE could be considered nontraditional: 45.9% were age 25 years or older, 55.4% reported caring for children or other dependents, and 32.2% were full-time students who also had full-time employment. Participants resided in the local area as well as other parts of the state. The few who came from other states and overseas were primarily enlisted or retired military, their spouses, or dependents. All participants volunteered to complete the survey, resulting in a self-selected sample with the attendant sample bias (addressed in the Limitations section).

Materials and Procedures

As the director of the TESS office of the SOE, I was able to spearhead the project, in collaboration with the academic advising staff, to elucidate student preferences on technology use in an advising context. The staff consists of two full-time and two part-time advisors. At the time we created the questionnaire, no existing survey of student utilization and preferences matched our needs. Therefore, we developed survey items to address student preferences with respect to specific types of and student utilization of technologies at our institution. One of the full-time advisors compiled a list of topics and questions that the staff had determined to be relevant in making decisions to either change, improve, or continue with delivery of services to

students. For example, informal conversations with students revealed that they felt bombarded by e-mails, which they systematically deleted, so the staff included items in the survey regarding use of e-mail. Face validity of the survey items was established through a review process by the academic advising staff who had identified the salient issues. External validity was shown by the utility of the responses to assist in the data-driven decision-making process of the SOE administration.

Table 1 presents the 13 survey items, including the informed consent statement. We used Survey Monkey (www.surveymonkey.com) and provided a link to the survey in a mass e-mail invitation to SOE students. Responses were collected over 30 days, with a second e-mail invitation reminder sent to the initially invited group of students approximately halfway through the data collection period. We deliberately limited the number of survey items to entice more students to participate. Each survey item included an opportunity for the participant to provide a comment.

Data Analysis

The Survey Monkey program includes a data analysis feature used to gather descriptive information about the responses. Results of a paper-and-pencil version of the survey were combined with the online version results. I calculated and compared frequencies and percentages using an Excel spreadsheet. I looked at the response rate to determine the margin of error for the results. Using chi square tests of independence, I generated two cross tabulations to compare responses between groups with different demographic characteristics. I calculated Cronbach’s alpha to determine reliability. I reviewed participant comments provided for each survey item and analyzed them for commonalities with respect to the views or opinions expressed.

Results

Participants completed 162 surveys: 118 (72.8%) were from students enrolled in an online certification program with some course sections offered face-to-face, 32 (19.8%) were enrolled in a major program that includes primarily face-to-face course offerings, and 12 (7.4%) were in the education minor or the exceptional student education minor programs with course offerings available either online or face-to-face. The return rate for this survey was 20.9%, which allows for + 7% accuracy at $p = .05$. Cronbach’s $\alpha = 0.511$, which is

Table 1. Survey items

Item No.	Text
1	Informed consent statement: Agree/disagree. (must agree to be able to continue)
2	Student e-mail is the best way for me to access information about deadlines or other important School of Education information: Agree/Disagree.
3	It is important to students for Sunshine U School of Education to have a presence on Facebook: Agree/Disagree.
4	I visit the UWF School of Education page on Facebook to see if there are important announcements: Agree/Disagree.
5	I would follow TESS (Teacher Ed Student Services) on Twitter if it were made available: Agree/Disagree.
6	I would listen to podcasts from TESS with information about upcoming important events or due dates if podcasts became available: Agree/Disagree.
7	I would use Skype if it were available to interact with my academic advisor: Agree/Disagree.
8	I think that the amount of technology used to make information from TESS available to students is: Too little/Too much/Just right.
9	My preferences of ways to interact with my academic advisor would be: Face-to-face appointment/Phone appointment/Skype appointment if available/e-mail exchange (indicate order of preference).
10	I check my student e-mail: Daily/3–4 times per week/ Twice per week/Once per week/Less than once per week.
11	My preferences to receive important information from my academic advisor or from the School of Education would be: Student e-mail/Twitter/Facebook/Podcasts (indicate order of preference).
12	I register for online courses only: Agree/Disagree.
13	I am enrolled in the following education program: ESE & Elementary/Elementary/Middle Level/ Education Minor/ESE Minor.

Note. ESE refers to exceptional student education.

considered an acceptable, albeit not optimal, value for a survey of this type.

The results are presented in Tables 2 and 3. Table 2 indicates that students expressed a strong preference for accessing important information, such as deadlines, via student e-mail as opposed to announcements on Facebook, Twitter, or podcasts. More respondents also indicated a preference for Skype interactions with an academic advisor than indicated they do not like using it. Students showed an equal preference for online and face-to-face courses. Results indicate that approximately two thirds (67.3%) of the students participating in the survey think that the amount of technology utilized by TESS was “just right,” with a slightly greater percentage reporting that technology was used “too little” (18.5%) rather than “too much” (14.2%). Table 3 shows that most respondents chose face-to-face appointments for interacting with an academic advisor, and they indicated phone appointments as a second preference. They selected e-mail exchanges as third- and Skype as the least-preferred choices.

A high percentage of students reported checking their e-mail daily (75.2%). The majority (17.9%) of the others indicated they check e-mail three to four times per week. Students’ preference for receiving important information from an academic advisor was predominantly via e-mail (98.8%).

The cross tabulation of students’ preference for online versus face-to-face course offerings showed no statistically significant differences between the groups across survey items. A second cross tabulation of survey responses from students enrolled in the major program that could be taken completely online (not primarily face-to-face) also yielded no statistically significant difference (as per chi square test) between groups.

Students could provide a comment to accompany each item on the survey. For Item 2, participants primarily suggested improving the use of e-mail, such as making it more user friendly on handheld devices. For Item 3, several students indicated that they check their e-mail several times during the course of a day.

Table 2. Summary of survey results, Items 2 through 7 and 12

Item	Responses			
	Agree		Disagree	
	<i>n</i>	%	<i>n</i>	%
2	146	90.1	16	9.9
3	41	25.3	121	74.7
4	21	13.0	141	87.0
5	23	14.2	139	85.8
6	48	29.6	114	70.4
7	91	56.2	71	43.8
12	81	50.0	81	50.0

The comments for Items 4 and 5 showed lack of support for using Facebook by advisors, and comments for Item 6, about using Twitter, were even less favorable. The respondents offered little support for using podcasts (Item 7) and some ambivalent commentary about using Skype (Item 8). In general, most comments expressed negative opinions about using Facebook as a way to receive information about academics, and several revealed strong opinions that social networks should be reserved for socializing and not used anywhere in the academic arena.

Respondents offered expansive comments for Item 9 (Table 3). They focused on the use of technology in instruction outside of TESS as well as in academic advising. Comments for Item 10 reinforced the preference for face-to-face interaction whenever possible. The comments for Item 11 (Table 4) supported using e-mail to deliver important information to students, but several respondents articulated preferences to receive information to a personal e-mail account as opposed to a student e-mail account.

Table 3. Summary of survey results, Item 9

Preferred Interaction Type	Choice							
	First		Second		Third		Fourth	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Face-to-face appointment*	76	47.2	24	14.7	20	12.4	41	25.5
Phone appointment	29	17.9	78	48.1	39	24.0	16	9.8
Skype appointment	11	6.8	22	13.6	46	28.4	83	51.2
E-mail exchange	53	32.7	40	24.7	49	30.0	20	12.3

Note. *One respondent did not offer a preference regarding face-to-face appointment.

Discussion

The survey of the SOE undergraduate degree programs points to some interesting preferences. For instance, participants indicated some rather strong negative feedback about the use of social media as a vehicle for transmitting information to students, which contradicts arguments of advocates for social media as a desirable vehicle for student engagement (Heiberger & Harper, 2008). As suggested by those survey respondents expressing strong opinions about the appropriate use of Facebook, perhaps social media should be reserved for the nonacademic aspect of the higher education experience for students, such as for encouraging engagement within the social realm. Enhancing the social experience is a factor in student retention but may not be related to conveyance of specific information about academics (Tinto, 2007). As a result, as academic advisors budget their time, they should not prioritize use of social media.

The dominant preference for using e-mail as the vehicle of engagement with academic advising and information dissemination contradicts the prior anecdotal tales that contributed to the justification for research on utilization and preference of technology. The use of e-mail continues to be the dominant means of electronic communication in academic advising; it was first supported by results from the National Academic Advising Association's *National Survey on Technology in Academic Advising* (Leonard, 2004).

When considering which, if any, changes to make in how our department engages students and provides information, the TESS staff decided to incorporate Skype for video conferencing. While this technology has been available for a decade, funds had not been expended within TESS for its use. We used survey data to support the successful request for cameras and headsets for staff use in our department. However, while pursuing this option, we identified a superior alternative to

Table 4. Summary of survey results, Item 11

Preferred for Receiving Information	Choice							
	First		Second		Third		Fourth	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Student e-mail	160	98.8	2	1.5	0	0.0	0	0.0
Twitter	0	0.0	8	5.9	32	24.0	110	60.1
Facebook	2	1.2	93	68.3	33	24.8	23	12.6
Podcasts	0	0.0	33	24.3	68	51.2	50	27.3

Skype: Adobe Connect, which allows users to view documents during the video conference.

The process used by TESS illustrates the fluid nature of technology incorporation. When using new technology commensurate professional development must follow. Advisors need to update their skills to keep the advising environment new, interesting, and challenging.

Limitations

The self-selected sample with the accompanying bias, particularly relevant because the majority of participants responded to the online survey as opposed to a paper-and-pencil version, points to a limitation of the study. However, according to Gosling, Vazire, Srivastava, & John (2004), such sampling techniques produce results that are as viable as those garnered from traditional nonvirtual environments.

The relatively low return rate, which we may have improved with more than one reminder to participants, constitutes another study limitation. As the participant population was specific to a discipline, one cannot generalize the results beyond the sample. The survey itself could certainly have been expanded; however, an extensive survey might have discouraged some from participating because of time constraints. The TESS staff deliberately chose to use a short survey to attract as many participants as possible.

Recommendations

I recommend that subsequent efforts include more demographic data, such as that regarding gender and age group, for the specific sample. More detailed questions, particularly with respect to students' utilization of the new Adobe Connect option at TESS, would yield additional precise results. Accompanying interviews (in person or via Adobe Connect) could be included for at least a percentage of the participants to qualitatively enhance the survey responses. The overarching recommendation is that a regular,

ongoing investigation of students' preferences and utilization with respect to technology in academic advising should be conducted as should those used to uncover academic advisor use of technology (Steele, Miller, Steele, & Kennedy, 2005).

Summary

More is not necessarily better. Prudent use of resources necessitates an ongoing assessment of student utilization of and preference for technologies in the academic advising relationship. Working with existing technologies focuses efforts at improving the academic advising experience and environment. Within that context, an eye must remain on the next generation of advances, which increasingly consists of handheld wireless devices (Flood & Black, 2011). Keeping in mind the lessons learned from the Stanford model (Flood & Black, 2011), the TESS staff is exploring the possibility of creating an app for advising.

Fries-Britt's (2008) recommendation to collaborate with and to learn from students as advisors forge through new technologies must remain prescient to avoid the temptation to use technology just because it is omnipresent. Continuing to value student opinions and experiences is the way to shape the future of academic advising. Therefore, advisors need to know how, when, and why students utilize technologies in the academic advising relationship to generate efficient and effective outcomes for both advisors and advisees.

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