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Online Support Services for Undergraduate Millennial Students

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Abstract

Education has changed as a result of technological advances. Distance learning, particularly online learning, has rapidly increased its presence in higher education. Millennials, a new generation of students who have grown up with the Internet, are college-age. They expect access to the Internet to manage their daily lives. However, as they enter college, many discover that support services that are requisite to a successful college experience, are available on-campus but not online. The goal was to determine what contemporary college-aged students expect as online student support services so that institutions will know what to provide.

Data gathered through interviews with administrative support staff were used to modify a published survey and to guide construction of new questions. The modified instrument was validated by three experts and revised accordingly. All current students at Farmingdale State College were invited to respond to the web-based instrument that examined the current status of online support services. Following full-scale implementation, the data were analyzed. Results were used to create recommendations and considerations for the implementation of online support services at the college reviewed by the Vice President of Student Affairs and Enrollment Management. The final report is a comprehensive resource for college administrators who serve millennial undergraduates. It contains valuable information and guidance for the development and implementation of student support services in the 21st century. A serendipitous finding was that many non-traditional, older students expressed comparable needs for online support services.

Keywords: millennials, support services, student support, online support

1. INTRODUCTION

Prior to college, most students have used a wide variety of technologies in their everyday lives, audio book cassettes as young nonreaders, e-books and sophisticated handheld games as adolescents, cell phones used to text to "talk to" their friends—and social networking sites such as FaceBook and Twitter to interact anytime, anywhere via the Internet. Undergraduate students between the ages of 17-24 are often referred to as millennials and are characterized as being the first generation to grow up with the

Internet (Oblinger, 2003). They view information technology as a natural part of the environment and expect the ability to access their college records, register and pay for classes online, participate in online classes, manage their course and college needs online and at their convenience (Oblinger & Oblinger, 2005).

Yet too often, students' use of technology in higher education settings has been relatively unsophisticated, consisting of searching the

Internet, accessing an online course or word-processing. Nowhere is the lack of technical sophistication more evident than in student support services for students studying online who want to interact with their institution without time and place constraints (Mills, 2008). While campus-based students have the option of accessing support services in person, quite often online students are left to fend for themselves.

2. DESIGN AND DEVELOPMENT

After a thorough review of literature, an existing survey was chosen and modified guided by baseline data collected at FSC to gather data regarding online support services. The survey was divided into eleven categories - Distance Learning Needs, Online Admissions and Administrative Services, Online Orientation, Online Advising, Online Career Services, Online Services for Students with Disabilities, Online Personal Counseling, Online Academic Support, Online Opportunities for Campus Life, Online Library Services and Online Bookstore Services. Additionally, there was a section where demographic data were collected including, age, gender, employment, campus status and credits completed. The modified survey can be found in Appendix A.

A total of 476 online surveys were completed out of 6,419 surveys sent, 7.42% (There was no published reference. Data were obtained by an internal search of BANNER records). The survey was available on a private Farmingdale State College (FSC) server and accessible through the Internet from March 26th, 2009 until April 27th, 2009. The Senior Staff Support specialist for the School of Business at FSC maintained the server where the completed surveys were stored. The survey data were converted to Excel spreadsheets and stored on a flash drive. The stored data were then uploaded into the researchers' desktop computer and fed into SPSS 14.0 (statistical program) for analysis.

3. SAMPLE SIZE

Sampling is the process of selecting a number of individuals for a study in such a way that the individuals represent the larger group from which they were selected. Individuals in the defined population must have an equal and independent chance of being selected for the sample. Every individual had the same probability of self-selection (Gay, Mills, & Airasian, 2006). A general approach was based on a formula originally developed by the United States Office of Education, where Krejcie and Morgan developed a table of appropriate sample sizes based on population (as cited in Gay et al., 2006). Based on this table, a minimum sample size of 364 is appropriate for a population of 7,000.

Gay et al., (2006) notes that beyond a certain point (about n=5,000), the population size is almost irrelevant and a sample size of 400 would be adequate. Thus, the 476 surveys completed were sufficient to produce a valid and reliable investigation.

Due to the nature of the data collection process, a completely accurate return rate could not be calculated. While there were 6,419 students who were invited to participate, it was not possible to track the students who did complete the survey. In an effort to increase return rate, flyers advertising the survey and inviting students to participate were distributed. Invitations to participate were forwarded to students by instructors or they were invited to participate through an e-mail solicitation letter which was delivered either through the FSC e-mail listserv and/or through ANGEL CMS course mail.

4. LIMITATIONS

While the results have implications for student affairs administrators who make decisions concerning the planning, preparation and implementation of support services, there are limitations to this investigation that must first be acknowledged. A convenience sample was used. A convenience sample is a sample where the participants, in part or in whole, were selected at the convenience of the researcher and where the researcher makes no attempt, or only a limited attempt, to ensure that this sample is an accurate representation of some larger group or population (Gay et al., 2006). As stated previously, FSC is a typical State University of New York (SUNY) campus, with a demographic of students typical of any other regional SUNY school (http://www.suny.edu/About_suny/fastfacts/index.cfm). The results presented in this report can reasonably be extrapolated to other SUNY campuses.

There were limitations related to the data collection process. Invitations to participate were sent to students through FSC email and through ANGEL course mail. Additionally,

posters were placed in strategic locations throughout the campus. Furthermore, oral announcements were made at school related functions, clubs and events. While there were estimated numbers of students invited to participate, a totally accurate number could not be calculated. Despite best efforts, there were students who were unaware of the opportunity to participate, did not look at their e-mail, did not comprehend the instructions or overlooked the closing date of the web-based survey instrument.

5. IMPLEMENTATION

The survey was used to ascertain which online support services are currently available to students and which online support services they perceive as needed. Once the survey was closed, data were analyzed using a variety of statistical tests in SPSS 14.0. Only results that were significant at the .05 alpha levels will be discussed. Furthermore, when the data were analyzed using an independent t-test, Levine's Test for Equality of Variances was used. Equal variances are assumed in data collected and were verified using Levine's Test for Equality of Variances.

Demographic data is presented first followed by analysis of the data collected using descriptive statics. Next, the data collected from the survey is presented. Participants varied in gender, age, credit hours completed, course delivery, employment status and number of hours worked per week. Demographic information of participants is summarized in Table 1 (Appendix B). The respondents were 61.5% male and 37.4 % female. Age ranged from 17 to 50(+) years old. The average age of males was 21 and of females 23. Approximately 81% of the respondents attended classes on-campus, 18.2 % attended on-campus and online classes, and less than 1% attended only online classes. Approximately three-quarters were employed (73%) with 61.5% being male and 38.5% female. Both genders reported working an average of 27 hours per week. Approximately 65% of the unemployed respondents were male. Employed and un-employed respondents had similar averages with respect to credits completed.

6. ANALYSIS – SETTING THE BASELINE

A comprehensive list of services offered at FSC was compiled through personal interviews, examination of published literature and the school website. The list was used to modify existing and/or guide construction of new questions on the survey instrument. The list was constructed from data gathered during interviews with administrative support staff at FSC and examination of the college website and published literature and can be found in (Appendix C).

A similar baseline was constructed to explore the range of services comparable colleges provide to undergraduates across academe. The colleges that were examined were City University of New York (CUNY) and State University of New York (SUNY) schools in New York State. All information concerning support services was obtained through examination of college websites and portals as per Gay et al., (2006) who recommended that qualitative researchers can gain valuable information from examining various types of records or documents found in educational environments. The Internet and the WWW provided information and resources on many education topics and were a useful resource. The resulting data enabled an analysis and comparison of services currently offered at FSC and other colleges to their undergraduates' on-campus and online.

CUNY is the nation's largest urban public university. It serves more than 243,000 degree-credit and 240,000 adult, continuing and professional education students. It connects students, faculty and staff with a directory of departments including the Help Desk, Human Resources, Registrar, Student Life and others. A basic description of the CUNY portal can be found in Table 3 (Appendix D).

The School of Professional Studies (SPS) at CUNY serves the New York City area and offers graduate and undergraduate certificates and degree programs in a wide range of fields, including CUNY's first online Baccalaureate program. The Online Baccalaureate now offers two majors, a Bachelor of Arts in Communication and Culture and a Bachelor of Science in Business. Both degrees use an interactive online format to take advantage of current technologies, providing flexible and convenient ways for working adults to complete their baccalaureate degree. Table 4 lists the online support services provided by SPS (Appendix E).

SUNY's 64 geographically dispersed campuses bring educational opportunity within commuting

distance of virtually all New Yorkers and comprise the nation's largest comprehensive system of public higher education. The 64 campuses are divided into four categories, based on educational mission, the kinds of academic opportunities available, and degrees offered. They are: Community Colleges, Technology Colleges, Comprehensive Colleges, Research and University Centers. With a total enrollment of more than 427,000, students are pursuing traditional study in classrooms and laboratories or are working at home, at their own pace, through the SUNY Learning Network (SLN) and Empire State College.

Empire State College offers individual courses and full degrees through online learning. Students work asynchronously at convenient times and locations. Students communicate with faculty and course instructors by means of e-mail, telephone and through discussion areas online. Table 5 lists the online support services available through Empire State College (Appendix F).

SLN is a partnership in learning with SUNY campuses. SLN works with SUNY campus faculty and staff to provide online learning experiences at accredited New York State Institutions. SLN supports campuses with educational training specifically created for online teaching and learning. SLN also provides helpdesk services for both students and faculty who participate in the SUNY Learning Network. Online courses are offered through select SUNY campuses. Table 6 summarizes the online support services available to students participating in an SLN course (Appendix G).

Both CUNY and SUNY are similar in terms of numbers of students. The CUNY campuses are located in a much smaller geographic area than the SUNY campuses, CUNY is urban; SUNY more rural. However, CUNY schools offer many more online student support services to their students through the CUNY Portal. SUNY provides limited online support to SLN students. While most SUNY campuses offer basic services online, for the most part they are limited to the administrative core including services such as online admission, registration, financial aid and library services. However, further examination of individual SUNY campuses reveal that many provide additional online support services. Online support services at selected SUNY campuses are detailed in Appendix H.

7. EVALUATION

In order to determine what online support services undergraduate students want and need and which support services will enhance the college experience of millennial students, descriptive statistics for the 53 likert-type instrument items were analyzed. The five reported student services deemed most and least important are listed by mean in Table 7 (Appendix I). The two items with the highest mean are *Online access to the college catalog* (M = 4.34 SD = .852) and *Clear, complete and timely information regarding curriculum requirements* (M = 4.17 SD = .1.00). The two items with the lowest mean are *A distance learning student government* (M = 3.43 SD = 1.08) and *A website that link to other colleges and universities counseling centers site* (M = 3.63 SD = 1.04).

An independent t-test and a one-way ANOVA were utilized to analyze the data by age. Findings from the independent t-test are presented in Table 8 (Appendix J) and findings from the ANOVA are presented in Table 9 (Appendix K). For the independent t-test, the data were organized according to age and broken to students' status as (17-24 years of age) and (25 - 50+ years of age). There were five items that yielded significance, yet it was the non-traditional group (aged 25 – 50 +) that had the higher mean score, meaning that non-traditional students generally rated online support services with a higher need than the millennial students.

An ANOVA was also employed to analyze and compare different age groups. Six of the 53 items produced significant results at the .05 alpha level. These findings are presented in Table 4 (Appendix K.)

An independent t-test was used to analyze gender differences. Table 10 (Appendix L) presents the items on which female students rated the service more important than did male students. There were no items on which male students rated a service more important than female students.

To determine if students are receiving all of the support services that they feel they need, a paired t-test was used to compare student need and availability of services. For each significant pair, the mean of the need scores was rated higher than the mean of the availability scores.

For this research question only, all results were significant and displayed in Table 11 (Appendix M). To further illustrate the difference between the need for online support services and their availability, the difference in the mean values were calculated and presented. Results are displayed in Table 12 (Appendix N).

8. SUMMARY

With a total of 476 surveys completed, data were analyzed using descriptive statistics to produce the mean and standard deviation of each question. The five questions that were deemed the most important and the five questions that were deemed the least important according to their mean value were presented. Furthermore, three types of statistical analysis were conducted. An independent t-test, a paired t-test and a one-way ANOVA procedure were utilized. When the data were analyzed using an independent t-test, Levine's test for equality of variances was used; equality of variances is assumed where appropriate. All statistical tests were evaluated at the .05 level.

Statistically significant results were found with respect to gender and age of participants. Additionally, significant results were found with regard to need and availability of services using a paired t-test. The difference in the mean between need and availability of services were presented in descending rank order to further illustrate the differences between need and availability of online support services.

9. CONCLUSIONS

Are students receiving all of the support services they feel that they need to be successful?

To answer the question, a paired t-test was used to analyze the data. Every one of the survey question pairs bore significant results. Furthermore, for each significant pair, the mean of the need scores was rated significantly higher than the mean of the availability of service scores. While it was expected that many students would feel that they are not receiving the support services they need, these results were overwhelming. For every support service listed, the participants felt that they were not receiving the services to as high a degree that they needed them. While there are differences in the extent to which students ranked the need and availability of specific services, clearly a major issue has been uncovered. These results indicate that administrations must revise the

way in which the services are delivered. The magnitude of the differences between the need and availability of support services demonstrates the degree to which the need for support services exceeds their either real or perceived availability.

10. IMPLICATIONS

The outcomes add to existing literature on online support services. The results suggest that providing support services online can help to support both millennial and non-traditional students who participate in both online and on-campus courses. Furthermore, the outcomes add to the body of literature that report that providing anytime/anyplace access to student services may be one way that institutions can meet students' expectations for service, immediacy and interactivity (Coleman, et al., 2007, Shea, 2005).

Institutions must move towards a model in which services are designed around the needs of the student, not the institution (Lowery, 2004; Shea, 2005, SREB, 2007). The MSCHE (2006) states that programs should be available to support diverse student populations including older, disabled, international, distance and distributed students as well as students at sites other than the main campus. Findings presented could be used to support the development of online support services geared towards diverse student populations.

Additionally, regional accrediting agencies require colleges to offer the same student services to support distance and campus-based students. While colleges and universities have moved rapidly to develop online courses, equal effort has not been given to the development of support services that accompany those courses. Services should be available at the same times that academic courses are, yet very few institutions provide a full array of academic and administrative services that can be accessed at anytime from anyplace (SREB, 2007). The detailed findings provide insight into considerations for the design and implementation of online support services and offer recommendations to help administrations put into place the non-academic services that students indicated were most important. The investigation revealed that students feel that they are not receiving online support services at a desired level. Any significant difference between the need and availability of

service should be given consideration. Despite the overall rankings of need for services or differences between males and females, or participants of different age groups, the results show that for all the 53 likert-type items, participants overall did not perceive to be receiving adequate support services. Inadequate support services are a determent to the learning process (LaPadula, 2003, Herbert, 2006). Student services play a direct, vital role in success, including academic performance, psychological growth and program or certificate completion. Furthermore, evidence is mounting that services designed to serve distance learners also better serve those who live on or near the campus. Institutions that can provide quality, convenient services that are available at all times and in alternative formats are more likely to distinguish themselves from their peers and increase enrollment (SREB, 2007).

The findings contribute to the knowledge base concerning the development and implementation on online student support services. Recommendations were formulated from an analysis of the findings, consideration of baseline data collected from similar institutions and demographics of contemporary students.

Need versus Availability

Of utmost importance, findings indicate that students perceive that they have a higher need for support services than is currently being met. Providing adequate student services and technology support services to distance learning students must be a priority. Previously, the focus of online student services was on the services which are part of the administrative core such as financial aid, admissions and registration. The findings clearly indicate that services outside of the administrative core need equal consideration; specifically attention should be focused on the following student services:

Online Academic Advising

Online academic advising should be an option for students. It was one of the services which were ranked as most desired by students; as well as having one of the greatest differences between the need and availability. Several recent studies have demonstrated the connection between academic advising and student success, yet academic advising is not happening for all students (NSSE, 2007).

According to NSSE (2008), academic disengagement is a major problem in undergraduate education; occurring when students enter college, go to class, but don't interact with professors or advisors outside of the class. Online academic advising will provide an opportunity for students who would otherwise not be able to benefit from traditional face-to-face academic advising and at the same time provide opportunities for students and faculty and advisors to form connections outside of the classroom.

Online Personal Counseling

Online personnel counseling and career services were generally rated with a lower need than other services, however these services need to be implemented in order to better serve students. The mental health of students attending college is increasingly becoming a cause for concern, in both the US and Canada (SCUP, 2008). According to the American College Health Association (ACHA) and the National College Health Association (NCHA) the top five impediments to academic performance are:
- stress
- cold/flu/sore throat
- sleep difficulties
- concern for friend or family
- depression/anxiety disorders

The rate of students reporting ever being diagnosed with depression has increased 56% in the six years from 10% in spring 2000 to 16% in spring 2005. Additionally, 13% of students reported experiencing an emotionally abusive relationship in the 2004-05 academic years http://www.acha-ncha.org/pubs_rpts.html.

While personal counseling may not have been ranked as one of the most important online support services needed, findings indicate that learners are not currently receiving adequate personal counseling support at school. Additionally, with nearly all campus counseling center directors reporting an increase in the number of students seeking counseling, an online counseling system will provide a much needed alternative or supplemental service to students in crisis.

Gender Distinctions

Findings clearly indicate that student affairs professionals need to consider gender in the development of student support services. Females expressed a greater need for certain

support services, specifically *Online library services, Online academic support* and *Online advising* than did males. Putting the most desired support services online will provide benefits for on-campus students as well as online students. The ITC (2008) recently released distance education report notes approximately 59% percent of distance education students are female. In that online courses offer the only real growth in enrollments at most colleges, student affairs professionals need to consider the implementation and development of services that are most in demand by their distance students.

Age Distinctions

Considerations regarding differences in services based on age are indicated – however, it was the non-traditional students who recorded a significantly higher need for most support services than the millennial group. These differences were scattered among the support service categories somewhat concentrated in the Online advising section. It was surprising to discover that non-traditional students consistently rated the implementation of online support services at a higher need than millennial students. Age distinctions should be considered in the development of support services as the support services needs of millennial students are different from those of non-traditional students.

Future studies should address the actual delivery of support services. Are many of these services already available and students are simply unaware of their existence or how to use them? This investigation did not examine whether students used or would use services they knew were available. Could a solution be found in the delivery and promotion of services rather than developing more services?

A similar study could focus on participants from a variety of institutions rather than a single school. Additionally, another study could make an effort to collect data from more online learners as well as students that take both online and on-campus courses to ascertain if their needs are significantly different.

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Editor's Note:

This paper was selected for inclusion in the journal as an ISECON 2010 Meritorious Paper. The acceptance rate is typically 15% for this category of paper based on blind reviews from six or more peers including three or more former best papers authors who did not submit a paper in 2010.

Appendix A

Survey Instrument

Support Services for Millennial Undergraduates

The purpose of this study is to examine what learners express as their perceived needs in regard to online student support services.

Demographic information for the study.

Gender   ◉ Male   ○ Female

Age   [   ] *

Attendance   ◉ On-campus   ○ Online   ○ Both

Completed credits   [   ] *

Are you employed?   ○ Yes   ◉ No

If Yes, how many hours a week do you work?   [0.00]

Distance Learning Needs

Please select the number that best represents to what extent you agree or disagree with the following statements.
1=Strongly Disagree 2=Disagree 3=Don't Know 4=Agree 5=Strongly Agree

1. Access to Student Services beyond 8a.m - 5p.m.

	1	2	3	4	5
Students need this	○	○	◉	○	○
This is available to me	○	○	◉	○	○

2. Training in taking an online college course.

	1	2	3	4	5
Students need this	○	○	◉	○	○
This is available to me	○	○	◉	○	○

3. Easy access to a live person to answer questions about online learning.

	1	2	3	4	5
Students need this	○	○	◉	○	○
This is available to me	○	○	◉	○	○

4. Interactive student services, allowing for self-services as well as live support.

	1	2	3	4	5
Students need this	○	○	◉	○	○
This is available to me	○	○	◉	○	○

Online Admissions and Administrative Services

Please select the number that best represents to what extent you agree or disagree with the following statements.

1=Strongly Disagree 2=Disagree 3=Don't Know 4=Agree 5=Strongly Agree

5. Online access to the college catalog.

	1	2	3	4	5
Students need this	○	○	⦿	○	○
This is available to me	○	○	⦿	○	○

6. Online access to the academic honesty policy.

	1	2	3	4	5
Students need this	○	○	⦿	○	○
This is available to me	○	○	⦿	○	○

7. Online access to the student handbook.

	1	2	3	4	5
Students need this	○	○	⦿	○	○
This is available to me	○	○	⦿	○	○

8. Online access to a listing of services provided by the institution.

	1	2	3	4	5
Students need this	○	○	⦿	○	○
This is available to me	○	○	⦿	○	○

Online Orientation Services

Please select the number that best represents to what extent you agree or disagree with the following statements.
1=Strongly Disagree 2=Disagree 3=Don't Know 4=Agree 5=Strongly Agree

9. An orientation that includes preparation for the time management skills necessary to be a successful learner.

	1	2	3	4	5
Students need this	○	○	⦿	○	○
This is available to me	○	○	⦿	○	○

10. An orientation that includes technology training.

	1	2	3	4	5
Students need this	○	○	⦿	○	○
This is available to me	○	○	⦿	○	○

11. An orientation that explains available student services such as orientation, advising, bookstore or library .

	1	2	3	4	5
Students need this	○	○	⦿	○	○
This is available to me	○	○	⦿	○	○

Online Advising

Please select the number that best represents to what extent you agree or disagree with the following statements.
1=Strongly Disagree 2=Disagree 3=Don't Know 4=Agree 5=Strongly Agree

12. Access to individual online advising.

	1	2	3	4	5
Students need this	○	○	⦿	○	○

This is available to me

13. Clear, complete, and timely information regarding curriculum requirements.

	1	2	3	4	5
Students need this	○	○	◉	○	○
This is available to me	○	○	◉	○	○

14. Access all year to one-on-one and/or group academic advising.

	1	2	3	4	5
Students need this	○	○	◉	○	○
This is available to me	○	○	◉	○	○

15. Access to real-time academic advisors.

	1	2	3	4	5
Students need this	○	○	◉	○	○
This is available to me	○	○	◉	○	○

Online Career Services

Please select the number that best represents to what extent you agree or disagree with the following statements.
1=Strongly Disagree 2=Disagree 3=Don't Know 4=Agree 5=Strongly Agree

16. Clear descriptions and eligibility requirements for career planning and placement services.

	1	2	3	4	5
Students need this	○	○	◉	○	○
This is available to me	○	○	◉	○	○

17. Access to real time career counselors.

	1	2	3	4	5
Students need this	○	○	◉	○	○
This is available to me	○	○	◉	○	○

18. Notifications of important events, jobs, and other career related information.

	1	2	3	4	5
Students need this	○	○	◉	○	○
This is available to me	○	○	◉	○	○

19. Access to career services job search information.

	1	2	3	4	5
Students need this	○	○	◉	○	○
This is available to me	○	○	◉	○	○

20. Access to career services goal and decision-making assistance.

	1	2	3	4	5
Students need this	○	○	◉	○	○
This is available to me	○	○	◉	○	○

Online Services for Students with Disabilities

Please select the number that best represents to what extent you agree or disagree with the following statements.

1=Strongly Disagree 2=Disagree 3=Don't Know 4=Agree 5=Strongly Agree

21. Information on eligibility and documentation requirements for disability services.

	1	2	3	4	5
Students need this	○	○	◉	○	○
This is available to me	○	○	◉	○	○

22. Descriptions of what are reasonable and appropriate accommodations available through disability services.

	1	2	3	4	5
Students need this	○	○	◉	○	○
This is available to me	○	○	◉	○	○

23. Access to assistive technology.

	1	2	3	4	5
Students need this	○	○	◉	○	○
This is available to me	○	○	◉	○	○

Online Personal Counseling

Please select the number that best represents to what extent you agree or disagree with the following statements.

1=Strongly Disagree 2=Disagree 3=Don't Know 4=Agree 5=Strongly Agree

24. A website that clearly describes the counseling resources, including self-help materials.

	1	2	3	4	5
Students need this	○	○	◉	○	○
This is available to me	○	○	◉	○	○

25. Access to referral information.

	1	2	3	4	5
Students need this	○	○	◉	○	○
This is available to me	○	○	◉	○	○

26. Access to contact information for staff.

	1	2	3	4	5
Students need this	○	○	◉	○	○
This is available to me	○	○	◉	○	○

27. Information regarding confidentiality in regard to counseling services.

	1	2	3	4	5
Students need this	○	○	◉	○	○
This is available to me	○	○	◉	○	○

28. A website that links to other colleges and universities counseling center sites.

	1	2	3	4	5
Students need this	○	○	◉	○	○
This is available to me	○	○	◉	○	○

29. Counseling or appropriate referral services for those experiencing mental

health crises.

	1	2	3	4	5
Students need this	○	○	⦿	○	○
This is available to me	○	○	⦿	○	○

30. Access to self-help tools.

	1	2	3	4	5
Students need this	○	○	⦿	○	○
This is available to me	○	○	⦿	○	○

31. Access to online links and information regarding locally based counseling services.

	1	2	3	4	5
Students need this	○	○	⦿	○	○
This is available to me	○	○	⦿	○	○

32. Access to information about health and wellness programs.

	1	2	3	4	5
Students need this	○	○	⦿	○	○
This is available to me	○	○	⦿	○	○

Online Academic Support

Please select the number that best represents to what extent you agree or disagree with the following statements.
1=Strongly Disagree 2=Disagree 3=Don't Know 4=Agree 5=Strongly Agree

33. An online writing lab.

	1	2	3	4	5
Students need this	○	○	⦿	○	○
This is available to me	○	○	⦿	○	○

34. Online study tips.

	1	2	3	4	5
Students need this	○	○	⦿	○	○
This is available to me	○	○	⦿	○	○

35. An online math lab.

	1	2	3	4	5
Students need this	○	○	⦿	○	○
This is available to me	○	○	⦿	○	○

36. Information regarding learning assistance.

	1	2	3	4	5
Students need this	○	○	⦿	○	○
This is available to me	○	○	⦿	○	○

37. Information regarding supplemental instruction and other academic support services.

	1	2	3	4	5
Students need this	○	○	⦿	○	○
This is available to me	○	○	⦿	○	○

Online Opportunities for Campus Life

Please select the number that best represents to what extent you agree
or disagree with the following statements.
1=Strongly Disagree 2=Disagree 3=Don't Know 4=Agree 5=Strongly
Agree

38. A web portal/learning community that helps students feel connected to
other students, faculty, staff, and the institution.

	1	2	3	4	5
Students need this	○	○	◉	○	○
This is available to me	○	○	◉	○	○

39. A distance learning student government.

	1	2	3	4	5
Students need this	○	○	◉	○	○
This is available to me	○	○	◉	○	○

40. Newsletters and announcements regarding institution related information.

	1	2	3	4	5
Students need this	○	○	◉	○	○
This is available to me	○	○	◉	○	○

41. A sense of community that makes students feel connected to the institu-
tion.

	1	2	3	4	5
Students need this	○	○	◉	○	○
This is available to me	○	○	◉	○	○

Online Library Services

Please select the number that best represents to what extent you agree
or disagree with the following statements.
1=Strongly Disagree 2=Disagree 3=Don't Know 4=Agree 5=Strongly
Agree

42. An online library catalog that includes online lookup.

	1	2	3	4	5
Students need this	○	○	◉	○	○
This is available to me	○	○	◉	○	○

43. An online information literacy workshop.

	1	2	3	4	5
Students need this	○	○	◉	○	○
This is available to me	○	○	◉	○	○

44. Online library books (e-books).

	1	2	3	4	5
Students need this	○	○	◉	○	○
This is available to me	○	○	◉	○	○

45. Online library journals (e-journals).

	1	2	3	4	5
Students need this	○	○	◉	○	○
This is available to me	○	○	◉	○	○

46. Online library assistance.

	1	2	3	4	5

	1	2	3	4	5
Students need this			●		
This is available to me			●		

47. Online library book renewal.

	1	2	3	4	5
Students need this			●		
This is available to me			●		

48. Online ILL (Inter library loan).

	1	2	3	4	5
Students need this			●		
This is available to me			●		

Online Bookstore Services

Please select the number that best represents to what extent you agree or disagree with the following statements.
1=Strongly Disagree 2=Disagree 3=Don't Know 4=Agree 5=Strongly Agree

49. An online bookstore that includes online textbook lookup.

	1	2	3	4	5
Students need this			●		
This is available to me			●		

50. An online bookstore that includes online textbook ordering.

	1	2	3	4	5
Students need this			●		
This is available to me			●		

51. An online bookstore that clearly describes all delivery methods.

	1	2	3	4	5
Students need this			●		
This is available to me			●		

52. An online bookstore that clearly describes all relevant policies.

	1	2	3	4	5
Students need this			●		
This is available to me			●		

53. Online payment and tracking of orders.

	1	2	3	4	5
Students need this			●		
This is available to me			●		

Submit

Appendix B

Demographic Characteristics of the Sample

Table 1. Demographic Characteristics of the Sample

Variable	n	Percent
Gender		
Males	298	62.6%
Females	178	37.4%
Status		
Online	4	<1.0%
On-campus	385	81.0%
Both	87	18.2%
Age		
17-24 years old	409	85.9%
25-29 years old	28	5.8%
30-30 years old	21	4.4%
40-49 years old	10	2.1%
50+ years old	8	1.6%
Hours Completed		
0 – 30 hours	116	24.3%
31- 60 hours	144	30.2%
61+ hours	216	45.3%
Employment Status		
Employed	348	73.1%
Not Employed	128	26.8%
Hours Worked		
0 – 15 hours	190	39.9%
16 -30 hours	175	36.7%
31- 40 hours	92	19.3%
41- 50 hours	15	3.1%
Over 50 hours	3	0.6%

Appendix C

Support Services at FSC

Table 2. Support Services at FSC

Service/ Department	Online	On-Campus
Student Advisement		X
Registration	X	X
Tutoring		X
Bookstore	X	X
Financial Aid	X	X
Bursar Services	X	X
Bookstore	X	X
Orientation		X
Tours		X
Student code of conduct Signoff		X
Health service forms	X	X
Housing tours		X
Library Services		
Orientation		X
Information literacy workshops		X
Catalog	X	X
Library Books	5000 e-books	100,000 books
Journals	Some citations and abstracts Some full text	2006 – present Journals on microfilm
Research Guide	X	X
Library assistance	e-mail 24hour response	X
Library book renewal		X
Library late fee payment		X
ILL (Inter Library Loan)	X only in OCLC Databases	X
Career Development		
Career Assessment		X
Resume Preparation		X
Interview Preparation		X
Job Search Skills		X
Career Related wkshps		X
Job Fair Internships		X
Career e-news	X	
Orientation		X
On-campus recruitment		X
Student Success Center		
Peer Mentoring		X
Electronic Student Information resource		X
Study Skills Workshop		X

Service/ Department	Online	On-Campus
Time Management Workshop		X
Service/ Department	**Online**	**On-Campus**
First Year Experience		X
Success Center Brochure & Newsletter		X
One on One student Counseling		X
Resource &Information Center		X
Services for Students with Disabilities		
Policies for students With disabilities	X	X
Counseling		X
Assistive technology Advisement and Preparation		X
Orientation support services		X
Alternate test site prep		X
E-book text	X	X
Job placement and job Readiness for students With disabilities		X

Appendix D

CUNY Portal

Table 3. CUNY Portal

E-Sims	E-Permit	Cardinal Check	Online Career Vault	College Central Network	Focus career and educational planning system	TIPPS
Change address/phone/email Pin Register Get transcript Check grades/schedule Financial aid/ tuition bill	Allows students to make arrangements to take courses at other CUNY colleges, without having to contact (in person) the host or home college for approval	An automated advising tool that provides information on students progress towards completing their degree requirements	Download information on industry career guides, industry employer guides and other career topic guides. Get advice, information and network with other job seekers on the largest online career community with VAULT'S electronic water cooler.	Post job, internship and career positions online. Jobs board link. Free service to students as well as corporate partners.	Online self-guided interactive program designed to help students select the correct college major and plan their career based on personal interests, values, skills, personality and aspirations	University database that contains course equivalents within the City of New York University system. This website also contains information concerning university transfer policies for students with associate degrees from CUNY.

Appendix E

Online Support Services at SPS

Table 4. Online support services for the SPS.

Health Insurance	Virtual Bookstore	Blackboard	Library	Online advisors	FAQ's
Health insurance is available to matriculated CUNY students who are enrolled for six credits or more each term through an HMO (Health Maintenance Organization) provided by GHI. The policy includes the provision of an array of hospital and medical benefits (including mental health care) as well as a "Good Health Incentives Program" that offers discounts on popular and widely used health-related products and services.	The CUNY School of Professional Studies Virtual Bookstore is your one-stop source for all your textbook and course material needs. This site was designed for you to: -Buy textbooks -Track textbook orders -Sell textbooks back from a previous semester	The CUNY Online Baccalaureate's virtual campus is supported by Blackboard. And will be used for all aspects of your classes and will be where you communicate with your professors and fellow students.	CUNY Online Baccalaureate students have access to library services both online and through Baruch College's Newman Library. Online Baccalaureate students will also have access to all CUNY libraries as well as a large multidisciplinary electronic collection provided to all CUNY students.	Advisors are available to speak with you, day and evening, by chatting live online or by calling 212-652-CUNY (2869).	Students can go to Frequently Asked Questions searchable database for answers to any questions regarding the CUNY Online Baccalaureate and its programs

Appendix F

Online Support Services at Empire State College

Table 5. Online Support Services offered at Empire State College

Financial Services	Bookstore	Specialized Services	Connect with Fellow students	Contacts	Learning Support
Financial aid/student accounts	Purchase books/track orders/online book store	Resume builder/disability services/online voter registration forms	Student academic conference/ all alumni/student events	Online help desk/ Online and local tutoring services/student services professional for filing academic grievances or other academic or non academic issues.	Online library/writing center/ tutoring service/mathematics library

Appendix G

Online SLN Support Services

Table 6. Online Support Services offered through SLN.

SLN Helpdesk	Training/Teaching Support	Technology Support
Available 24 hours, 7 days a week via email, or by telephone during operating hours.	Online instructors participate in a wide variety of educational and professional development - from technology training to working in virtual online worlds. SLN is involved in online educational activities globally.	Campuses receive the best in technology support - from the latest versions of online learning systems to 24/7 to helpdesk support

Appendix H

Support Services at SUNY Schools

SUNY at Morrisville - http://www.morrisville.edu
- Online advisement
- Online chat to address admission/financial aid issues
- Online information channel that contains useful information about college events, class cancel-lations, college office hours, club information and financial aid.

 SUNY at Alfred- http://www.alfredstate.edu/

- Online career services (career beam). Career Beam is a 24/7 virtual career center.
- Online parent newsletter
- Online news
- Online transfer credit eligibility

SUNY Old Westbury - http://www.oldwestbury.edu
- Online tours
- Online maps
- Online campus events
- Online career services
- Online mental health and alcohol counseling
- Online internship and job search

SUNY at Cobleskill - http://www.cobleskill.edu/
- Project muse - Project MUSE is a unique collaboration between libraries and publishers provid-ing 100% full-text online access to over 380 high quality humanities and social sciences jour-nals from over 60 scholarly publishers.
- Cobynet- Cobleskill's information network – One stop access to SUNY Cobleskill news, weath-er, class cancellations, web mail with FaceBook links
- Banner Web – provides access to many administrative functions for students, faculty and staff including course registration, bill payment, and access to grades.
- Online event map
- Online commuter student services
- Online list of approved programs and descriptions

SUNY at Oswego - http://www.oswego.edu

- MyOswego-On online forum where students can:
- Activate and Update NYAlert info
- Activate and/or forward SUNY Oswego email account
- Change PIN or Security Question
- View Address and Phone number
- Print Immunization Report
- Update Local Address
- Register – ADD/DROP classes/Check registration status
- View Holds/Schedule/Grades
- Apply to Graduate
- Request books from College Store
- View Status/Eligibility
- View Award Information

- View/Pay bill
- View Tax Notification

Rave Guardian- In the event of emergency, critical information will be provided to SUNY Oswego University Police to help them quickly respond. This service is provided free of charge by SUNY Oswego.

Discover- DISCOVER is a web based career planning program designed to assist all current students and alumni with many aspects of career/job search decisions. .

Appendix I

Means and Standard Deviations of the Five Most and Least Important Student Services

Table 7. Means and Standard Deviations of the Five Most and Least Important Student Services

Most Important			Least Important		
Survey Item	M	SD	Survey Item	M	SD
Online access to the college catalog	4.34	.852	A distance learning student government	3.43	1.08
Clear, complete and timely information regarding curriculum requirements	4.17	1.00	A website that links to other colleges and universities counseling centers site	3.63	1.04
Online payment and tracking of orders	4.15	.976	An online information literacy workshop	3.76	1.01
Access to real-time academic advisors	4.13	.996	An online writing lab	3.76	1.09
An online bookstore that includes online textbook Ordering	4.12	.983	Access to online links and information regarding Locally based counseling services	3.73	.966

Appendix J

Independent T-test Based on Age : Need for Services

Table 8. Independent T-test Based on Age: Need for Services

Survey Item	Millennial		Non-Traditional			
	M	SD	M	SD	t	p
Access to Student Services beyond 8 a.m. – 5 p.m.	3.94	1.00	4.28	1.07	-2.591	.01
Online access to the academic honesty policy.	3.76	.963	4.01	.077	-1.983	.04
An orientation that explains available student services such as orientation, advising, bookstore or library.	3.79	.989	4.06	1.04	-2.019	.04
Information regarding confidentiality in regard to counseling services.	3.76	.934	4.00	.953	-1.981	.04
Online Library Journals (e-journals)	3.92	1.00	4.25	.990	-2.546	.01

Appendix K

ANOVA Text Based on Age : Need for Services

Table 9.   ANOVA Test Based on Age: Need for Services

Survey Item	F	df	p	Tukey
Access to individual online advising	3.209	475	.013	5>2
Clear, complete and timely information regarding curriculum requirements	3.533	475	.007	5>2
Access to real-time academic advisors.	3.499	475	.007	1>2 5>2
Information regarding supplemental instruction and other academic support services.	2.998	475	.018	5>2
Online library journals (e-journals)	2.483	475	.043	5>1
Online library assistance	2.557	475	.038	5>2

Group 1 = 17-24 years old   Group 2 = 25-29 years old   Group 3 = 30-39 years old
Group 4 = 40-49 years old   Group 5 = 50 + years old

Appendix L

Independent T-Test Based on Gender : Need for Services

Table 10. Independent T-Test Based on Gender: Need for Services

Survey Item	Females		Males			
	M	SD	M	SD	t	p
An online library catalog that includes online look-up	4.15.	074	3.91	1.09	-2.625	.009
An online information literacy workshop	3.90	1.09	3.67	.957	-2.469	.019
Online Library Books (e-books)	4.22	.983	3.91	.990	-3.406	.001
Online Library Journals (e-journals)	4.15	1.02	3.86	.986	-3.062	.002
Online Library Assistance	4.04	.996	3.77	.960	-3.035	.003
Online Library Book Renewal	4.02	1.06	3.82	.058	-2.087	.037
Online Study Tips	4.00	1.03	3.80	1.02	-2.074	.039
Information Regarding learning Assistance	3.94	.981	3.76	.927	-2.041	.042
Access to all-year academic advising	4.19	1.03	3.93	1.01	-2.645	.008
Access to real-time academic advisors	4.26	.916	4.05	1.03	-2.311	.021
Online access to Student handbook	4.02	.954	3.80	.997	-2.312	.021
Access to career services goal and decision making assistance	4.17	.862	3.92	.993	-2.879	.004
Counseling or appropriate referral services for those experiencing a mental health crisis	3.91	1.02	3.69	1.01	-2.267	.024
A sense of community that makes students feel connected to the institution.	3.96	.994	3.76	1.04	-2.085	.038

Appendix M

Paired T-Test Based on Need and Availability of Online Support Services

Table 11. Paired t-test Based on need and availability of Online Support Services

Survey Item	Need				Availability	
	M	SD	t	p	M	SD
Access to Student Services beyond 8 a.m. – 5p.m.	3.99	1.02	12.67	.000	3.19	1.04
Training in taking an online college course.	3.72	1.07	10.31	.000	3.03	.993
Easy access to a live person to answer questions about online learning.	3.83	1.05	15.24	.000	2.89	.955
Interactive student services, allowing for self-services as well as live support.	3.87	.943	15.14	.000	3.04	.841
Online access to the college catalog	4.34	.853	10.63	.000	3.85	1.02
Online access to the academic honesty policy	3.80	.968	6.22	.000	3.52	.903
Online access to the student handbook	3.88	.986	7.36	.000	3.53	.979
Online access to a listing of services provided by the institution.	4.11	.956	12.33	.000	3.48	.981
An orientation that includes preparation for the time management skills necessary to be a successful learner.	3.68	1.11	9.65	.000	3.09	.940
An orientation that includes technology training.	3.67	1.02	12.02	.000	3.00	.880
An orientation that explains available student services such as orientation, advising, bookstore or library.	3.83	1.00	10.75	.000	3.28	.921

Survey Item	Need				Availability	
	M	SD	t	p	M	SD
Access to Individual online advising	3.89	1.04	16.02	.000	2.82	1.01
Clear, complete, and timely information regarding curriculum requirements.	4.17	1.00	16.85	.000	3.05	1.13
Access all year to academic advising	4.03	1.02	16.36	.000	3.01	1.03
Access to real-time academic advisor	4.13	.996	16.82	.000	3.06	1.05
Clear descriptions and eligibility requirements for career planning & placement services	4.09	.953	19.05	.000	2.97	.918
Access to real time counselors.	4.09	.954	19.77	.000	2.96	.873
Access to career services job search information.	4.11	.921	15.68	.000	3.25	.935
Access to career services goal and decision making assistance.	4.01	.955	16.71	.000	3.06	.886
Notification of important events, jobs and other career related information	4.11	.893	12.86	.000	3.45	.989
Information on eligibility and documentation requirements for disability services.	3.80	.966	14.24	.000	3.10	.748
Descriptions of what are reasonable and appropriate accommodations available through disability services.	3.80	.970	13.94	.000	3.10	.751
Access to assistive technology	3.81	.978	13.47	.000	3.13	.747
A website that clearly describes the counseling resources, including self-help material.	3.87	.940	15.28	.000	3.03	.792

Survey Item	Need				Availability	
	M	SD	t	p	M	SD
Access to referral information.	3.83	.923	14.84	.000	3.02	.793
Access to contact information for staff.	4.02	.946	12.90	.000	3.37	.962
Information regarding confidentiality in regard to counseling services.	3.79	.939	13.59	.000	3.13	.817
A website that links to other colleges and Universities counseling center sites.	3.63	1.04	12.91	.000	2.88	.823
Counseling or appropriate referral services for those experiencing mental health crisis.	3.77	1.02	13.41	.000	3.00	.801
Access to self-help tools.	3.81	.955	14.06	.000	3.03	.770
Access to online links and information regarding locally based counseling.	3.73	.967	13.75	.000	3.00	.769
Access to information about health and wellness programs.	3.84	.968	14.46	.000	3.10	.867
An online writing lab.	3.76	1.09	13.80	.000	2.87	.870
Online study tips.	3.87	1.03	15.48	.000	2.92	.849
Online math lab.	3.79	1.05	15.38	.000	2.82	.810
Information regarding supplemental instruction and other academic support services.	3.83	.962	14.72	.000	2.97	.771
Information regarding learning assistance	3.82	.952	14.51	.000	2.98	.036
A web portal/learning community that helps students feel connected to other students, faculty, staff, and institution.	3.82	.952	14.51	.000	2.98	.794

Survey Item	Need				Availability	
	M	SD	t	p	M	SD
A distance learning student Government.	3.44	1.08	9.924	.000	2.88	.815
Newsletters and announcements regarding institution related information.	3.79	.983	9.652	.000	3.31	.907
A sense of community that makes students feel connected to the Institution.	3.84	1.02	13.48	.000	2.99	.942
Online library catalog that includes online lookup.	4.00	.972	13.74	.000	3.27	.933
Online information literacy Workshop.	3.76	1.01	14.43	.000	2.99	.742
Online Library books (e-books)	4.03	1.0	16.36	.000	3.01	.956
Online library Journals (e-journals)	3.96	1.01	15.09	.000	3.08	.920
Online Library Assistance	3.87	.982	15.56	.000	2.99	.868
Online library book renewal	3.89	1.02	15.82	.000	2.92	.828
Online ILL	3.75	1.02	13.14	.000	3.00	.793
An online bookstore that includes online textbook lookup.	4.10	1.01	15.01	.000	3.11	1.06
An online bookstore that includes online textbook ordering.	4.12	.983	13.84	.000	3.21	1.10
An online bookstore that clearly describes all delivery methods.	40.4	.995	15.33	.000	3.08	1.00
An online bookstore that clearly describes all relevant policies.	4.00	1.01	15.52	.000	3.04	.983
Online payment and tracking of orders.	4.15	.977	15.68	.000	3.20	1.00

Appendix N

Difference in Means between Need and Availability of Online Support Services

Table 12. Difference in Means between Need and Availability of Online Support Services.

Survey Item	Difference in Means
Access to real time career counselors.	1.13
Clear descriptions and eligibility requirements for career planning and placement services.	1.12
Access to real time academic advisors.	1.08
Access to individual online advising.	1.07
Access to career services goal and decision-making assistance.	1.05
Clear, complete, and timely information regarding curriculum requirements.	1.02
Access all year to academic advising.	1.02
Online library books (e-books).	1.02
An online bookstore that includes online textbook lookup.	.99
An online math lab.	.97
Online library book renewal.	.97
An online bookstore that clearly describes all delivery methods.	.96
An online bookstore that clearly describes all relevant policies.	.96
Access to career services goal and decision-making assistance.	.95
Online study tips.	.95
Online payment and tracking of orders.	.95
Easy access to a live person to answer questions about online learning.	.94

Survey Item	Difference in Means
An online bookstore that includes online textbook ordering.	.91
An online writing lab.	.89
Online library assistance.	.88
Online library journals (e-journals).	.88
Access to career services job search information.	.86
Information regarding supplemental instruction and other academic support services.	.86
A sense of community that makes students feel connected to the institution.	.85
Information regarding learning assistance.	.84
A website that clearly describes the counseling resources, including self-help materials.	.84
A web portal/learning community that helps students feel connected to other students, faculty, staff, and the institution.	.84
Interactive student services, allowing for self-services as well as live support.	.83
Access to referral information.	.81
Access to Student Services beyond 8a.m - 5p.m.	.80
Access to self-help tools.	.78
Counseling or appropriate referral services for those experiencing mental health crises.	.77
An online information literacy workshop.	.77
A website that links to other colleges and universities counseling center sites.	.75
Online ILL (Inter library loan).	.75

Survey Item	Difference in Means
Access to information about health and wellness programs.	.74
Access to online links and information regarding locally based counseling services.	.73
An online library catalog that includes online lookup.	.73
Information on eligibility and documentation requirements for disability services.	.70
Descriptions of what are reasonable and appropriate accommodations available through disability services.	.70
Training in taking an online college course.	.69
Access to assistive technology.	.68
An orientation that includes technology training.	.67
Notifications of important events, jobs, and other career related information.	.66
Information regarding confidentiality in regard to counseling services.	.66
Access to contact information for staff.	.65
Online access to a listing of services provided by the institution.	.63
An orientation that includes preparation for the time management skills necessary to be a successful learner.	.59
Information regarding supplemental instruction and other academic support services.	.56
An orientation that explains available student services such as orientation, advising, bookstore or library.	.55
Online access to the college catalog.	.49
Newsletters and announcements regarding institution related information.	.48
Online access to the student handbook.	.35
Online access to the academic honesty policy.	.28