Nontraditional Students and the Library: Opinions, Preferences, and Behaviors

Carol Hammond

The population of nontraditional students in higher education is increasing rapidly, and academic libraries should examine whether additional or alternate services are needed to accommodate this growing user group. To gather data about nontraditional students for program planning and evaluation, a survey was designed that considered age, gender, and status as a full-time or part-time student as factors that defined nontraditional students, and which gathered student opinion in four areas: how these students used the library, when they wanted to use the library, which library services they felt were important, and how they evaluated some present library services. Group comparisons were then made for each question on the survey. The differences suggest possible marketing strategies, including matching some programs with particular groups of nontraditional students, and some service adjustments that libraries could consider to better accommodate all nontraditional students.

t has been projected that within the next ten years the student population at colleges and universities will change profoundly. Enrollments will increase dramatically, but the majority of students will not be the eighteen- to twenty-four-year-olds who come to higher education directly from high schools. Instead, the largest group will be students who are older and attend school on a part-time rather than full-time basis. Recent studies show that not only is there a shrinking pool of students between the ages of eighteen to twenty-one years and a rapid expansion of the older population but also that part-time students are the fastest growing population in higher education.[1] Many of these students will be returning to school after an interruption of some years. More students will be seeking advanced degrees that will afford them greater opportunity for career advancement and a wider range of life choices. Higher education will be recruiting students not just from secondary schools but from community colleges, local businesses, and the community at large. The student population will include more women and more minorities. The change in the kind of student that higher education seeks to serve will make new and different demands on academic libraries and the services they provide.[2]

Definitions of nontraditional students are elusive, since they comprise so diverse a group. Brian Nordstrom describes them as "adults in transition" who "differ from traditional students in significant ways, including their stages

of development in life, their value systems, their outside responsibilities, and their learning characteristics."[3] Jeanie Roundtree-Wylie defines them as "individuals who have attained the age of 25 and have not completed his or her educational goals."[4] The factors singularly or in combination that define nontraditional students for educators, including librarians, are: gender, age, enrollment status as full-time or part-time, race, marital status, the presence of dependents, and employment status, which may be full-time or part-time. While nonresidential students, married students, minority students, and women students may be "different," they are not "new" groups on most campuses. The presence of older students, working adults, and women with children is, however, a change in the makeup of the student population, and the proportion of the total they comprise is increasing rapidly.

Questions arise about this group of users, their characteristics, and what special needs they may have. In general, the learning activities of nontraditional students are secondary to other social or economic roles.[5] These students are pressured because the demands of home, work, and school are often in conflict. Job and employment responsibilities, child care arrangements, and transportation considerations are problems for this group of students; these problems are rare among younger residential students. Anxiety created by these pressures, along with the changes brought about by technology, the desire to succeed, and competition from younger students are cited as problems for nontraditional students.[6] There are also factors that contribute to the potential for academic success. Nontraditional students are described as self-directed, resourceful, responsive, and motivated.[7] This study was developed to determine which attitudes nontraditional students have about using the library, which behaviors they exhibit in library use, and what some of their opinions are about the library. The information could be applied to developing a range of services appropriate to the needs of this user group.

Arizona State University West (ASUW) is a new campus in the Phoenix metropolitan area. With a high percentage of nontraditional students and a library with alternative and innovative programs, it serves as an excellent laboratory to investigate the library use patterns and behaviors of nontraditional students. At the same time, opinions from those users on how well some of the existing library service programs are meeting their needs could be collected as additional data. The study provided an opportunity to test some assumptions librarians have made about the priorities, needs, and habits of this group of users. It would give some indication of student preferences, and provide data to help the library in planning and developing effective programs or changing existing programs to accommodate this large group of students.

LITERATURE REVIEW

By far the majority of what has been published about nontraditional students and libraries has to do with adult students, bibliographic instruction, and learning styles. Virtually all of it has been published in the last ten years, when the growth in this population began to have a noticeable impact. Malcolm Knowles, who began writing on adult education in the 1960s, discusses the concept of andragogy, or the art of teaching adults.[8] Knowles' work on the learning styles of adults is the most often cited study by librarians who teach nontraditional students. Jean Sheridan presented Knowles' ideas as "a new concept for librarians," and her 1986 article presents a review of the debate on teaching styles and adult students, and the implications for librarians who teach classes for this population.[9] Mary Ellen Kennedy, in her study of adult students and bibliographic instruction, also looked to Knowles for teaching strategies and offers practical suggestions for librarians to apply in structuring library instruction sessions for adults.[10] Susan Swords Steffens reports on a program developed at the Chicago Campus of Northwestern University, which enrolls adult students

almost exclusively and has experimented with library services for the adult learner. She identifies five principles for planning effective instruction for adult students.[11] Sheila Howard has also linked the characteristics of adult students with Bibliographic Instruction, as has Jacquelyn Coughlan.[12,13] Andrea Wyman, Jean Sheridan, and Nicholas Tomaiuolo have also written about aspects of library instruction and the adult student and offer practical advice for librarians who teach.[14-16] Betsey Hine looks not only at instruction for adult students, but briefly considers other library services, such as hours of operation.[17] Colette Wagner and Augusta Kapper provide one of the few studies that looks at a variety of academic library services and how the programs affect the nontraditional student.[18]

The typical student is a part-time, degree-seeking undergraduate female, twenty-seven years of age, who transferred from a community college and who resides on the west side of the metropolitan area.

In addition to librarians, academics from other disciplines have also contributed extensively to the education literature on nontraditional students. Virtually none of the work, even a lengthy bibliography such as the one by Cheryl Polson on the adult learner, appears to address library use or needs.[19] It also differs from the library literature in the number of actual studies it includes. These studies can be useful in identifying student needs and expectations, and as such can be helpful in developing library programs. These works often define the nontraditional student more broadly, considering more than just age as factors that define this group, and look at some of the issues beyond learning styles. Eric Iovacchini gathered data to look at four aspects that differentiate adult and traditional students: demographics, motivation, academic characteristics, and perceptions of various aspects of the

university. This study provides some interesting facts based on survey data that may be helpful in planning library programs, and that were not reported elsewhere; for example, traditional and older students both report they average the same amount of study time per week, about fifteen hours.[20] Donna Queeney examines marketing aimed at the adult learner as well as some of the problems adult learners face, including time-management and inflexible policies of colleges and universities that create particular difficulties for nontraditional students.[21] Michael Hu conducted a study in 1985 to determine the needs and attitudes of nontraditional students, primarily for marketing purposes, but also for designing programs to meet the requirements and expectations of these potential enrollees. His study identifies career change/career advancement as the major reason why these prospective students seek to return to school. His study also documents the "lack of time" problem identified as a common characteristic of the nontraditional population.[22] Nordstrom's work, previously mentioned, addresses a number of issues related to the undergraduate education of adults, and urges college faculty, administrators and student services staff to reevaluate how they relate to the increasing numbers of nontraditional students on campus.[23]

INSTITUTIONAL CHARACTERISTICS

Phoenix, the location of Arizona State University West, is the ninth largest city in the United States; the population of Maricopa County, which includes the city of Phoenix, exceeds two million. The Census Bureau projects that Arizona will be the fastest growing state in the 1990s.[24] ASUW is just ten years old; as an upper-level institution it offers courses at the junior, senior, and master's level in four academic degree programs: Business, Education, Arts and Sciences, and Human Services.

The student population at ASUW can be defined as primarily nontraditional, and includes a large number of working

adults who attend classes on a part-time basis. The typical student is a part-time, degree-seeking undergraduate, female, twenty-seven years of age, who transferred from a community college and who resides on the west side of the metropolitan area. Of the students at ASUW, 67 percent are over twenty-five years of age; 74 percent are enrolled part-time; more than 50 percent are married, and 63 percent are women.[25] Total enrollment is approaching five thousand. Most courses are scheduled during late afternoon and evening hours, or on weekends.

The library is also nontraditional in a number of ways. The concept of access has been exploited in the most positive sense of the word to provide both information and resources. A rapid document delivery system provides approximately fifteen thousand items a year from the collections of the University Libraries at ASU Main. The reference collection was built around sources in CD-ROM format, and the ASU Online Catalog also provides access to a variety of databases. Journals are primarily on fiche, and a substantial media collection, including interactive products, is available.

A number of programs have already been designed with the nontraditional student in mind. For example, a photocopy service that will pull and copy articles and documents for students for a nominal fee was set up in order to help students save time. Research assistance by appointment has been widely promoted and encouraged so that students would be assured of individual consultation with a librarian at the time most convenient for them. One-hour sessions on using electronic sources are offered at a wide range of different times, including evenings, weekends, and usual meal times, to accommodate students who are on campus at less conventional hours. The library maintains its regularly scheduled hours, including nights and weekends, during spring break, many holidays, and other times when libraries traditionally reduce hours because of low use. While some of these services designed for nontraditional students have been very successful, other have received low use. Most were set up in response to what we assumed was needed.

THE SURVEY

The survey method was selected as the best way to gather information from students. In defining who would be considered nontraditional for the purposes of the survey, three categories were selected: age, gender, and status as a full-time or part-time student. So that a comparison could be made between the traditional and nontraditional student by all three categories, three age groups were established for the study: 18–25 years of age, 26–33 years, and 34–41 years.

Six hundred surveys were sent by mail, with the sample evenly divided among the three age groups. Students were also asked to identify their major, gender, and status as part time or full time. The respondents were also asked to indicate how often they used the library. Two hundred ninety-nine surveys, or 49.8 percent of the sample were returned. These were almost exactly divided between full-time and part-time students, with 150 and 149 in each respective group. The sample included 101 Business majors, 75 Education majors, 52 Arts and Sciences majors, and 39 who were undeclared or undecided. This roughly reflects the enrollment distribution among the academic units at ASUW. Almost half, or 141 of the respondents, indicated that they used the library occasionally; 83 said they used it often, while 75 said they used it rarely. The students who used the library at least occasionally far outnumbered those who used it rarely or not at all. Women students in the survey outnumbered men by two to one. This reflected the general makeup of the student population at ASUW. A summary of the respondents in this sample is shown in figure 1.

A survey instrument was designed to gather information about student behavior and opinion in four areas: The behaviors and use patterns exhibited in using the library; preferences in library hours; the library services and kinds of
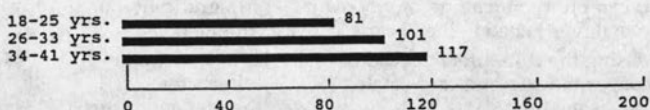
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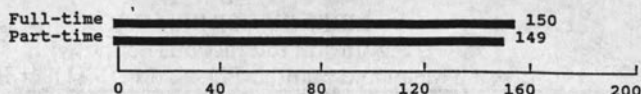
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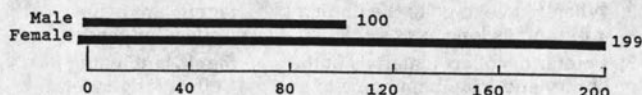
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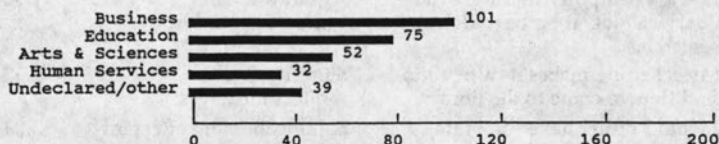
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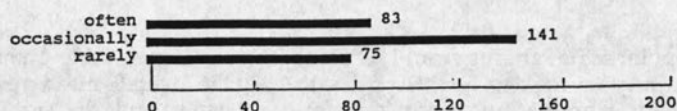
FIGURE 1
Summary of Survey Sample by Status, Gender, Age, Major, and Frequency of Library Use

support identified as important; and an evaluation of how well some selected library services were meeting their needs. Library instruction was included but not emphasized in the survey because it is already evaluated by students in a number of different ways.[26] The surveys returned were anonymous, and the project was conducted with approval from the university for research involving human subjects. The twenty-eight ques-

tions were formatted using a Lickert-type scale ranging from 1 to 5, with "1" representing "least" and "5" representing "most."[27]

SECTION I: STUDENT LIBRARY USE BEHAVIORS

The first section of the survey was designed to gather information on how students used the library. Respondents were asked to rate ten questions on a

TABLE 1
LIBRARY USE BEHAVIORS
Significant Interactions Found with
Overall Mean and Standard Deviation (*S.D.*) for Each Item

	Interactions	Mean	S.D.
1. When I use the library, I have very little time and need to complete my work as fast as I can.	No significant interactions.	3.97	(1.10)
2. When I have to go to the library, I put it off as long as possible.	Significant main effect for gender.	2.69	(1.21)
3. I prefer to collect materials in the library and take them home to use.	Significant main effect for gender.	3.87	(1.23)
4. Learning how to find information will help me in my career.	Significant main effects for gender and status.	3.96	(1.14)
5. I can pretty much find on my own whatever I need in the library.	No significant interactions.	3.29	(1.13)
6. Using the computers instead of paper indexes or a card catalog saves me time.	Significant main effects for gender and status.	4.08	(1.17)
7. I would pay for some library services if they really saved me time.	Significant main effect for gender.	3.12	(1.40)
8. I own a computer, and I use the libary catalog at home to do my research.	Significant main effect for gender.	1.56	(1.18)
9. My schedule makes it difficult to find time to come to the library.	Significant main effect for status.	3.37	(1.31)
10. I would rather have something I could check out and use at home to learn how to use the library, such as a video, instead of a lecture during class.	Significant main effect for status.	3.03	(1.54)

five-point scale ranging from 1 = "Does not apply to me" to 5 = "Applies to me." An examination of group differences on each question was conducted using an Analysis of Variance procedure (ANOVA). The dependent variable was the score from the question scale. The independent variables were status (fulltime or part-time student) gender (male or female) and age (18–25 years, 26–33 years, or 34–41 years). The level of significance was set at alpha = .05.

No significant three-way interactions were found in any section of this survey. No two-way interactions were found in the first section on student library use behaviors. Significant main effects were found for eight of the ten items. There were no significant interactions for two of

the items. Table 1 shows the questions, the overall mean response for all students, and the significant interactions found.

Items 1 and 5 showed no significant interactions among age, gender, and status, indicating there was no significant difference between the responses from traditional and nontraditional students.

Responses to item 1 indicate that all students, regardless of circumstances, feel pressed for time when they come to the library. The supposition that nontraditional students with family and work obligations feel they are under greater stress from lack of time than traditional students was not supported. The overall mean response to this item from all students was among the strongest in this

section at 3.97 on a scale of 5. The reasons for this sense of pressure from not having enough time are not clear from the survey. Library staff almost always indicate that procrastination makes using the library for research more stressful for students. However, item 2, which poses the situation of putting off going to the library for a project as long as possible, showed a score of 2.69 out of a possible 5. This moderately low response indicates that procrastination is not a strong pattern that most students felt described them or that most identified as typical. This may have been seen as a value judgment, and although the responses were anonymous, students may have been unwilling to admit to what is probably perceived as "bad" behavior, or at least a poor study habit. A partial answer may be provided by item 9, where a significant main effect for status as a full-time or part-time student exists, and a mean score of 3.37 was given for "My schedule makes it difficult to find time to come to the library." The response to item 1 suggests that library programs, systems, and services designed to facilitate efficient, time-saving use of the library are likely to be viewed as enhancements and advantages by all students.

The support for Information Literacy from all students shown by responses to item 4, "Learning how to find information will help me in my career," is encouraging, and may indicate a change from past attitudes about the value of library skills. An overall mean score of 3.96 may be viewed as moderately strong recognition of the fact that "In the information age, adults find they must know how to locate and use knowledge."[28] This response is evidence that students do indeed see a link between information-finding skills and career success. This item also showed significant differences between groups for gender and status, which is discussed later in this section.

Item 5, "I can pretty much find on my own whatever I need in the library," also had no significant interactions. This would indicate an equal level of confidence among both traditional and nontraditional students in using the library

for finding information and materials. Students at ASUW use a highly electronic library and are accustomed to using a document delivery system as a routine way of obtaining materials. This response stands in contrast to what other authors, especially librarians, have indicated about nontraditional students.[29] Those who have looked at nontraditional students have found a lack of confidence in their abilities and fear of technology among the most commonly identified problems for this group of users.[30] With an overall mean score of 3.29, respondents, while not claiming to have exceptional skills in using the library and locating what they needed, did not think they had serious deficiencies. This may indicate the success of the bibliographic instruction and information services programs, or may reflect library skills gained somewhere else in the students' academic experience before reaching ASUW. It does raise the question, however, about the ever-increasing numbers of questions answered and the amount of assistance provided at the reference desk when students demonstrate this level of self-sufficiency in using the library.

The supposition that nontraditional students with family and work obligations feel they are under greater stress from lack of time than traditional students was not supported.

Two items, numbers 6 and 8, also stand out as the strongest responses in the section. Both concern technology and computers, two areas that have been identified as potential problem areas for nontraditional students, and the responses are, curiously, at opposite ends of the scale. Item six, "Using computers instead of paper indexes or a card catalog saves me time," was given a 4.08 overall mean score, which was the highest score for any item in this section. This strong approval and enthusiasm for electronic resources also implies a level of expertise in library skills, since students would not identify library

computer catalogs and electronic indexes as time savers if they found them to be harder to use than the paper versions. It is also noteworthy that significant main effects for gender and status exist for this item, but not for age. Generally most nontraditional students, defined by age, would be more familiar and comfortable with paper sources and not as familiar with recent innovations in electronic tools.

The very low use made of home computers for library research shown in this survey, in spite of the available access, indicates that much more needs to be done in marketing and teaching the electronic library if the virtual library concept is to be realized.

Item 8 received the lowest score for any item in this section and in fact, in the whole survey. "I own a computer and I use the library catalog at home to do my research" earned only a 1.56 overall mean score. This stands in conflict with assumptions about the availability and use of home computers among the general student population and has implications for marketing the library as well. The ASU Online Catalog provides dial-in access at no cost for any registered user with a computer, a modem, a telephone line, and communications software. It provides access to the 2.8-million-volume collections of both libraries, a full-text encyclopedia, six different journal indexes, and a range of ASU-specific databases. Given the preference that was indicated in item 3 for doing work at home rather than in the library when possible, and the relatively strong belief that electronic sources are time savers (item 6) it is curious that so few students take advantage of the opportunity to do their research in the convenience of their own homes. It is even more puzzling, considering that all students are highly motivated to save time. In a recent editorial, a librarian noted, "Access to personal computers by stu-

dents and faculty have encouraged the assumption that information-based activity can happen any place at any time with the use of telephone lines."[31] The response to this item from library users may serve as a cautionary note in assuming that significant numbers of students have access to a home computer and/or the necessary equipment and support for communications, or if they do, that they are aware of the availability of remote access to library resources. It may show that they do not perceive any advantage in identifying materials before attempting to obtain the actual items. The very low use made of home computers for library research shown in this survey, in spite of the available access, indicates that much more needs to be done in marketing and teaching the electronic library if the virtual library concept is to be realized.

A final observation about the responses to this section of the survey, before analyzing the variables and differences between traditional and nontraditional students in greater depth, is the willingness to pay for services as shown in item 7. The main effect for gender, indicating a significant difference between the responses from men and women, is interesting and will be discussed later.

As previously noted, there were no three-way interactions produced in this study. To look more closely at the interactions of gender and status, see table 2. This shows the overall mean, factor mean, standard deviation ($S.D.$), n, F values, and homogeneity of variance p values for the items that had significant main effects for gender or status, or for both gender and status. All F values in the F column are at $p < .05$. The numbers in the left-hand column correspond to the numbers of the survey items as listed in table 1. Since all groups had an unequal n, a homogeneity of variance test for groups was performed, using a Cochrans C test. The Cp column shows the p value for the Cochrans C test; all values of $p > .05$ indicate equivalent variance for the comparison groups.

From this analysis, we can see a significant main effect for gender between

TABLE 2
LIBRARY USE BEHAVIORS
Significant Interactions for Gender and Status

Item (overall N = 299)	Mean (S.D.)	Gender				Status			
		Male N = 100	Female N = 199	F (p)	(Cp)	Full N = 150	Part N = 149	F (p)	Cp
2. When I go to the library, I put it off as long as possible.	2.69 (1.21)	2.48 (1.11)	2.80 (1.25)	4.93 (.027)	.123	No effect			
3. I prefer to collect materials in the library and take them home to use.	3.87 (3.87)	3.48 (1.27)	4.07 (1.17)	15.20 (.000)	.344	No effect			
4. Learning how to find information will help me in my career.	3.96 (1.14)	3.65 (1.27)	4.11 (1.04)	8.25 (.004)	.015	4.19 (1.00)	3.72 (1.23)	10.68 (.001)	.018
6. Using computers instead of paper indexes or a card catalog saves me time.	4.09 (1.17)	4.27 (1.03)	3.99 (1.23)	4.54 (.034)	.035	4.27 (1.05)	3.90 (1.26)	5.69 (.018)	.025
7. I would pay for some library services if they really saved me time.	3.12 (1.40)	2.72 (1.39)	3.32 (1.37)	13.75 (.000)	.881	No effect			
8. I own a computer and I use the library catalog at home to do my research.	1.56 (1.18)	1.82 (1.37)	1.43 (1.06)	7.12 (.008)	.001	No effect			
9. My schedule makes it difficult to find time to come to the library.	3.37 (1.31)	No effect				3.14 (1.37)	3.59 (1.21)	10.23 (.002)	.112
10. I would rather have something I could check out and use at home to learn how to use the library, such as a video, instead of a lecture during class.	3.03 (1.55)	No effect				2.89 (1.57)	3.17 (1.51)	4.46 (.036)	.673

Mean, S.D., N, F values, (p), and Cochrans Cp values

the male and female responses on six of the ten questions from Section I of the survey. Female students indicated a stronger response and felt more strongly inclined toward the behavior as one that "applies to me" for items 2, 3, 4, and 7. Females, then, indicated a stronger inclination than males to put off going to the library for as long as possible, a stronger preference than males for collecting materials in the library and taking them home to use, a stronger sense than males that learning how to find information would help them in their careers, and a stronger willingness than males to pay for library services if they would really save time. Males, on the other hand, had a stronger response than females to items 6 and 8, which are the items that relate to computers and technology. Males felt more strongly than females that using computers instead of paper

indexes or a card catalog would save time, and a stronger indication than females to own a computer and conduct library research at home.

Status as a part-time or full-time student yielded significant main effects in four of the ten items: 4, 6, 9 and 10. Full-time students felt more strongly than part-time students that learning how to find information would help them in their careers (item 4), and that using computers instead of paper sources would save them time (item 6). Not surprisingly, part-time students indicated more strongly than full-time students that their schedules made it difficult to find time to come to the library (item 9—note that there was no effect for gender for this item), and that they had a stronger preference for having something they could check out and use at home for learning how to use the library, such as a video, instead of a lecture during class (item 10).

Again, the survey does not provide specific data on why the different groups responded differently, although assumptions might be made about the reasons. The implications these data suggest for library services are various and depend on creativity for identifying possible programmatic solutions to better meet the needs of these students. For example, women and part-time students show a significantly stronger difference than other students in their preference to work at home, as shown by responses to items 2 and 10. Library instruction offered via educational TV and home delivery of materials might be appropriate services for institutions with large numbers of students in these categories. Women and full-time students believe more strongly than men and part-time students that finding information will be helpful to them in their careers. Perhaps better marketing to the latter two groups on the benefits of information literacy would be both a recruitment tool for an institution and an aid in bringing those users to library instruction classes more often. In ASUW programs, such as the MBA, which have a high enrollment of male students, selling this group on tak-

ing a course in using the library for finding business information as a good career move is a strategy that might be utilized. Women, who have less earning power and are traditionally viewed as having less discretionary funds to spend, are more willing than men to pay for library services that would save them time. The willingness of this particular set of nontraditional students, who are usually perceived as under financial constraint, to pay for services in order to save time may strike some librarians as unexpected and atypical. Such an assumption may indicate that we have been guilty of stereotyping, and that we might do well to change how we market and pay for services such as copying, document delivery, and online searching, especially for women students. The willingness of women to pay for services that save time may also be a truer indication of which group of students most genuinely needs to solve that problem.

SECTION II: LIBRARY HOURS

An often noted library issue especially important to nontraditional students is the hours of service. Market studies which surveyed prospective students as well as data on current students at ASUW showed a strong preference for evening classes.[32] Given this indication of when they prefer to attend classes, can we infer anything about when they wanted to use the library? Would it be near the same times as they indicated for classes, or different times? Section II of the survey was designed to find out when it is most convenient for students to come to the library. Choices ranged from a low of 1 = "least convenient" to a high of 5 = "most convenient." Table 3 shows the results of the survey for section II.

In keeping with what we already know about library use patterns from statistics collected at library service points at ASUW, Saturdays, Sundays, and evenings after 5 p.m. are identified as the most convenient hours for students to come to the library. Table 4 shows the significant interactions by gender and status. Table 5 shows the

TABLE 3
LIBRARY HOURS
Significant Interactions Found with Overall Mean and *S.D.* for Each Item

	Interactions	Mean	*S.D.*
11. It is most convenient for me to come to the library on Saturday.	Significant main effect for status.	3.82	(1.40)
12. It is most convenient for me to come to the library on Sunday.	Significant two-way interaction for gender by age.	3.81	(1.48)
13. It is most convenient for me to come to the library on evenings after 5 p.m.	Significant two-way interaction for gender by age.	3.86	(1.29)
14. It is most convenient for me to come to the library on weekdays before noon.	Significant main for gender and status.	2.09	(1.44)
15. It is most convenient for me to come to the library on weekdays between noon and 5 p.m.	Significant main effects for status.	2.35	(1.54)

TABLE 4
LIBRARY HOURS
Significant Interactions by Gender and Status

Item (overall N = 299)	Mean (S.D.)	Gender				Status			
		Male N = 100	Female N = 199	F (p)	Cp	Full N = 150	Part N = 149	F (p)	Cp
11. It is most convenient for me to come to the library on Saturday.	3.82 (1.41)	No effect				3.52 (1.49)	4.13 (1.25)	11.72 (.001)	.035
14. It is most convenient for me to come to the library on weekdays before noon.	2.09 (1.44)	1.77 (1.22)	2.24 (1.51)	4.70 (.031)	.009	2.52 (1.53)	1.66 (1.21)	23.75 (.000)	.004
15. It is most convenient for me to come to the library on weekdays between noon and 5 p.m.	2.35 (1.54)	No effect				2.93 (1.60)	1.67 (1.23)	43.40 (.000)	.002

Mean, *S.D.*, *N*, *F* values, (*p*), and Cochrans *Cp* values

data for responses in which age had a significant main effect.

Items 11 and 14, on Saturday and weekday morning preferences, showed a main effect for status only, with part-time students indicating a significantly stronger convenience preference for Saturdays than full-time students, and full-time students indicating a stronger convenience preference for weekday mornings than part-time students. If, for example, employment is the reason for part-time status, most likely these students are at work during weekday hours. A programmatic response for institutions with a large enrollment of part-time students might be to preserve and perhaps even expand Saturday hours. A possible trade-off could be to reduce traditional weekday daytime hours.

Items 12 and 13, on Sunday hours and evening hours, are among the few items on the survey that had significant two-way interaction, in this case by both

TABLE 5
LIBRARY HOURS
Significant Interactions by Gender and Age

			Male			Female		
Item	M (S.D.)	F (p)	N = 26 18–25 years	N = 38 26–33 years	N = 36 34–41 years	N = 55 18–25 years	N = 63 26–33 years	N = 81 34–41 years
12. It is most convenient for me to come to the library on Sunday.	3.81 (1.48)	3.74 (.025)	3.61 (1.44)	4.18 (1.20)	4.05 (1.17)	3.96 (1.40)	3.37 (1.73)	3.84 (1.53)
13. It is most convenient for me to come to the library on evenings after 5 p.m.	3.86 (1.29)	4.39 (.013)	3.38 (1.44)	4.47 (0.73)	4.17 (1.08)	3.73 (1.34)	3.68 (1.34)	3.81 (1.35)

Means, S.D., F values, p, N

gender and age. Males in the 26–33-year-old age group and females in the traditional student age group of 18–25 years both indicate a stronger convenience preference for Sunday than other students of the same gender but in different age groups. Females in the 34–41-year-old age group and again males aged 26–33 years showed a stronger convenience preference for evening hours than did other students of the same gender but of different ages.

Complaints about library hours, while not great in number, appear with regularity in the ASUW suggestion box. However, the survey data on library hours showed that the hours are not a serious problem for most students. Item 22 (table 8), which asks if the library hours are a problem, earned an overall mean score of 2.69, which is moderately low, with no interactions to indicate a difference in opinion between the traditional and nontraditional students. The survey confirmed what was already known about use patterns and library hours, and did not provide any new insights or information in this area. In fact, the analysis showed no consistent pattern based on student age, status, or gender that would be of help in determining library hours. Questions that would determine how early or late the library should be open and who would be accommodated by such a schedule, and those which might identify such patterns as the tendency to come to the

library before or after class rather than on a different day than the class meets, might have been more useful. Making effective program changes to match user needs in this area remains problematic because the individual circumstances, needs, and preferences of students are inconsistent and highly variable, and there appear to be no discernible group tendencies to consider in planning and scheduling hours. The library already provides hours of service during the days and times identified as most convenient for students.[33] Adjusting staffing to accommodate demand during these known time periods has already been done, and this study failed to produce information that would indicate what changes, if any, are needed.

SECTION III: PERCEIVED IMPORTANCE OF SELECTED LIBRARY PROGRAMS AND SERVICES

Table 6 shows responses to survey items 16–21, which asked students to identify how important various services were to them. The responses range from a low of 1 = "not important" to a high of 5 = "very important."

Of the six items in this section, there were no significant interactions for two items, numbers 18 and 19, indicating no significant difference in the student responses based on gender, age, or status. Item 18 additionally received the highest

TABLE 6
IMPORTANCE OF DIFFERENT LIBRARY SERVICES
Significant Interactions Found with Overall Mean and *S.d.* for Each Item

	Interactions	Mean	S.D.
16. A quiet place in the library to study is important to me.	Significant main effect for status.	4.02	(1.30)
17. It is important to me to have a space in the library for groups to meet and work on class projects.	Significant main effect for status.	3.68	(1.34)
18. It is important to me to have access in the library to books and magazines.	No significant interaction.	4.34	(0.93)
19. It is important to me for the library to have classes in how to use electronic sources.	No significant interaction.	2.84	(1.30)
20. It is important to me to have library assistance with using specific sources.	Significant main effect for gender.	3.85	(1.07)
21. It is important to me for someone in the library to provide advice on how to do research.	Significant main effect for gender.	3.52	(1.30)

overall mean score, at 4.34, of any item in the whole survey. This strong response to "how important to you is access to books and magazines" may indicate that libraries are perceived as filling a very traditional role, that of warehouse, for traditional library materials, and that it is the most important service that the library provides. ASUW, however, has made a commitment to access as a viable alternative to ownership, and has developed a delivery system from the main campus that makes this an attractive alternative that students have used since the library opened. Another interpretation of this response may be that students see the library as the agency that will get the material they need, regardless of where it is, and having it on the shelf just in case someone needs it may not be as important as getting it only when someone needs it. Because of the established tradition in the ASUW library of relying on remote resources, the latter case may be most significant.

The next strongest response in Section III was an overall mean score of 4.02, also among the highest scores in the survey, for item 16, "How important is the library as a quiet place to study." Students again selected a very traditional library role, that of study hall, as important. This response disproved one of our assumptions, that adult students would prefer to study at home rather than on campus. The assumption was based on the fact that ASUW is a nonresidential campus, with just over half (55 percent) of the students in the sample indicating they were on campus two to four times a week and about half (49.8 percent) of the respondents indicating they attend part-time, presumably with work and family responsibilities taking major parts of their available time. A possible consideration is that it may be precisely these factors that motivate so many students to seek quiet space in the library. However, the data show no main effect for gender, and the effect for status indicates it is the full-time students who expressed a stronger need for quiet study space in the library (see table 7). The noise level, primarily from students talking in all areas of the building, is a problem in the library at ASUW. Because of the strong rating this item received, quiet study areas were established and enforced. This accommodation, how-

TABLE 7
IMPORTANCE OF SELECTED LIBRARY SERVICES
Significant Interactions by Gender and Status

Item (overall $N = 299$)	Mean (S.D.)	Gender				Status			
		Male $N = 100$	Female $N = 199$	F (p)	Cp	Full $N = 150$	Part $N = 149$	F (p)	Cp
16. A quiet place in the library to study is important to me.	4.02 (1.30)	No effect				4.25 (1.09)	3.79 (1.45)	5.67 (.018)	.001
17. It is important to me to have a space in the library for groups to meet and work on class projects.	3.68 (3.96)	No effect				3.97 (1.23)	3.40 (1.40)	10.89 (.001)	.124
20. It is important to me to have library assistance with using specific sources.	3.85 (1.07)	3.54 (1.10)	4.00 (1.03)	11.01 (.001)	.468	No interaction			
21. It is important to me for someone in the library to provide advice on how to do research.	3.52 (1.29)	3.16 (1.34)	3.70 (1.23)	10.26 (.002)	.325	No interaction			

Mean, *S.D.*, *N*, *F* values, *p*, and Cochrans *Cp* values

ever, was not strongly demanded by nontraditional students.

Responses from Section III also show a moderately strong, or overall mean of 3.68, response to item 17 indicating a need for space in the library for groups to meet was important, and significantly so for full-time students. Classes in how to use electronic sources earned an overall mean score of 2.84, or a moderately low response. Again, the assumption that part-time students would have a greater need for the group study rooms, because of conflicts with schedules and supposedly more limited time options to meet classmates, was not supported. Neither was the need, from the student perspective, for instruction in using electronic resources. It may be that students prefer to get help at the Reference Desk at the time they need it, since it is readily available and they would not have to commit additional time to attend a class. This conclusion appears to be supported by the response to item 20. Or, they have more confidence, comfort, and ability with computers than we assume. The pervasive presence of computers in so many aspects of life may be making them much more familiar to everyone, including adults, and the notion that computers are a continuing source of anxiety to nontraditional students may be changing.

Other differences in this section are gender-based and evident in the analysis of items 20 and 21 (table 7). Female students indicated that assistance, both in using specific sources and in doing research, was important to them, more so that it was to male students. This difference may be due either to weaker library skills or to a stronger tendency among women to ask for help.

In the budget-conscious environment of higher education today, it would have been useful to have expanded this section of the survey to include a wider range of services. The ones selected relate primarily to space, reference and research support services, and access. While the data gathered in these areas were both interesting and useful, a wider range of

TABLE 8
EVALUATION OF SELECTED LIBRARY PROGRAMS AND SERVICES
Significant Interactions Found with Overall Mean and *S.d.* for Each Item

	Interactions	Mean	S.D.
22. A problem for me is that library hours are not long enough.	No significant interactions.	2.69	(1.38)
23. A problem for me is that research takes too much time.	Significant two-way interaction for gender by age.	2.83	(1.18)
24. A problem for me is that there are not enough books and periodicals.	No significant interaction.	3.04	(1.34)
25. A problem for me is that there are too few terminals.	Significant two-way interaction for status by gender.	3.10	(1.34)
26. A problem for me is that there is not enough assistance available.	Significant main effects for gender and status.	2.48	(1.14)
27. A problem for me is that I am unfamiliar with this library.	Significant main effects for status and gender.	2.53	(1.28)
28. A problem for me is that it takes too long to get materials from Tempe.	Significant main effects for age.	2.90	(1.37)

programs and services which students could evaluate and rate to indicate those of lesser importance would be of great help in budget planning, particularly in times of retrenchment.

SECTION IV: EVALUATION OF SELECTED LIBRARY PROGRAMS AND SERVICES

The final section of the survey, items 22 to 28, asked students to rate which of seven library programs and services were perceived to be problems, or not problems in using the library. For this section, a low score of 1 = "not a serious problem" and a high of 5 = "very serious problem." Results are shown in table 8.

Item 22, the question of hours, has been addressed earlier in Section II. The question in this section, "A problem for me is that library hours are not long enough," had no significant interactions. Collections, reflected by item 24, at an overall mean of 3.04 received a moderate score, with no significant differences shown between responses from traditional and nontraditional students.

For interactions by gender and status to items 26 and 27, see table 9. Item 26, "There is not enough assistance available," and item 27 "I am unfamiliar with

this library," both had moderately low scores at an overall mean of 2.48 and 2.53. Significant interactions for status and gender are present for both items. Women and part-time students were significantly different in responding to both of these items. Both groups indicated that a lack of assistance and less familiarity with this library were stronger problems for them than for men and full-time students. This may underscore the need for targeting these two groups for more orientation and instruction, or to bring to their attention some of the services available to assist them, such as the consultation by appointment the librarians provide.

The only item in the survey for which a significant main effect was found solely for age was number 28, "It takes too long to get materials from Tempe," although with a mean score of 2.90 this could be seen as only a moderate problem, or only a serious problem to a few and not to many. However, it is interesting to note that the group expressing the stronger concern that this is a problem is the traditional 18–25-year-old group rather than the older students (see table 10). Since item 28 had three levels, a Tukey procedure was performed to determine which age group

TABLE 9
EVALUATION OF SELECTED LIBRARY PROGRAMS AND SERVICES
Significant Interactions by Gender and Status

		Gender				Status			
		Male	Female			Full	Part		
Item (overall N = 299)	Mean (S.D.)	N = 100	N = 199	F (p)	Cp	N = 150	N = 149	F (p)	Cp
26. A problem for me is that there is not assistance available.	2.47 (1.14)	2.29 (1.04)	2.57 (1.18)	4.79 (.029)	.112	2.40 (1.18)	2.55 (1.10)	4.28 (.039)	.452
27. A problem for me is that I am unfamiliar with this library.	2.53 (1.28)	2.29 (1.09)	2.64 (1.35)	7.21 (.008)	.008	2.35 (1.27)	2.70 (1.27)	10.24 (.002)	.974

Mean, S.D., N, F values, (p) and Cochrans Cp values

TABLE 10
ITEM 28: INTERACTIONS BY AGE

		Age				
		N = 81	N = 101	N = 117		
Item (overall N = 299)	Mean (S.D.)	18–25 Years	26–33 Years	34–41 Years	F (p)	Cp
28. A problem for me is that it takes too long to get materials from Tempe.	2.91 (1.37)	3.27 (1.24	2.73 (1.36)	2.80 (1.43)	5.00 (.007)	.376

Mean, (S.D.), N, F values, (p) and Cochrans Cp values

TABLE 11
EVALUATION OF SELECTED LIBRARY PROGRAMS AND SERVICES
Item 23: Significant Interaction by Gender and Age

			Male			Female		
Item	Mean (S.D.)	F (p)	N = 26 18–25 Years	N = 38 26–33 Years	N = 36 34–41 Years	N = 55 18–25 Years	N = 63 26–33 Years	N = 81 34–41 Years
23. A problem for me is that research takes too much time.	2.83 (1.18)	4.11 (.017)	3.00 (1.10)	2.92 (1.12)	2.25 (0.94)	3.24 (1.20)	2.57 (1.17)	2.91 (1.21)

Mean, (S.D.) F values, p

means were significantly different at the *alpha* = .05 level. A Cochrans C homogeneity of variance test showed the groups were homogeneous (p = .376, not rejecting the hypothesis that the variances are equal) at *alpha* = .05. The Tukey procedure showed the 18–25-year-old group to be significantly different (p = < .05) from both the 26–33-year-old group and the 34–41-year-old group. Although the overall mean was moderate for item 28, the mean of 3.27 for 18–25-year-olds indicates a stronger

belief in this age group that it takes too long to get materials from Tempe.

The significance of this finding is that it shows a greater level of comfort and acceptance among older students for library models such as the one used at ASUW that feature enhanced access as an answer to reduced ownership of materials. These models require users to plan ahead, even if just for forty-eight hours, to receive selected items. The advantage for users is savings in time that

would otherwise be needed for collecting materials from the shelves and photocopying articles. Older students have adapted more effectively to this model, which is becoming increasingly more common among academic libraries.

The final analysis of this section covers item 23 and is shown in table 11. Analysis by gender and age of responses to item 23, "A problem for me is that library research takes too much time," shows that there is a significant difference in the scores of both older men and older women. The older group of males found this less of a problem than either of the younger groups of males. The older women also found this less of a problem than did the younger women. More mature students are either better able to make use of what time they have, or more accepting of the amount of time library research takes.

CONCLUSIONS

This survey showed no significant differences between the responses of traditional and nontraditional students in six areas. These included the pressure felt from lack of time, their ability to find what they need in the library on their own, the importance of instruction on using electronic sources, and concerns about library hours, the adequacy of collections, and the role of the library in providing access to materials. Greater differences were identified in areas relating to technology, perceived value of information literacy and library skills, the willingness to pay for services, and the use of the library as a study space. More differences were found because of gender and status as a part-time or full-time student than were found in the age of the students, although this was a relevant factor in questions about hours and use of remote access for obtaining library materials. Data were collected on the subject major of students in this survey, primarily as a check on the validity of the sample. Student majors were not considered as a variable in defining nontraditional students in this study. An

area for further study might be the variations in responses and the relationship, if any, to the student's area of study.

The extremely low use of home computers for research by all students, and especially by those who are considered nontraditional, indicates a strong need for marketing and training to help students take better advantage of emerging technologies to solve some library-use and time-management problems. It may also be true that fewer students have access to home computers than we assume. If that is the case, the solution may require an institutional response to assist students in acquiring equipment. However, the data from tables 10 and 11 show a significant difference in nontraditional students who have adapted better to a library model that relies heavily on access as an alternative to ownership. Nontraditional students also indicate a stronger enthusiasm for and comfort with using electronic systems and more confidence in their ability to use the library than was expected, based on previously published literature. Services that save time, as well as instruction designed for and marketed to women and part-time students, should be considered.

More mature students are either better able to make use of what time they have, or more accepting of the amount of time library research takes.

The survey met several of the goals we had set out to accomplish. It provided a better and more accurate picture of the nontraditional student, tested some assumptions, and gave us a student perspective. The survey told us a good deal about all of the students at ASUW, not just those we consider to be nontraditional, and how they view and use the library. Some services have already been adjusted to reflect the insights gained, and discussion needs to take place about how to address other issues arising from this study.

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