Student Use of Kirk Library Spaces, Spring 2016

Current Practices, Perspectives, and Needs

Franji Mayes   6/1/16

CONTENTS

ACKNOWLEDGEMENTS

Author Note

Franji Mayes was employed at Centralia College as an Instructional Classroom Assistant 2 during the 2015-2016 academic year. Correspondence regarding this report should be addressed to: Sue Kennedy, Dean, Kirk Library, Centralia College, 600 Centralia College Blvd., Centralia, WA, 98531.

BUILDING USAGE PROPOSAL

Taking ownership of the entire building space will allow Kirk Library to manage space and technology in ways which meet the evolving needs of today's students. The Library's plans include spaces which other academic libraries have already successfully implemented:

- "Collaboratories" – group spaces equipped with projectors, large screens, whiteboards, and other tools to assist student work groups
- Classrooms for use by both student- and faculty-led groups
- Maker spaces
- Group work tables
- Smaller work areas for tutors to use when working with students
- Quiet study area and reading room
- Multimedia production
- Creative production – 3D printers, scanners, copiers
- Food and drink
- Group gaming
- Open computer lab
- Comfortable individual seating

INTRODUCTION

Studying student need is required for truly effective stewardship of library funds and physical resources. Data-driven decisions reduce the need for trial-and-error approaches which may waste resources. The study proposed by this charter seeks to understand current usage of library space, student need regarding that space, and how the library can develop the space to most effectively meet student needs when usage of the entire building is returned to Kirk Library.

Developing a more complete understanding of student needs improves the library's ability to provide increasingly diverse students and faculty access to the facilities, activities, and resources they require for success after graduation. Facilitating and promoting information exchange between students, and between students and librarians, provides communities with citizens who are not only more knowledgeable, but more skilled in problem-solving techniques which they can apply to life challenges they'll face after graduation.

In February 2016, discussions of Library space usage suggested implementation of the following:

- Private offices
- Study rooms
- Existing Smart classroom with computer lab
- Quiet study area/Study Carrels
- Study area-more tables and more smart chairs
- Collaboration area-white board, tables to write on etc.
- Increase computer lab size
- Archive space
- Space for special collections
- Information/Circ. desk?
- Break room/Student Worker personal item space
- Stacks
- Magazines/Commons sitting area

A needs assessment was then developed and implemented in during Spring 2016 quarter. This multi-modal study consisted of:

1. Hourly observations of Library usage by individuals and groups in six different areas of the Library
2. Four focus groups of students exploring perceptions and preferences regarding use of the Library and other places on campus for group and individual study
3. A campus-wide survey administered via Canvas at the end of Spring 2016 quarter

The goal of this study is to provide the Library with qualitative and quantitative data useful for space planning for the 2017-2018 academic year.

LITERATURE REVIEW

Kirk Library records from 2009 indicate that the last survey was conducted not with the entire student population, but primarily with English classes. We may now have the capability of conducting a new survey with the entire student population of the college, which would provide the library with results that are generalizable to the entire student population.

In a recent USA Today article, Megan Elliot (2015) reported that according to a CareerBuilder survey, college graduates are lacking in the soft skills such as people skills, problem-solving, oral communication, leadership, and written communication.[1] Library spaces are uniquely positioned to foster development of these skills, as they change to reflect the nature of our

---

[1] http://www.usatoday.com/story/money/personalfinance/2015/05/03/cheat-sheet-skills-college-grads-job/26574631/

current "network" economy. As Vaughn, Miller, Lesneskey, and Cullin (2014) note, this economy centers on "working in groups, collaborating, communication, creative problem solving, [and] critical thinking."

At the end of Spring 2016 quarter, Kirk Library aims to propose usage for the entire space contained within the library building, in contrast to the half which the library currently occupies. Conducting a needs assessment is an essential part of the planning process. Numerous studies and reports exist outlining the steps individual academic libraries have taken to perform needs assessments. Needs assessments typically contain research components such as focus groups, interviews, and surveys.

Less common or more novel approaches include photo journaling and infrared heat maps. At the end of needs assessment research, data analyses can include the expected charts and graphs, and also more qualitative syntheses in the form of user personas (descriptions of different types of users) and use cases (stories of how a future space will be used) ("Needs Assessment Process").

TWO-YEAR VS. FOUR-YEAR COLLEGE DATA

Before proceeding with the literature review, it should be noted studies of four-year universities constitutes the majority of existing research on library space usage. Such data can still be useful: A study by Francine May and Alice Swabey (2015) of two community colleges, two undergraduate universities, and one technical institute found "remarkably similar usage patterns across all library types." Nevertheless, surveying the literature highlights the need for each library to conduct its own research.

INDIVIDUAL VS. GROUP, QUIET VS. NOISE

Student needs while in the library are diverse and sometimes conflicting:

In one study, students who liked studying in the library said it was because it was (among other things) quiet, comfortable, and without distractions. Conversely, in that same study, those who thought that same space was one of the worst places to study described it as noisy, quiet, uncomfortable, and distracting! (May & Swabey, 2015)

This study, like many others surveyed, highlights the need to structure library spaces so that they accommodate differing needs of students on individual and group levels, valuing the needs of different individuals and groups while protecting some needs (quiet study space, e.g.) from infringement by other needs (group discussion, e.g.).

When assessing space usage, observations are an important beginning, but as May and Swabey note, in-depth study utilizing qualitative methods like focus groups would "allow for clarification or follow-up. For example, some of the issues that were raised in the questionnaires to do with preferences for noise or quiet would have benefited from a deeper exploration such as would have been possible if focus groups or interviews had been employed. (774)

Library leadership rated group study areas and information/learning commons areas as being both the busiest and the most representative of the library's role (see Appendix for tables), and over 86% of libraries in the survey added "significantly more" group study areas to their new library spaces (Stewart, 2011):

- "Nearly two-thirds of respondents reported more space for quiet study in new building" (Stewart, 2011)
- "92% of respondents reported that use of the building increased 25-100% over old facility…No respondents reported decreases in usage" (Stewart, 2011)

Group collaboration between students happens on a continuum. Some students may be socializing while doing group work; others may be collaborating on group assignments. Still others may be working independently while appreciating the interaction occurring around them:

Academic work remains their primary activity, however; Foster found that academic vs. recreational activities happened at a ratio of 6:1 in the library, while Suarez observed that, even with their flirting, chatting, and other social endeavours, students in the library are engaged in academic work most of the time. (Stewart, 2011)

One student respondent in May and Swabey's (2015) study noted, "I often need motivation to continue. If I see others working hard, I work hard also, so often I come with a friend, and while we are both working independently, we are still together" (784). While student respondents in

that study were divided over whether the library was a good place to do group work, May and Swabey found that "the institutions that provided the most dedicated group study space…were also much more likely to be rated as good places to do group work" (785).

> Students of the 21st century are changing the landscape of college libraries:

> John Regazzi reports that, between 1998 and 2010, although there were large drops in reference and circulation statistics at most of over 3,000 academic libraries examined, there was comparatively little change in the number of physical visits to these same spaces. (May & Swabey, 2015)

This demonstrates the library's expanding and diversified role in the lives of students. It is no longer solely a place for information delivery; it is also now a place for information exchange and collaboration. While hardcopies of books and materials may not occupy more floor space in face of growing digital collections, the modern academic library still requires physical square footage in order to meet the needs of today's students.

TECHNOLOGY

Inclusion of new technology in Kirk Library's expansion, such as makerspaces or 3D printing, will foster student engagement with the library as a supportive service as well as developing the soft skills required by today's workforce. In 2013, John Burke, Library Director of Miami University Middletown, conducted a survey libraries with makerspaces. The top reasons given by academic libraries for installing makerspaces were: "(1) supporting learning, (2) providing access, (3) encouraging collaboration, and (4) following the library's mission" (2015). Overall, libraries also stated "expanding library services" and "providing opportunities for individual creation" as important justifications for makerspaces (Burke 2015).

Students need access to multimedia technology in order to complete course assignments. At an April 2016 conference at Gonzaga University, it was noted that:

> "Librarians learned that students were getting assignments from different instructors hat required multi-media presentations or projects but the students didn't have access to the resources to complete them so they would have to find someone who could get them into the journalism lab or photography studio (or other space with the necessary software or equipment since they weren't enrolled in those particular classes. So they made sure they asked students what types of assignments they were getting from their instructors that required digital media and what types of resources they needed, and if there were comparable places on campus where some students had already been able to do these assignments (journalism lab, photography studio) so the library could get

comparable equipment." (Carrie Powell's notes, Building Bridges conference, April 13-14, Gonzaga)

PART 1 OF 3: OBSERVATIONAL DATA

The Library's observational data collections prior to this study consisted of hourly person counts in three areas of the Library: computer lab, smart chairs[2], and "public." The "public" consists of four areas: tables, study carrels in front of the stacks, study carrels behind the stacks, and older/traditional chairs. In order to collect data for the needs assessment, data collection was expanded to collect information on all six areas of the Library – computer lab, tables, front carrels, back carrels, smart chairs, and traditional chairs.

Additionally, the previous observational data collection method counted only individuals. The needs assessment expanded observational data to include small and large groups as well, where small groups are 2-3 people interacting, and large groups are 4 or more people interacting. The nature of the interactions (academic vs. social) was not observed. (See Appendices A and B for log sheets.)

RESEARCH DESIGN

The purpose in breaking out more areas of the library and for counting groups as well individuals was two-fold. First, the data collected will provide Library with a more detailed picture of how these areas of the Library are used when making decisions regarding future space allocations that better meet student needs. Second, the data provide Library administration with baseline measures so that when the Library regains use of the east side of the building, data collected after that point can be compared to current usage.

METHODOLOGY

PARTICIPANTS

Observations were collected by counting individuals and groups present in the library each hour. Participants' activities were never interrupted in any way; data collected was purely observational.

Participants were members of the Centralia College student body, with the exception of the occasional community member.

---

[2] Seven of the fifteen Library "smart chairs" have a small desk on one arm, one power outlet, and 2 USB outlets.

MATERIALS AND PROCEDURE

During every hour of operation, student workers collected observational data on the half hour during Spring 2016 quarter using the new log sheet. Data was then logged into a Google form on the Kirk Library Gmail account by the night supervisor.

RESULTS

The computer lab receives significantly more use than the other areas of the Library, with the front study carrels receiving the second most use.

Library Averages per Area

Computer Lab	Smart Chairs	Regular Chairs	Carrels – Front	Carrels – Back	Tables
6.64	1.59	0.49	2.89	1.56	1.25

Considering the total number of seats available in each area, however, the usage level changes. While the computer lab still averages highest use with 20% capacity, study carrels in both front and back of the Library are used almost as much:

Average % of Capacity Usage per Area

Computer Lab (32 seats)	Smart Chairs (15 seats)	Regular Chairs (12 seats)	Carrels – Front (16 seats)	Carrels – Back (8 seats)	Tables (24 seats)
20.75%	10.6%	4.08%	18%	19.5%	5.2%

Although the back study carrels are most likely to reach capacity, the computer lab and the front study carrels are the only areas of the Library for which the 1st quartile does not include zero:
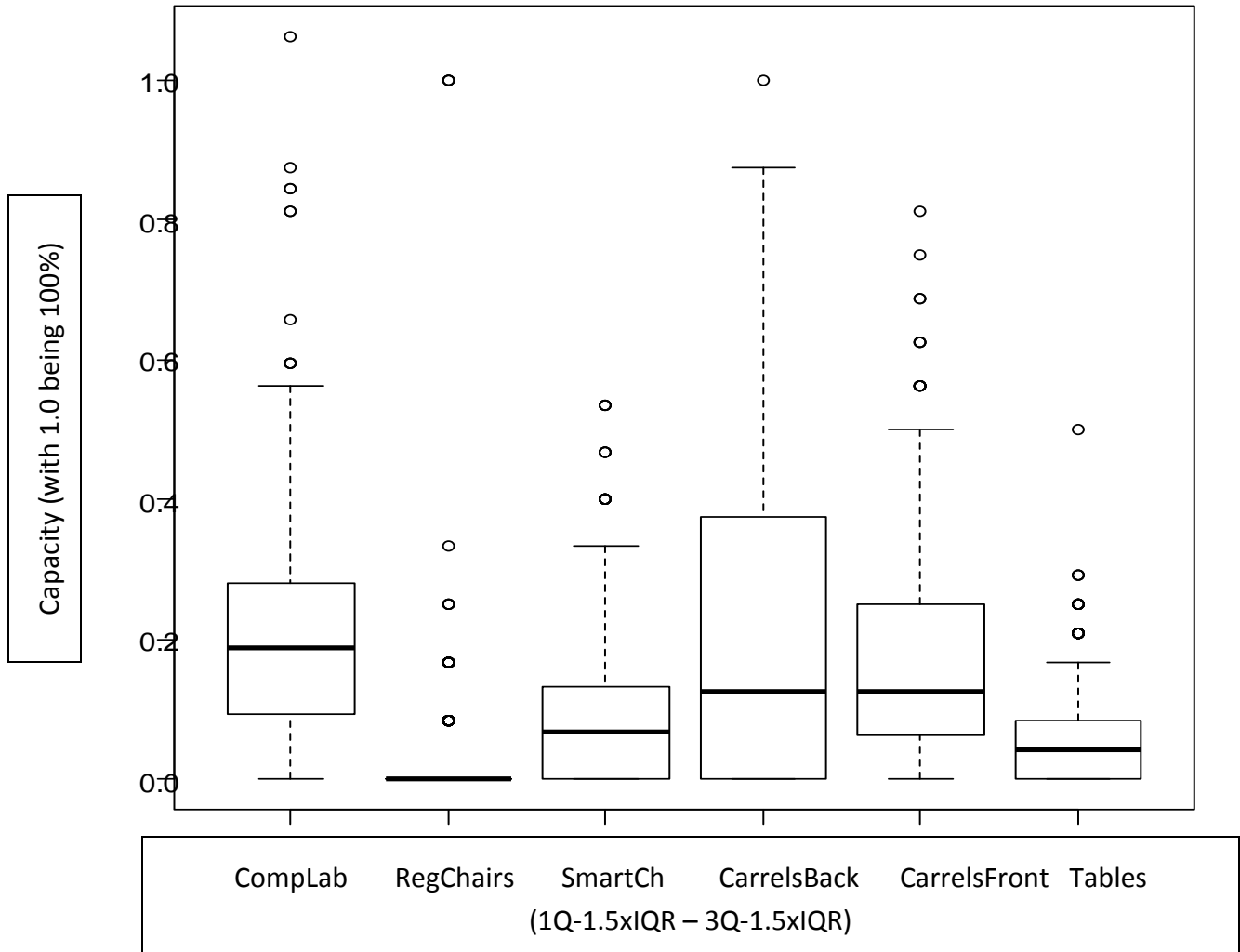
The computer lab has the highest standard deviation followed by the regular chairs. This, and the outliers for this area, are possibly due to the occasions on which a class was in the computer lab, which occurred 5 times during the quarter. Additionally, the Mark Twain event boosted the counts for the regular chairs during those two hours to 53 and 28 people respectively. (For purposes of the preceding box plot, the Mark Twain data were reduced to 100% of capacity, instead of 200-400%.)

	mean	sd	0%	25%	50%	75%	100%	n
Computer.Lab...people	6.6369427	4.931643	0	3	6	9	34	471
Regular.Chairs...people	0.4861996	3.011913	0	0	0	0	53	471
Smart.Chairs...people	1.5944798	1.770651	0	0	1	2	8	471
Study.Carrels..back....people	1.5562633	1.598043	0	0	1	3	8	471
Study.Carrels..front....people	2.8853503	2.523848	0	1	2	4	13	471
Tables...people	1.2547771	1.683099	0	0	1	2	12	471

GROUP USAGE

Small groups (2-3 people interacting) largely used the computer lab and tables. This was true when looking at both weekday and hourly usage.
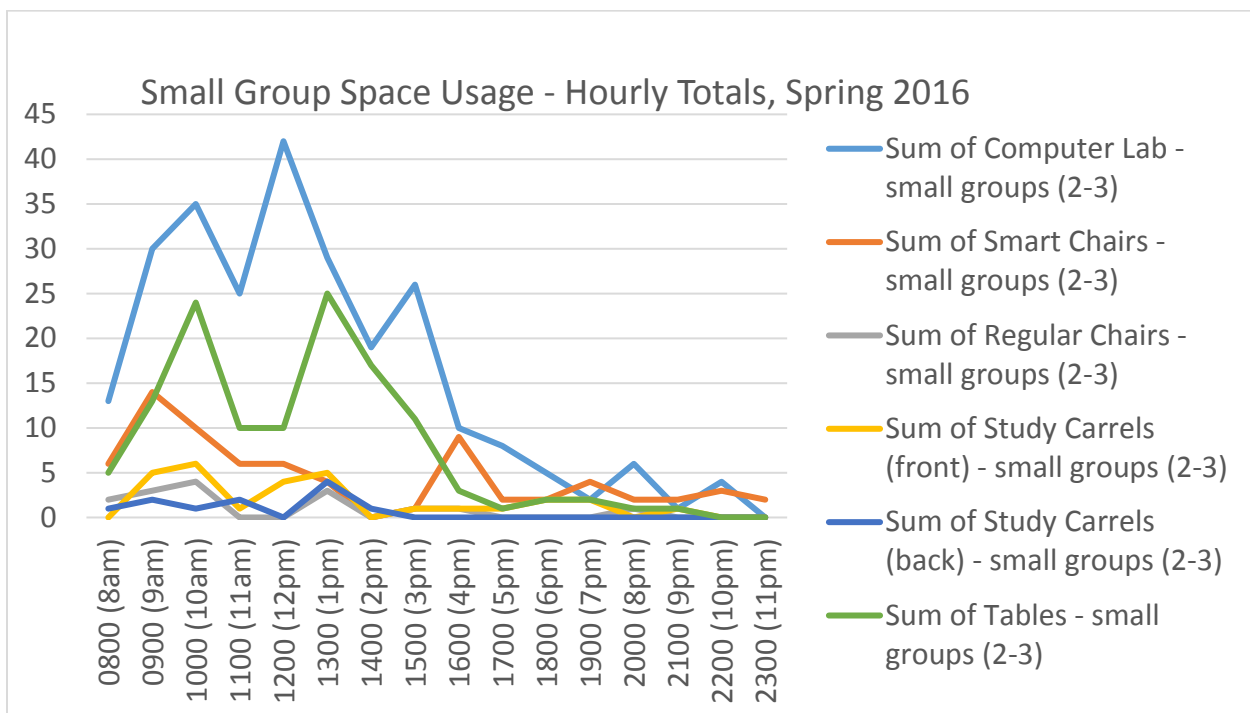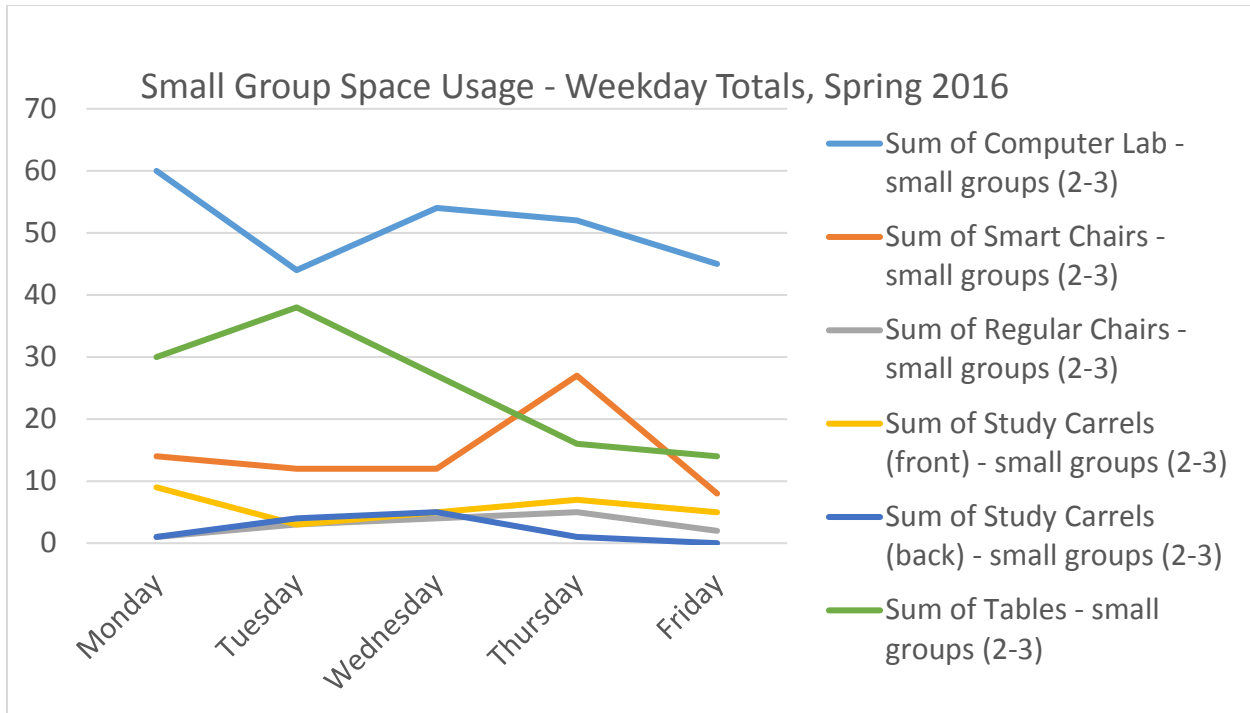
The computer lab had the highest mean/average for small group usage, with tables following second:

```
                                          mean         sd 0% 25% 50% 75% 100%   n
Computer.Lab...small.groups..2.3.       0.54140127 0.8263515  0   0   0   1    4 471
Regular.Chairs...small.groups..2.3.     0.03184713 0.1757797  0   0   0   0    1 471
Smart.Chairs...small.groups..2.3.       0.15498938 0.4918177  0   0   0   0    7 471
Study.Carrels..back....small.groups..2.3. 0.02335456 0.1996971  0   0   0   0    3 471
Study.Carrels..front....small.groups..2.3. 0.06157113 0.2658364  0   0   0   0    3 471
Tables...small.groups..2.3.             0.26539278 0.5415225  0   0   0   0    3 471
```
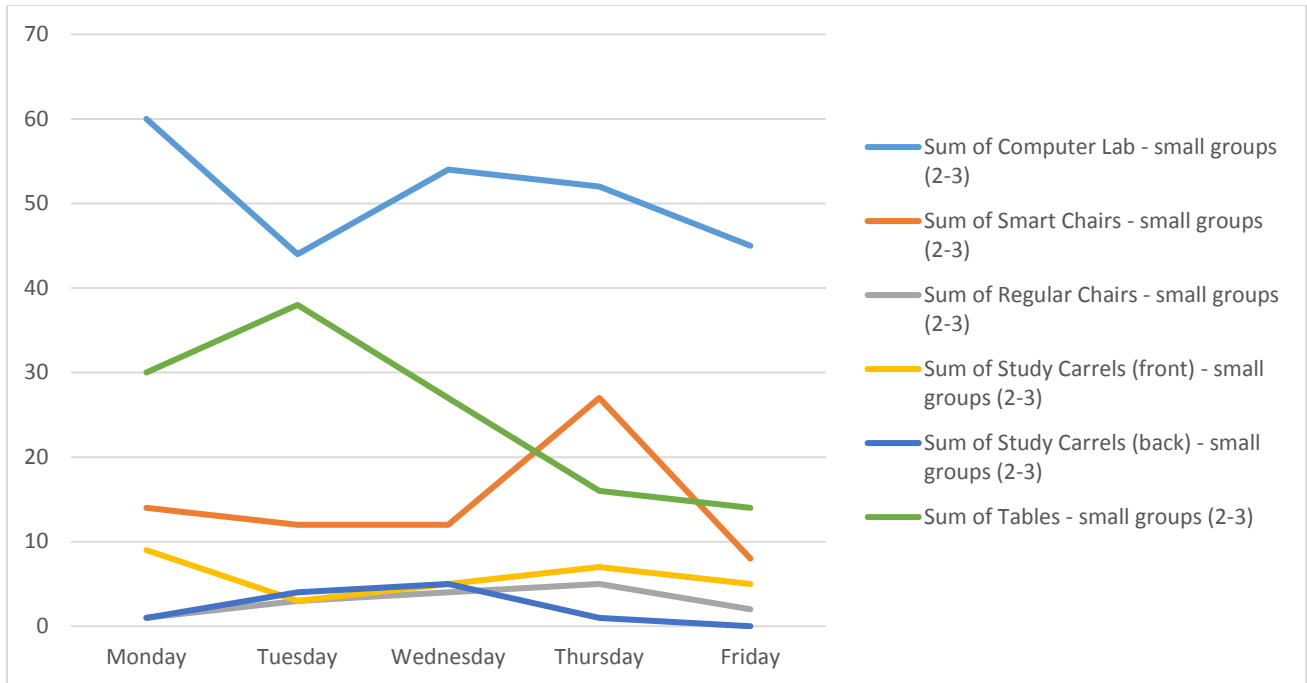

Large groups (four or more people) used the Library with relatively low and unremarkable frequency.

PART 2 OF 3: FOCUS GROUPS

The purpose of these focus groups was to gather Centralia College student feedback regarding Kirk Library's physical space. Goals are to discover:

- What aspects of current space usage should be retained, abandoned, expanded, or reduced
- Student attitudes toward potential additions, such as makerspaces, 3D printing, multimedia, scanning, faxing
- The arrangement, amount, type, and location of furniture which best suits students' needs
- Driving factors behind choice of place to study

- What qualities of space can create better work environments for both quiet individual study and collaborative group study
- Noise levels affecting students' needs
- Explore possible solutions to problems the group may voice

RESEARCH DESIGN

Four 1.5 hour student focus groups were held on May 16th, 18th, 19th, and 24th of 2016. Each focus group was asked the same set of questions (see Appendix D for Moderator's Guide). Sessions were conducted by the primary researcher with a student worker assisting. In addition to the questions posed to the group, each group was also presented with three short video clips illustrating makerspaces and multimedia labs/studios.

METHODOLOGY

Focus group members were recruited from the Centralia College student body via an announcement on Canvas, the Centralia College LMS. Four groups of twelve were formed from the volunteers.

Demographic screening information on age and gender allowed the researcher to ensure that no one person would be the only person of their gender or age in the group.

Group Composition				
	Group 1	Group 2	Group 3	Group 4
Men	3	0	3	0
Women	2	4	6	7
Quarters at CC	1 to 5 (3.8 avg)	1 to 5 (3.25 avg)	1 to 5 (4 avg)	2 to 5 (3.4 avg)
Library usage	Daily, weekly, quarterly, never	Daily, weekly	Daily, weekly, monthly, quarterly, never	Weekly, monthly, quarterly
Age range	Mostly 18-25, with one 26-35	18-25, 46-55	18-55	18-65

Each session was recorded and transcribed by a transcription service. The transcripts were then hand-coded by the researcher using RQDA using a grounded theory approach, which aims only to observe and discover. A plot of the categories and category groups was also generated with RQDA.

Compared to other methods of research, focus groups have relatively high face validity; that is, we can be reasonably sure we're measuring what we think we're measuring—that what participants said is what they meant. Focus groups have no external validity, however; the results of focus groups cannot be projected or generalized to the population (all Centralia College students). Focus groups serve the purpose of exploring attitudes and generating ideas; their results can inform other studies like surveys.[3]

Reliability for this study, as with all focus groups, is relatively low. Ideally, when saturation for focus groups occurs (where the same ideas begin to be repeated between groups), researchers can be relatively assured that discussions have explored topics with reasonable depth and coverage.

Interrater reliability is low/nonexistent for this study. Ideally, at least two researchers would code transcripts and compare notes until they reach some level of agreement between their conclusions, with 1.0 being perfect agreement and 0.0 being that which would be arrived at merely by chance. In this study, however, only one researcher coded the results.[4]

RESULTS

The researcher's coding arrived at 101 themes grouped into 11 categories:

---

[3] Erica Weintraub Austin and Bruce E Pinkleton, Strategic Public Relations Management: Planning and Managing Effective Communication Programs (Mahwah, NJ: Lawrence Erlbaum Associates, 2006), 148-149.
[4] At the time of this writing, students in Preston Kiekel's Qualitative Methods course were analyzing the focus groups and may wish to add their findings to this report in the future.

Location	Noise Level	Groups
Hardware	Resources	Software
Feelings	Support	Atmosphere
Access	Needs	

LOCATION AND ATMOSPHERE

The Library is one of several places on campus in which students study. Walton Science Center was another location frequently mentioned by students. Other locations included tutoring centers and off-campus sites like home, coffee shops, and a bar. Participants selected locations based on convenience and the type of task to be completed, such as going to the Writing Center for English assignments, or the Library to be free of distractions.

Students' definitions of "distracting" varied. Most students considered the Library fairly free of distractions. One student said the quiet of the Library was distracting, and a few others said there were too many people present.

Some participants noted that they do not like open spaces and seek out corner spaces. Others said the exact opposite, preferring "peaceful" open spaces to more closed, "claustrophobic" spaces:

> "I like the almost quiet sitting area thing. Kind of add on to a private little corner. I don't like the open space." – *Group 3 Participant*

Some participants liked Walton's access to fresh air and a view. One participant said they had played pranks on people they knew by calling them on their cell phones as they were walking by and trying to make them guess the location from which they were being called.

Type and nature of the task, work, or assignment is a large factor in student choice of study location:

> "…depending on whether on a computer or go to the back and use a small cubicle…it depends whether I've got something required for what I'm doing. …I like the background noise too. It just depends on what I'm studying, what I'm writing, what I'm reading." – *Group 2 Participant*

With regard to arrangement of the areas inside the Library, one participant discussed her experience at a different community college:

> "… the rooms you reserved were lining the library, but then over here, there were round tables like this, in between the shelves, the

bookshelves, and that was grouped together. Over here was all the computers and printers that were on tables, that were all grouped together, so that basically the people that are utilizing the space are all doing the same type of, at least, either they're printing or typing." – *Group 4 Participant*

NOISE LEVEL

Generally speaking, most participants feel the Library noise level is appropriate most of the time, and that the Library is generally quieter than most other locations on campus. While participants varied widely in what they found distracting, for most, the Library seems to have an appropriate mix of noise and quiet:

"I've been on campus for a couple years now and I recently just realized how amazing the library actually is, because I like having enough distraction that I'm not so focused because that's just really draining to me." – *Group 2 Participant*

"Sometimes it is. I think so, too. I had, last quarter when I took English 102 class…I found the noise in the Writing Center to be very distracting. That's when I started coming in more to the library to work so I could get my thoughts together." – *Group 2 Participant*

"The library's just what I expect. I expect the library to be deathly quiet. It always is quiet, and that's what I expect." – *Group 3 Participant*

Noise from the ABE math classes on the other side of the half-wall was mentioned a few times:

"I think the only time it's really, it could potentially be too loud is when there's a class. One of the math classes over from the quiet area." – *Group 1 Participant*

"This last summer, it was not real pleasant. There was a math class or something right there, so it was not a quiet area. I was a little disturbed that it says Quiet Area, but there's a math class and it's not a quiet area." – *Group 2 Participant*

"The only noise concern I've ever had is a class that's been on the other side. I feel like it's not even the class. I feel like it's one teacher, because there's a voice in my head, I have no idea who it is…. I feel like it's just one person." – *Group 2 Participant*

"It used to bother me before I had a class that was in there. Now when I have a class that's in there I hear stuff that's going on in the library. But if

I was studying in the library, which I have even this quarter, it does bother me on the other side of the wall." – *Group 2 Participant*

"I notice a lot of people in my math class complain about it. I can go five minutes later into the library and people will be complaining about the math class." – *Group 2 Participant*

"When I have gone in the library to do work, I go on there to want to be quiet and I get the Writing Center on the other side. What's that other side of the room? … Anyways, it's really noisy over there with teaching." – *Group 4 Participant*

Participants mentioned computer lab noise as being a problem on occasion:

"…an English 102 class that was in the classroom just off of the computer lab, and they would come out half way through for research I think for their essays. That got really noisy, really fast in that time span." – *Group 3 Participant*

A number of participants noted that they often listen to music, regardless of location, to filter out potential distractions.

RESOURCES AND NEEDS

MORE SPACES TO SIT, WORK, COMPUTE

When asked what might improve the Library space, participants said:

"…more quiet spaces in the computer lab would be helpful." – Group 3 Participant

"Especially around midterm or finals, I go to the library to study. There's hardly any space to sit. I've ended up sitting out in the hall in other buildings. It's hard to concentrate and work without having the actual best place to study at." – Group 3 Participant

"It would be nice if maybe you could switch the computers and put them closer to that side of the room. Maybe the other side of the room would be where the quiet people go…" – Group 4 Participant

CAMPUS COMPUTERS

Focus group participants frequently mentioned using the Library computers, both individually and in groups. Some use campus computers when they don't own their own computer or a

computer that runs Microsoft Office, and one participant mentioned using her Chromebook alongside a Library computer.

WI-FI

Wi-fi was mentioned a few times by participants. One reported sitting in her car in the Library parking lot in order to use the wi-fi while having a private, quiet space in which to work. Students care about wi-fi speeds and seem aware of which locations have faster wi-fi. One participant reported that the public library has faster wi-fi than campus. Two stated that wi-fi is the only resource they really need on campus.

IMPROVED SEATING FOR CARRELS

Participants who use the carrels (which they call "cubicles") like the carrels as a study space, but suggested that more comfortable chairs would be preferable:

"The cubicle area is a place that I prefer, though I have to agree with her. The chairs are a little bit uncomfortable and they make me go numb after a while. Something more cushioned would be very nice." – Group 2 Participant

POWER OUTLETS

Participants cited power outlets as a need for students studying on campus. This is illustrated by one faculty Librarian's recollection of a specific incident where a student needing both a table and outlet plugged her laptop into the nearby smart chair in the manner shown in the photograph below:

Participants agreed repeatedly on the lack of power outlets available to them, especially in the spaces they otherwise prefer for studying, like Walton:

> "A lot of places do not have plug-ins, either under the table or against the wall. In the Science Center, the big huge common area ..." – *Group 4 Participant*

> "There's no plugs in there. There's nothing…. The second floor, we'd have all those chairs set up, which is really nice for talking to other students. No plug-ins." – *Group 4 Participant*

> "I can't [study] upstairs because you need a computer and if your juice runs out, you're dead and then you have to move. That takes time. You have to find some other place that has a plug-in. Pretty much off campus has been where I've been taking groups." – *Group 4 Participant*

MORE GROUP SPACES AND PRESENTATION PRACTICE ROOMS

Participants approved of the TLC room in eLearning as a good study space meeting their desired requirements:

> "If there was study rooms like this [TLC in eLearning], that would be great. A whiteboard to write on, a computer to display a presentation on, and computer to work on to do research or whatever, and tables to write notes or share notes, or be on another computer. Something like that. That would be a perfect study area." "With outlets." – *Group 2 Participants*

Students were more negative about reserving rooms. They did not like the idea of walking to a room just to reserve it for later. They responded favorably to the idea of an online reservation system:

> "A lot of the problem is that, we're all busy. Over half of this campus are nontraditional students over the age of 25 with families and lives and work, and all kinds of stuff. Having to physically go somewhere and sign up to make a reservation, it's not going to happen for me." Group 4 Participant

VENDING

Participants expressed moderate but highly varied interest in food and drink, with some saying they always have it while studying and others saying they never do. Participants expressed desire for vending machines that take cards and not only cash.

SOFTWARE ACCESS

Students in the focus groups expressed desire for increased availability of special software required for classes, such as:

- Wolfram Mathematica; Matlab
- Presentation software
- Medisoft
- QuickBooks; ACL (for internal audit coursework)
- Adobe After Effects; Adobe Final Cut Pro; Adobe Creative Suite
- jmol (java)

> "There's just engineering software that we could use on the computers in the library like Wolfram Mathematica or Matlab that would help me get my homework done a lot quicker." – *Group 1 Participant*

> "You don't have free access to [Final Cut Pro]. You have to actually get the instructor to come open the door or Bill. … A lot of students have brought that to Wade Fisher's attention to see if they could get that as part of the program for being a student here on campus so they can edit more." – *Group 2 Participant*

GROUPS

Some participants felt the Library is an acceptable place to do group work, especially when it provides a convenient central meeting location, but others feel their group will be too loud for the Library:

> "It's nice because our class is right down. We meet there on Monday so everyone knows where to go. It's a bad thing because once we really start to work and getting involved in our project, there are other people that are working alone and they need the quiet." -- *Group 1 Participant*

> "So we're being loud. And so we're trying to whisper but it's still like it's not conducive for anyone." -- *Group 1 Participant*

> "We were going to do it and it was just too quiet. There's no way we can be talking or whisper. We left and went somewhere else." – *Group 4 Participant*

> "I've only had to be in there once with a group. I don't go in with a group anymore because there wasn't a space to do it. We were louder than we should have. We did get shushed. …I don't do groups in the library at all." – *Group 4 Participant*

> *"It's not going to happen. It's mostly because when you're trying to talk to other students with your subject. You're not really being concerned about the noise level. In the library, they want it quiet, so people that are not in groups can stay." – Group 4 Participant*

Participants felt that there are few or no good spaces for groups on campus, including the Library:

> *"There's another one, that one little small room by everyone's offices back there and that room is fine, but it's just chairs. There's nothing to set anything, I think there might be a couple of things, and there's the overhead. It's not like this. This room [TLC in eLearning] is perfect." – Group 2 Participant*

> *"I've actually been told to be quiet more than once and I was just talking to somebody next to me. We have those pods with computers and there's two tables like this, but other than that, there's no real group place." – Group 4 Participant*

> *"You just feel out of place even talking loud. It's like, "Sshht, it's a library." When I'm up in the Washington Hall up there, nobody is shushing. Everybody is talking, everybody is going, and you're doing your thing. When you're talking, you really can't hear the other person, but in there, it's no fun ..." – Group 4 Participant*

This concern leads some students to choose locations such as Walton Science to meet in groups. A complaint about Walton, and also the cafeteria, was that when meeting in common areas where noise is acceptable, other groups' noise makes it hard to converse, which is compounded by the reverb/echo created by the open space:

> *"It's very echo-ey. When I'm usually there it's at like 5:00 in the evening, so openness isn't really a plus. It's not minus either. If anything, you have to be very quiet because your voices just resonate throughout the entire building." – Group 2 Participant*

> *"[The cafeteria] is just too much chaos. It's not noisy like sound. It's too many people walking around and too many distractions." – Group 4 Participant*

Some participants also said that they look for empty classrooms in buildings. When asked about student needs for study spaces, sitting spaces with power supply continued to be mentioned:

> *"Sitting space and power supply because usually this place is too full, busy. You want to keep it quiet. If we have a group project we usually go*

to the third floor of the Walton Science Center. It's packed. There's nowhere to sit down. You go down the next floor, there's nowhere to sit down.... You go downstairs and it's packed. I think just more places for people to sit down to work." – *Group 3 Participant*

"It's really hard to find a place where you can sit a bigger group. I think more than three people, it's usually hard to find somewhere…" – *Group 4 Participant*

Some participants do use the Library, for group work, with particular mention of the Library computers. Students reported working together on PowerPoints and group essays.

PRESENTATIONS

Students described about three different methods of practicing for presentations including:

- Huddling around the computer and taking turns (if in a group) as they speak and advance the slides
- Waiting until the classroom they'll present in is empty and practicing in it
- Reserving a room like Library 139

"…with PowerPoint presentations, it's always all of us sitting around a table like this with one laptop up there and somebody that their arm stretched out and clicking slides. Trying to go through it that way is very awkward. It would be nice to actually be able to have to actually assimilate for actual presentation and be able to actually figure out where we want to stand and how we want to rotate and do things like that." – *Group 2 Participant*

"I generally struggle trying to find a place to go practice. A lot of it you need by permission or whatever. … They're like well, you have to get permission because you don't know what other clubs are going to use it, classrooms or whatever." – *Group 3 Participant*

MAKERSPACES

Three of the four groups expressed generally positive attitudes towards makerspace concepts. One group was more skeptical, feeling that various technologies belonged in their respective departments – robotics in the ERA department, for example. This group was concerned that students would shoulder the costs of added technologies like 3D printing. Students in all groups were a bit unclear as to whether a makerspace would be another course or program, or just a resource for them to use at-will.

"I don't want to invest money if I don't have to if it's not even towards my degree. For me if it would pay for another class for me I wouldn't use it. If it was a come in kind of thing and learn how to do it, then I'd definitely do it." – Group 1 Participant

Participants were generally more interested in multimedia software and hardware, large and color printing, and 3D printing. They were less interested in robotics and electronics.
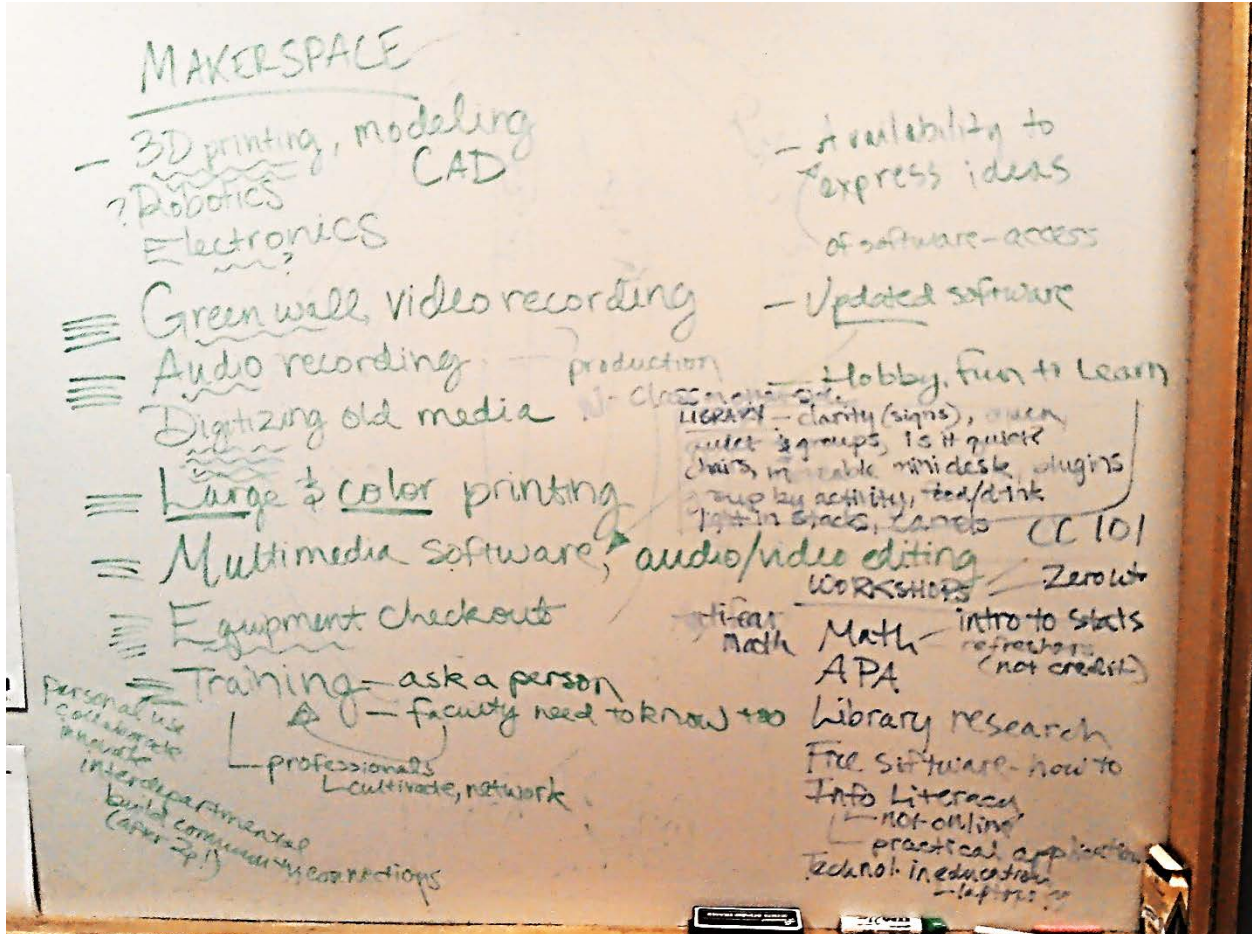
(Horizontal marks to left of item indicate number of participants expressing interest.)

"This last winter quarter, I actually, in a group project, we had to film a presentation. Between five of us, we were able to scramble a camcorder, a tripod, and then somebody who had editing software. But if any one of us hadn't had one of those things, we definitely would have been in need." – Group 2 Participant

"Those audio booths… that would be really nice to have a place to go…and you had access to it at 7:30 in the morning instead of having to hunt down Bill or Wade Fisher." – Group 2 Participant

"A poster I want to look really nice, something that pops out, stands out for the kids. It was very hard to where I was able to print out a good poster and get help on that. Definitely." – *Group 3 Participant*

"On a personal level, that digitizing old media is, if we had one in here right now, I'd be using it right now, because everything I have is rolled aside." – *Group 4 Participant*

"Definitely the green wall video and audio recording. Those would be just completely amazing to have." – *Group 4 Participant*

"I could see how the audio and video recording because we do mock our counseling sessions. That might be helpful. The software, the multimedia software, and equipment checkout." – *Group 4 Participant*

Participants commented on retention possibilities presented by makerspace resources:

"I think that having them would add a lot of cool new opportunities to the college. … I think it would attract a lot of people too." – *Group 1 Participant*

"…for my professional life I can see how the engraving, the digitizing older media, the audio recording I can see how a lot of those different classes would benefit me…. If you guys offered these programs, your doors of students would open tremendously." – *Group 1 Participant*

"If was in school looking for a new degree and this was my field then I would see it as a degree opportunity." – *Group 1 Participant*

"I think the MakerSpace would be a useful tool in building community at the college, because this college after 2pm is dead. I know it's because a lot of people have jobs and kids…but I feel like there's a real lack of community here." – *Group 4 Participant*

SUPPORT

Participants believed that if the Library offers multimedia services, support/tutoring in use of those services would be necessary. When asked if they would want someone around who could help with software and hardware, participants said they definitely would.

They noted struggling with math in particular, including the software necessary for math classes:

> "We were supposed to know how to use Excel before we join the program. They also gave us another software program to use. I don't know how to do either one of them. I feel like I'm sinking, and it's just pretty much like I hope this is right and I'm going to turn it in." – *Group 3 Participant*

> "I don't know how to use Excel very well, and I definitely don't know how to use R program. I've never even heard of it. He wants us to know how to use them. He doesn't have time to train us on how to use them. It's difficult." – *Group 3 Participant*

> "As a math major, I'd like to see an anti-fear math workshop." – *Group 4 Participant*

Writing styles present similar difficulties. One student asked why are aren't different "tracks" so that students could study writing in a manner relevant to their field of study.

> "I have a really hard time understanding APA Style and I just don't understand why it's not offered as an English class for those who have to learn it, because every quarter, the teacher are frustrated because they're trying to teach the class, which I felt like I should have came in to some of the classes already understanding what APA Style is." – *Group 4 Participant*

> "It would be nice to have a little, even if it's like just a day workshop, where you go, "Here's the basics of APA." – *Group 4 Participant*

Some interest was expressed in a central "information desk" for student need:

> "If there was like an information person where you could [say], this is my problem. Where do I go. If they could just tell you where to go. That would be great." – *Group 3 Participant*

A few participants mentioned having cross-platform issues between Mac and PC:

> "I've had several problems with having the programs and the stuff like that on my Mac, where I have it download programs. A couple quarters ago, I went out and bought a new laptop, because I had to have a specific program to do video game editing. It's kind of a pain running around. The school's like you can borrow one for us. I'm like, I can, but I can't get the program I need on it, because your stuff's frozen. If I can't add the program I need to the computer, what's the point of borrowing it?" – *Group 3 Participant*

"Some people made videos, really cool videos on video software that would only double to macs. Then they can't bring it to class, because it doesn't work." – Group 3 Participant

When asked how they get help and support for solving technical problems, half or more of the participants said they first Google the issue or look it up on YouTube. Others said they'd be more likely to ask a person first – friends, family, or instructors. A few participants mentioned other students in their classes or staff in a tutoring/VA center.

"It's not necessarily just the tutoring. It's also having that hub where you can actually bounce ideas off other students in the same class or have already taken the close." – Group 4 Participant

When asked if they would prefer a single location for all tutoring, students' responses were mixed between wanting a central location and not caring much.

AWARENESS OF SERVICES

On several occasions, participants in each group were surprised to hear other participants mention resources and services they weren't previously aware of, including:

- Power outlets on the smart chairs
- Library evening hours
- Software programs available to students for free (Prezi, Microsoft Office online)
- Rooms available for reservation
- Difference between Canvas messaging and campus email with Outlook
- Difference between Library area and testing/ABE area

BRAND PERSONALITY

Borrowing from the field of marketing, **brand personality** is the qualities of a product or service which describe it. These descriptions should not be words like "large" or "blue;" instead, they should be words that could be used to describe a person. Brand personality is something that is not so much created as it is discovered by researching target audiences (in this case, Library patrons).

Focus groups were asked one question designed to reveal an aspect of brand personality. Participants were given a sentence completion exercise in which they were asked to complete the following sentence with the first word(s) that came to mind:

Being in the Library makes me feel _____.

Responses to this activity were:

NEGATIVE (10)	OTHER (4)	PRODUCTIVITY (11)
Nauseating	Social center	Just getting my work done
Bored	Safe	Making progress
Elementary	Excited	Working
Anxious	Waiting…for my next	Productive
Sleepy	class…or for someone to	Prepared
Lost	come	Purposeful
Tired		Hardworking
It makes me feel loud		Focused; forced to focus
Sterile		Smart
Agitated		Access to everything I need
		to complete…project

Negative and positive responses were fairly balanced. Positive responses centered around productivity.

When asked how they felt being in Walton, "happy," "professional," and "relaxed" were the feelings associated with Walton. Two of these participants also said the tutoring centers made them feel "claustrophobic." One participant felt the tutoring centers had become "student lounges."

Generally speaking, the Library has a reputation for being a serious place to go to "get stuff done." Participants do still expect the Library to be quiet and they associate that quality with it. Multiple participants said they know when they come to the Library, they won't be interrupted by the other elements of their lives (friends, family, distractions):

> *"When I am in the library I feel like I'm making progress because I feel like I'm better prepared in the library to do whatever I need to do than rather than at home or anywhere else because I don't have the distractions of home or other places. I'm forced to focus in the library." – Group 1 Participant*

SUMMARY DATA

All four transcripts were combined and run through Wordle.net, a word cloud generator. The transcript was scrubbed for unnecessary words like "participant" and "moderator" (see Appendix C for a list of eliminated words). Wordle also filters out common English words.
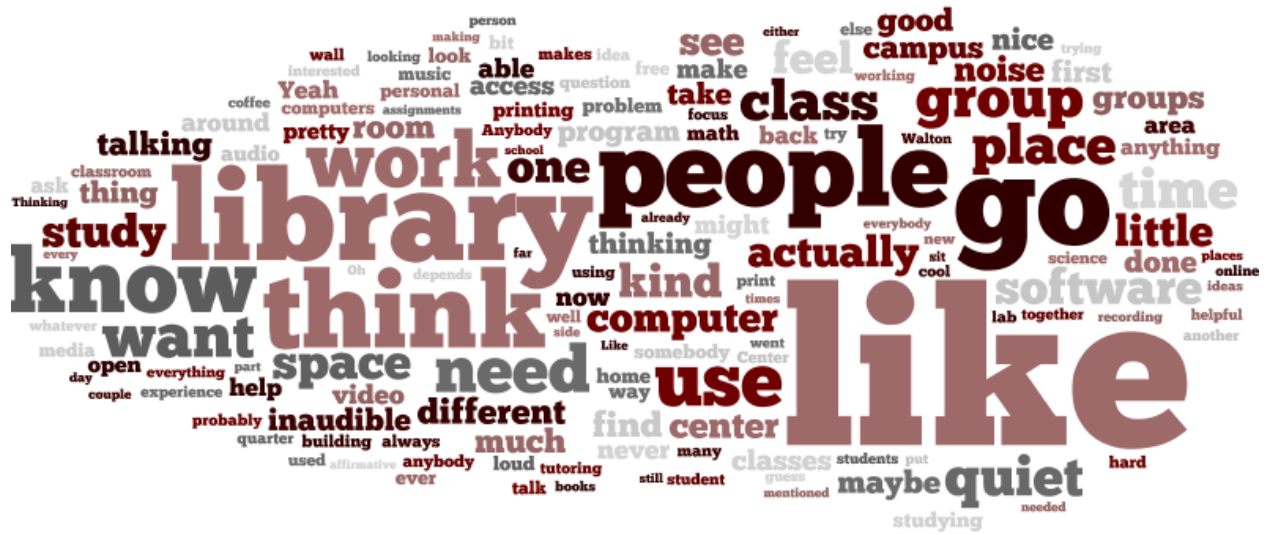
RQDA was used to generate a plot showing the connections between codes and code categories as assigned by the primary researcher. Concepts crossing categories are highlighted in green:
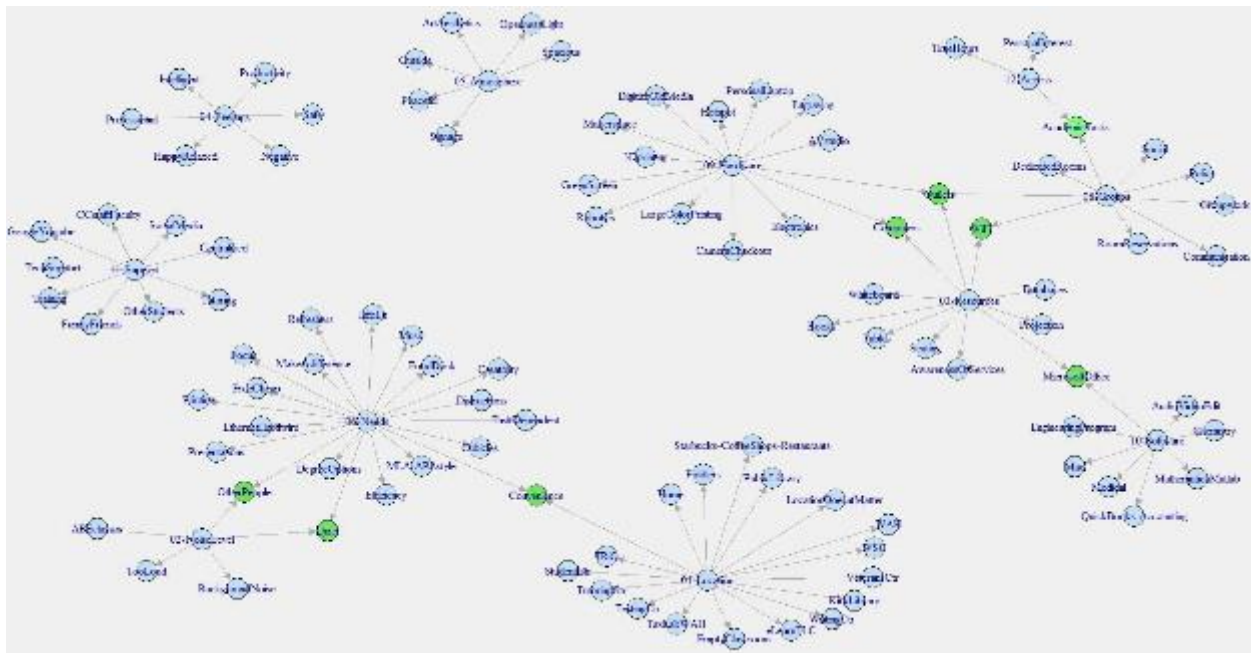
Readers should keep in mind that these associations were determined by the coder and not by an objective or mathematical process. A different researcher would most likely come up with different codes and groupings. (See Appendix E for an enlarged image of this plot.)

The student survey component of this needs assessment project was designed to be a quantitative compliment to the focus group study. The goal was to discover:

- Frequency of student use of Library areas
- Student preferences and perceptions regarding noise and quiet
- Student preferences for study environments, as individuals or in groups
- Student interest in future services, resources, and study spaces
- Student perceptions of access to spaces for tutoring, group work, and presentation practice

RESEARCH DESIGN

The survey used four- and five-point Likert-type and semantic differential questions. Participants specified their age range instead of their exact age. Respondents could choose between 1 and 20 for the number of quarters they have been at Centralia College. Gender was the only fill-in question on the survey; students were asked to state which gender they most identified with, for the purposes of understanding how the sample demographics compare to those of the population.

METHODOLOGY

The survey announcement was active on Canvas from June 2-13, 2016.

PARTICIPANTS

175 students responded to the survey. Thirty identified as 17 or younger; these submissions were eliminated from the dataset because parent/guardian consent for the participation of minors was not obtained. Another 20 rows of data contained cells with no response. These were also eliminated from the dataset because keeping them would mean that each sample (i.e., each respondent's set of responses) would effectively be different from the others, thereby preventing reasonably reliable comparisons from being made.

Because the sample was taken randomly, and everyone in the population had an equal opportunity to participate in the survey, this study has sufficient external validity to allow generalization of the results to the population (the entire student body of Centralia College).

Reliability of this survey instrument is unknown, however, since this is the first time it has been used. If it were used again in the future and yielded similar results, we could say the instrument is reliable. However, if the results of this survey and a future survey were different, it would be
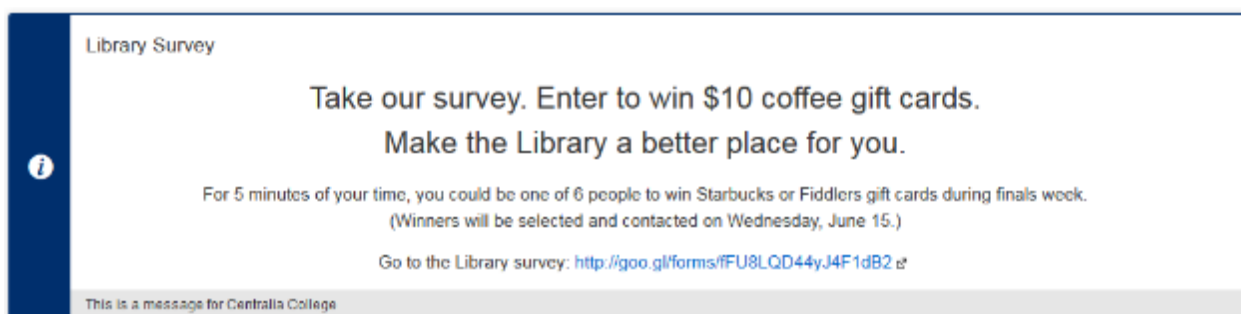
difficult to know if the difference was due to the survey instrument or some other influence, such as increased promotion of Library services, or renovated facilities.

The final sample size was n=125.

MATERIALS AND PROCEDURE

The survey was created as a Google form under the Kirk Library Google account. Prior to deployment, the survey was tested by faculty, staff, and student workers. It was distributed through Canvas to the entire Centralia College student body population (see announcement below):

Library Survey

Take our survey. Enter to win $10 coffee gift cards.
Make the Library a better place for you.

For 5 minutes of your time, you could be one of 6 people to win Starbucks or Fiddlers gift cards during finals week.
(Winners will be selected and contacted on Wednesday, June 15.)

Go to the Library survey: http://goo.gl/forms/fFU8LQD44yJ4F1dB2

This is a message for Centralia College

Gift card incentives were made possible by a Student Services mini-grant. After submitting the survey, the "thank you" message contained a link to a form created on Evaluation Kit where the students could confidentially enter the contest by filling in their name, email address, and phone number. After the close of the survey during finals week, six respondents were randomly chosen (using an online random number generator) and contacted by phone and email to pick up their gift cards.

See Appendix F for the survey instrument.

After the close of the survey, data were downloaded in CSV format from Google Forms and cleaned in the following manner using Excel:

| Process for cleaning data:	Justifications:
1. Deleted column A, the timestamp	
2. Deleted rows 25 and 154, which were blank	
3. Replaced long column headers with short ones (see "codeBook" worksheet)	
4. Replaced cell content with number codes (see "codeBook" worksheet)	Gender not male or female was classified as "other" so that dataset demographics could be compared to demographics of the college's enrolled population.

|	Replacing categorical data with numerical data increases options for analysis.
5. Deleted 30 rows of responses by respondents identifying as "17 or under"	Parental consent forms were not obtained.
6. Deleted 19 rows which had one or more cells of missing data	Comparisons not possible because missing data means the sample is effectively different every time. Remaining sample n=125, is large enough to satisfy sample size assumptions for z-test, t-test, or chi-square.
7. Deleted columns for age, quarters, gender	These can be used for demographics but not for the statistical inference because they aren't on the same scale
8. Created proportions in every column instead of integers	Some questions had 4 options and others had 5; in order to make inferences, they must be on the same scale

RESULTS

DEMOGRAPHICS

Age
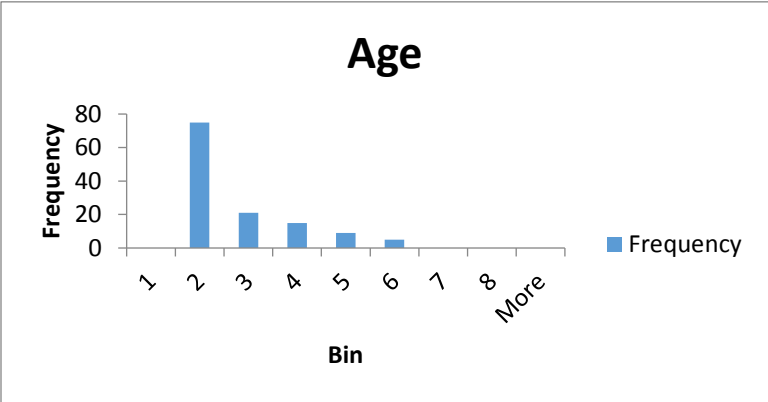
Age Range	Frequency
1 (<18)	0
2 (18-25)	75
3 (26-35)	21
4 (36-45)	15
5 (46-55)	9
6 (56-65)	5
7 (66-75)	0
8 (76+)	0

Quarters at CC
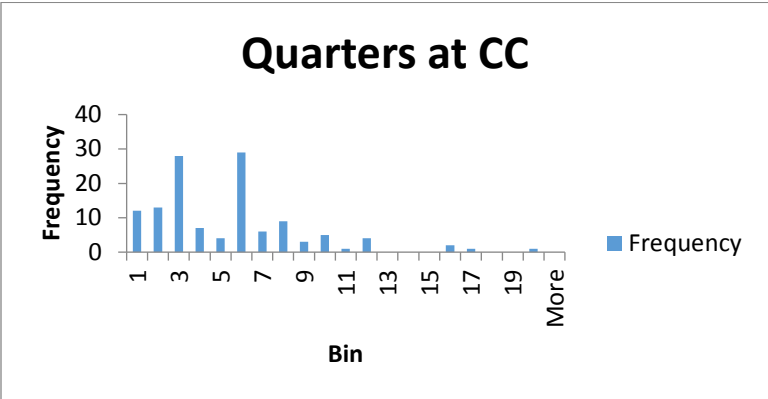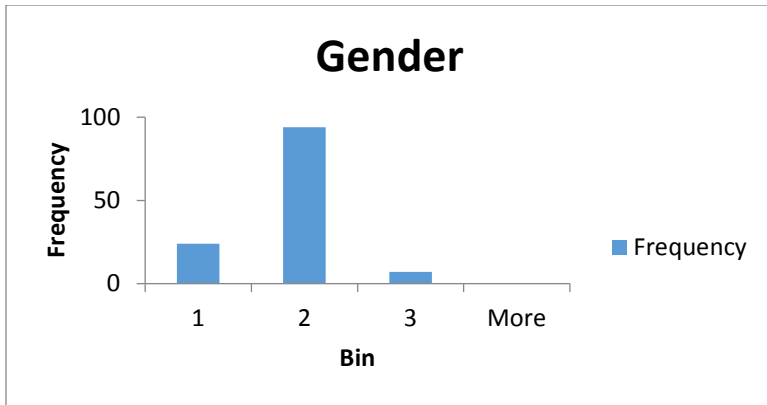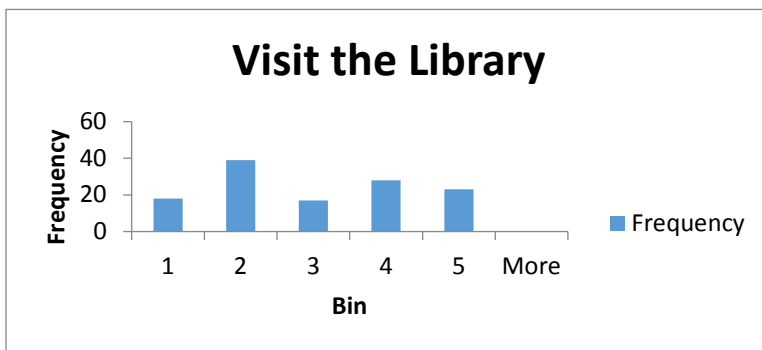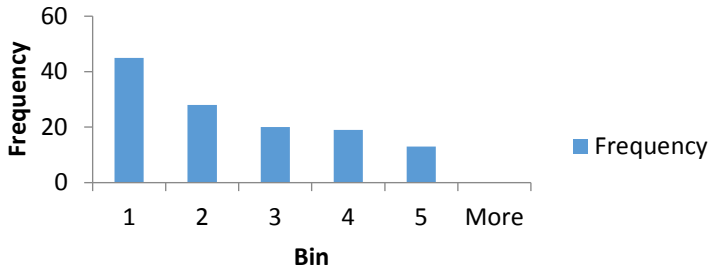
Gender

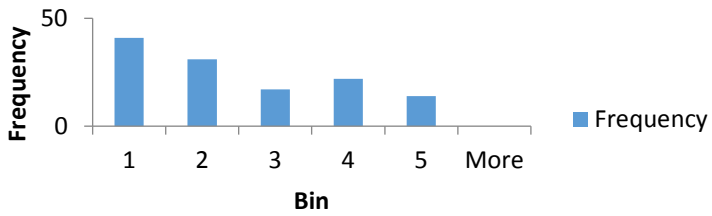| Gender	Frequency
1 (male)	24
2 (female)	94
3 (other)	7

LIBRARY USAGE

Student responses to the question, "Thinking about this quarter (Spring 2016), how often do you usually do the following" had the following frequencies, with 1 being "Never" and 5 being "Daily or almost daily":
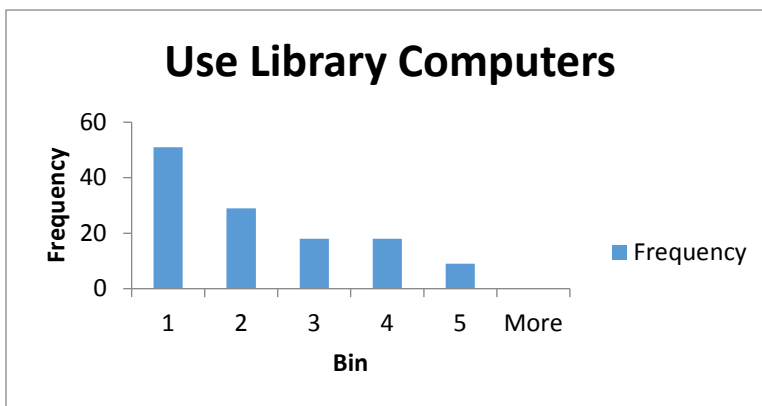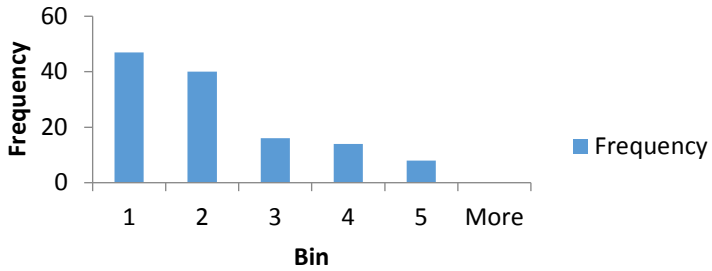
Use Library's Carrels
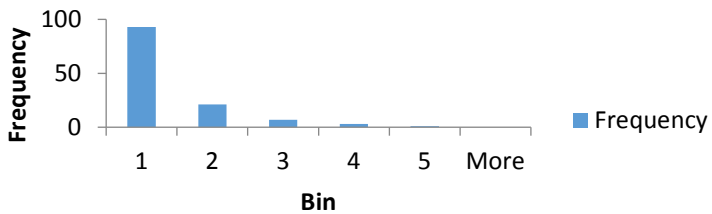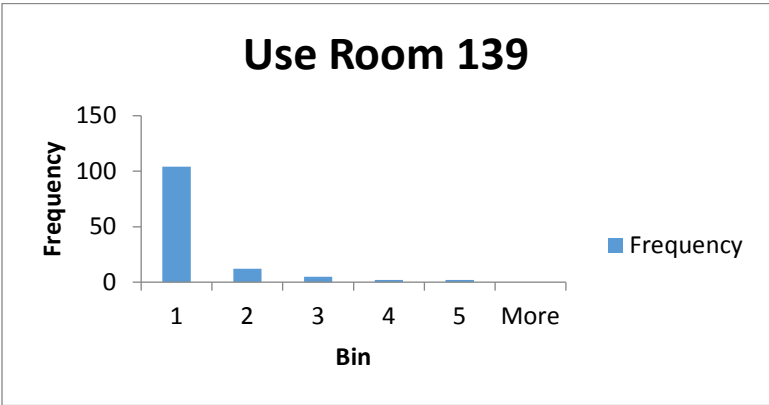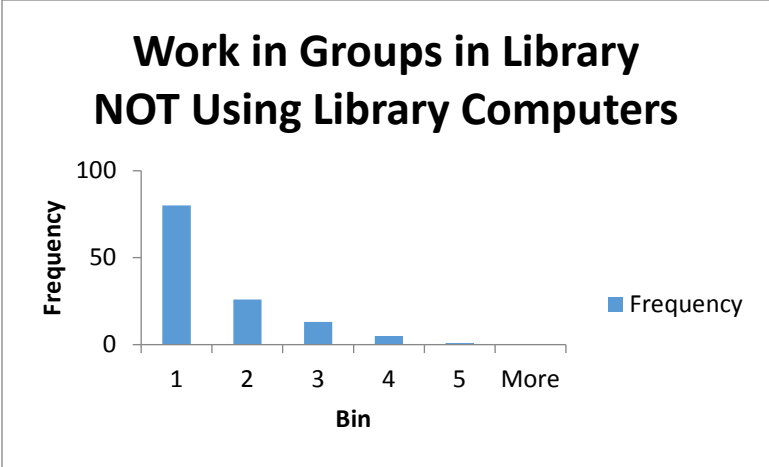

Use Personal Computer in Library

Use Tables in Library

Work in Groups in the Library Using Library Computers

Work in Groups in Library
NOT Using Library Computers

Chart: Histogram with Y-axis "Frequency" (0 to 100) and X-axis "Bin" (1, 2, 3, 4, 5, More). Legend: Frequency.
- Bin 1: ~80
- Bin 2: ~26
- Bin 3: ~13
- Bin 4: ~5
- Bin 5: ~1

Use Room 139

Chart: Histogram with Y-axis "Frequency" (0 to 150) and X-axis "Bin" (1, 2, 3, 4, 5, More). Legend: Frequency.
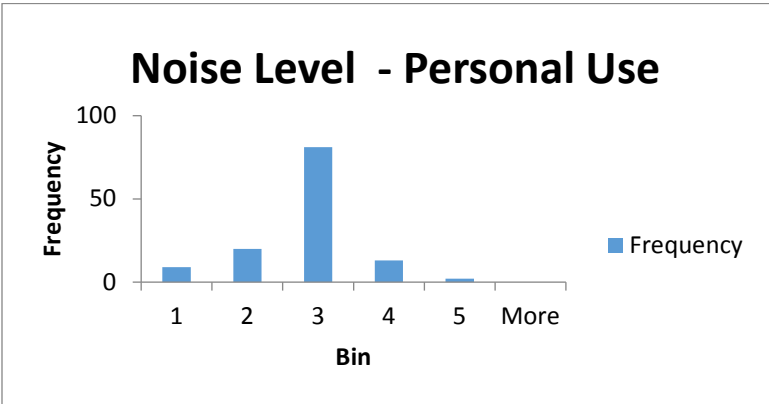- Bin 1: ~104
- Bin 2: ~12
- Bin 3: ~5
- Bin 4: ~2
- Bin 5: ~2

NOISE & QUIET

Student responses to the question, "Please rate the noise levels in the Library when you're doing classwork or studying ALONE (with 3 being 'just right')" were as follows:

Noise Level - Personal Use

Chart: Histogram with Y-axis "Frequency" (0 to 100) and X-axis "Bin" (1, 2, 3, 4, 5, More). Legend: Frequency.
- Bin 1: ~9
- Bin 2: ~20
- Bin 3: ~81
- Bin 4: ~13
- Bin 5: ~2

Student responses to the question, "Please rate the noise levels in the Library when you're doing classwork or studying IN A GROUP (with 3 being 'just right')" were as follows:
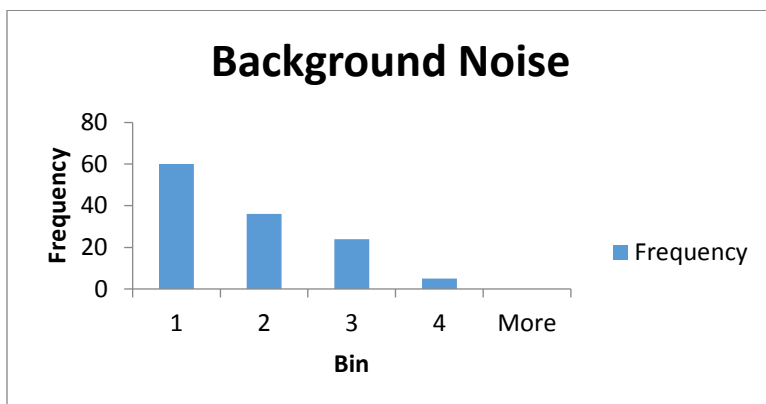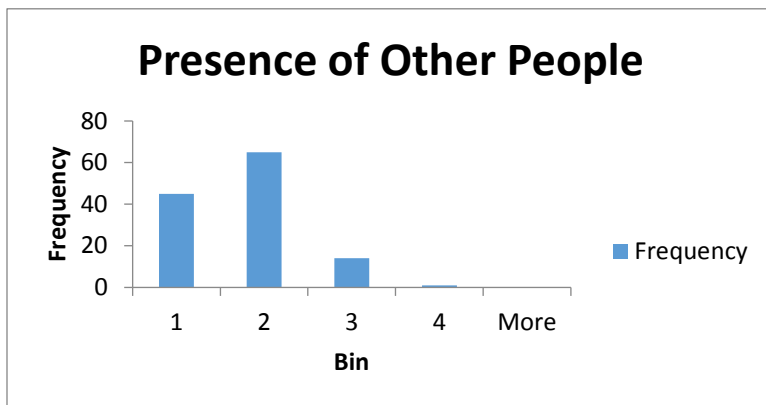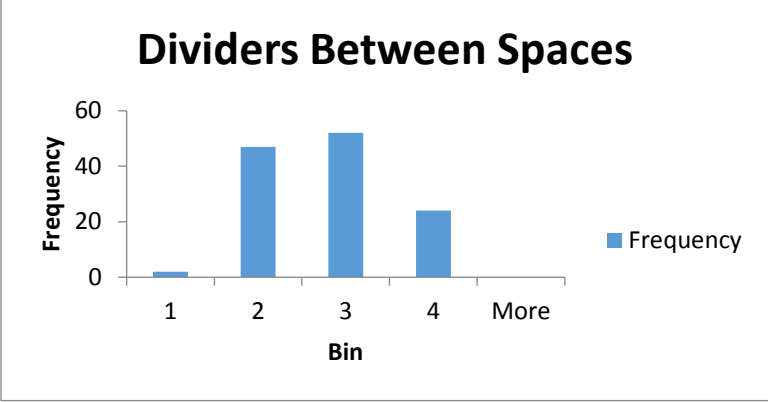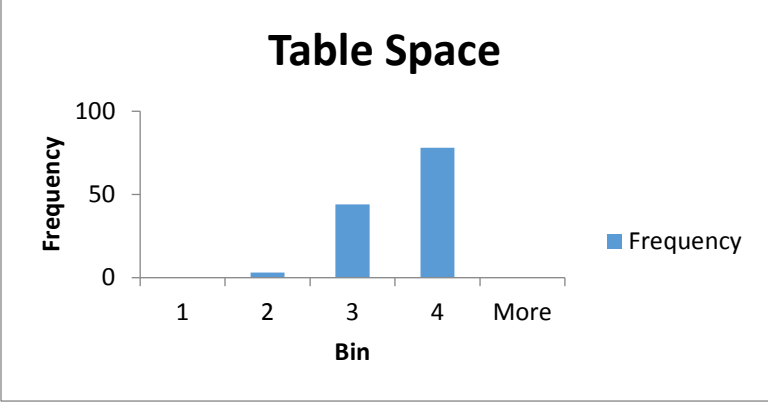
Noise Level - Group Use

Frequency (y-axis): 0, 50, 100

Bin (x-axis): 1, 2, 3, 4, 5, More

■ Frequency
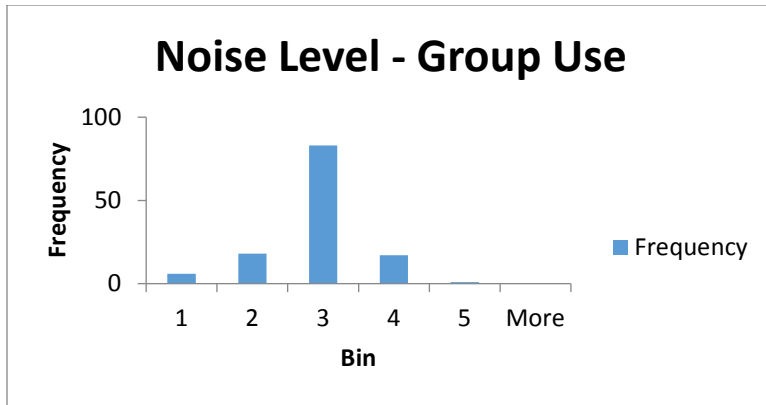
STUDY PREFERENCES

Student responses to the question, "When you're looking for a good place to get classwork or studying done, how important are the following features?" were as follows, with 1 being "I try to avoid it," 2 being "I don't care if it's there or not," 3 being "It's nice to have," and 4 being "I must have this":

Presence of Other People

Frequency (y-axis): 0, 20, 40, 60, 80

Bin (x-axis): 1, 2, 3, 4, More

■ Frequency

Background Noise

Frequency (y-axis): 0, 20, 40, 60, 80

Bin (x-axis): 1, 2, 3, 4, More

■ Frequency

Natural Light

Comfortable Seat

Table Space

Dividers Between Spaces

Desktop Campus Computer
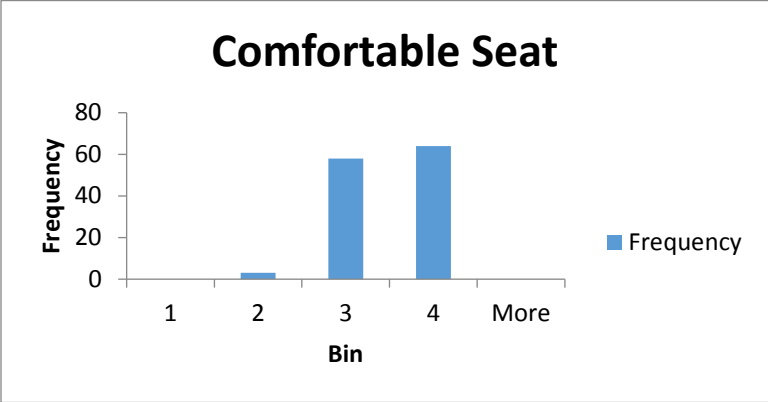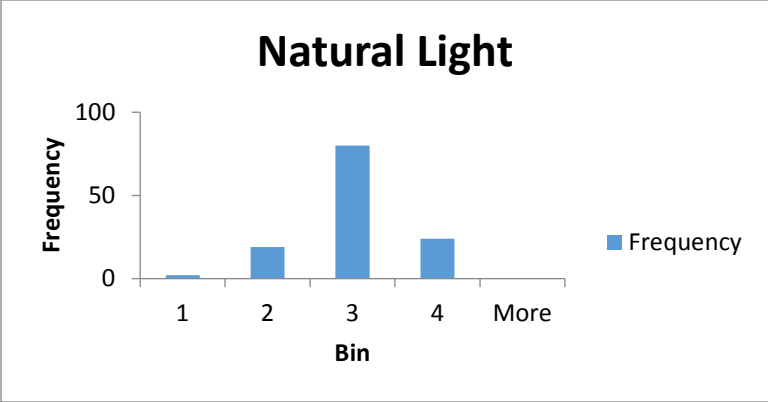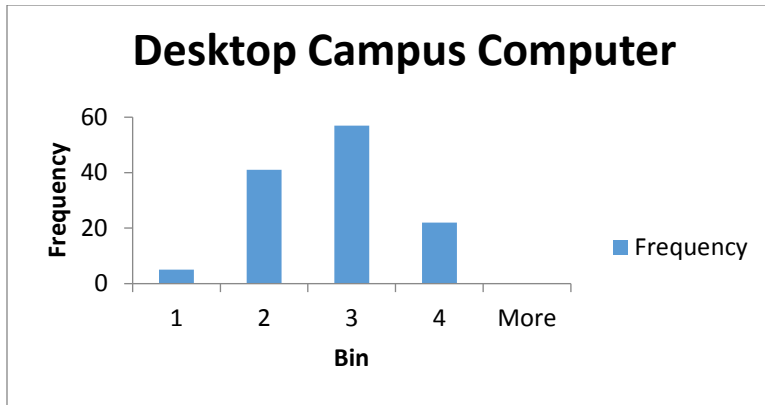
Student responses to the question, "When it comes to doing classwork or studying alone vl.s with others, what is your preference?" were as follows, with 1 being "I always prefer to work/study alone," 2 being "Most of the time, I prefer to work/study alone, but occasionally prefer being with others," 3 being "I prefer a mix of each, depending on my needs," 4 being Most of the time, I prefer to work/study with other people around, even if we're all working on different things," and 5 being "I always prefer working/studying with other people around," were as follows:

Study Alone vs. Group
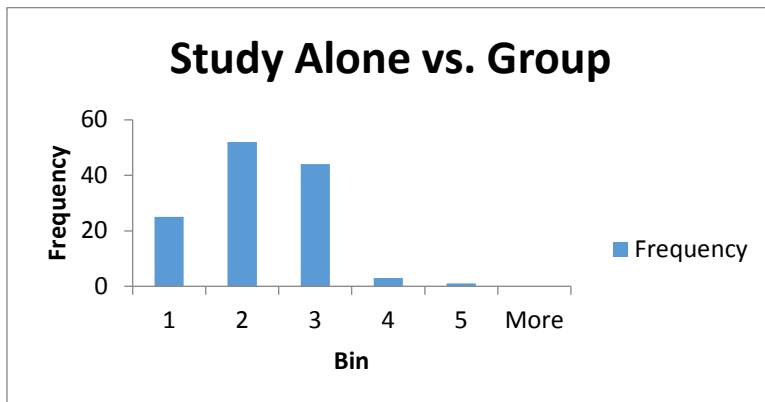
GROUP SPACES

Student responses to the question, "Thinking about places you do classwork or study when you are in a group, how useful are the following features when working/studying in a group?" were as follows, with 1 being "Don't need it," 2 being "A little useful," 3 being "Mostly useful," and 4 being "Must have":
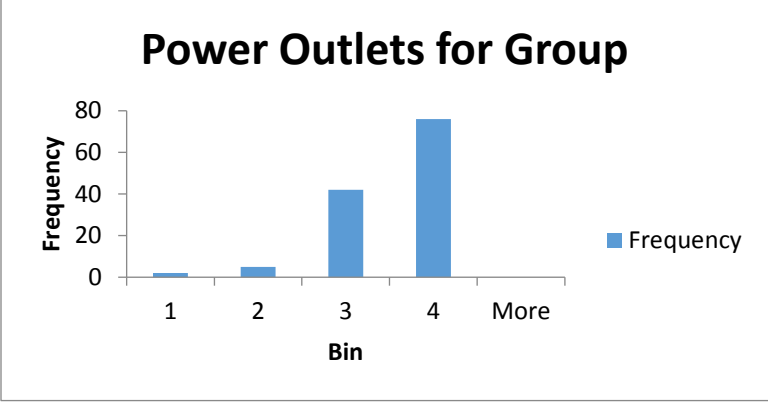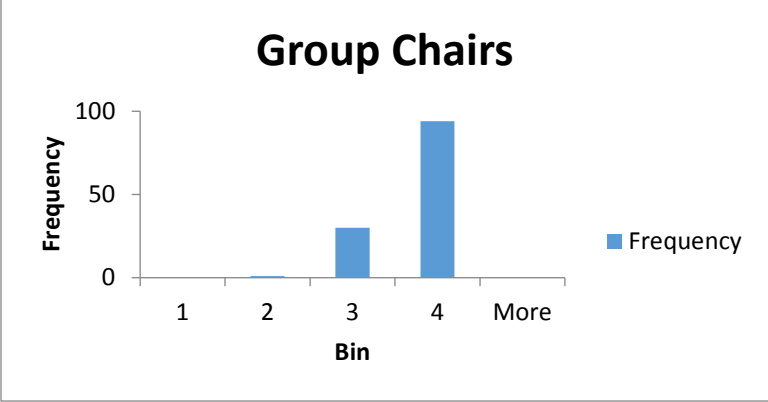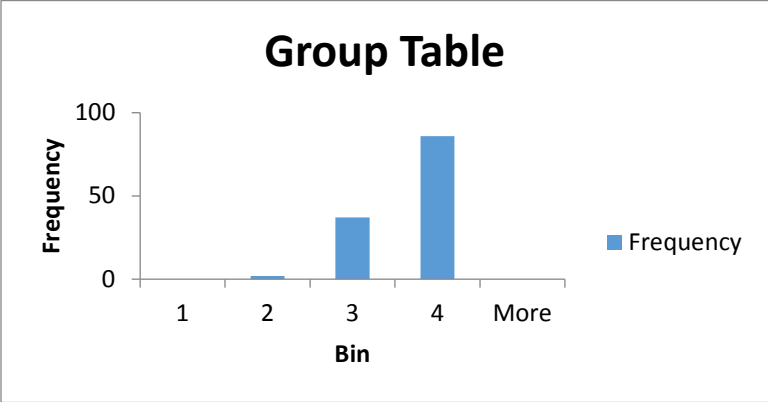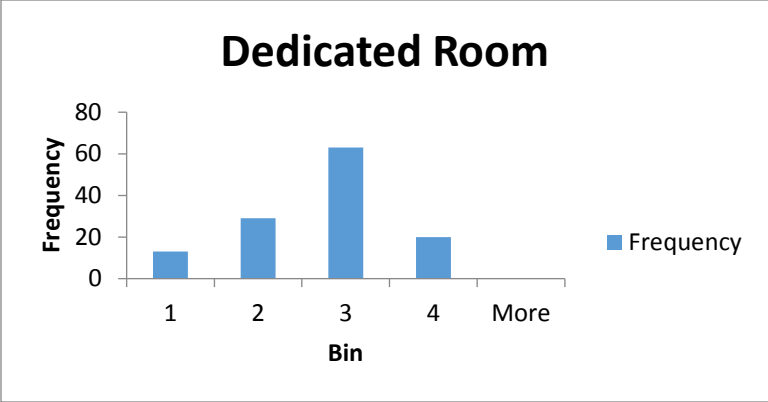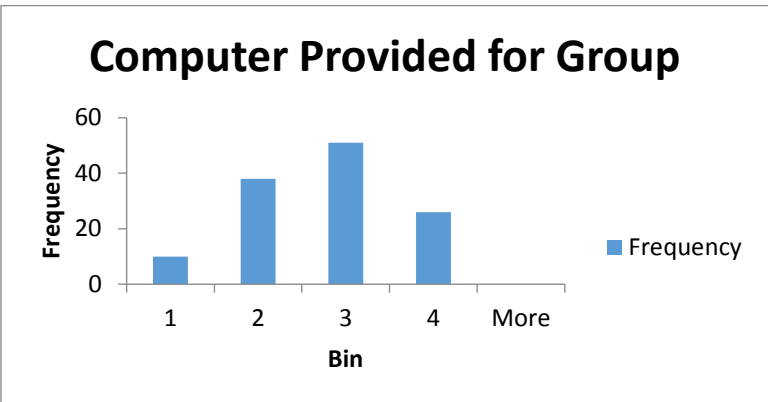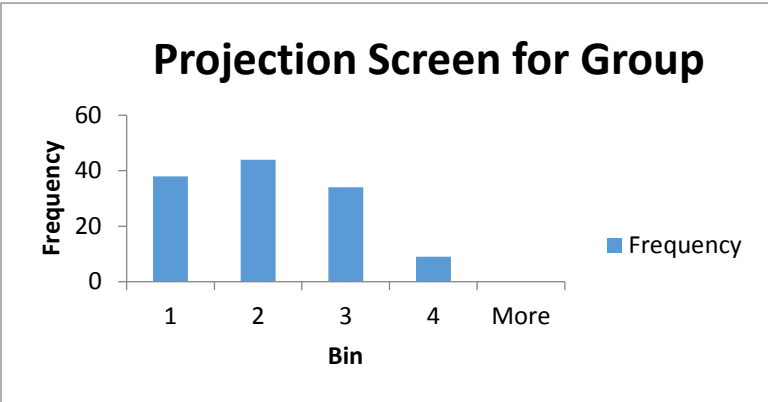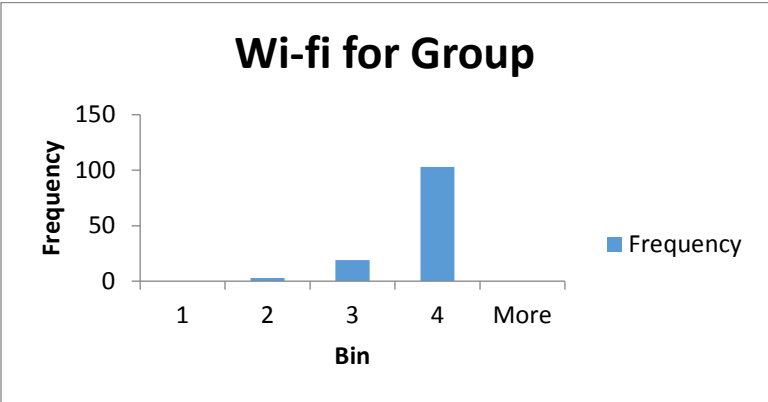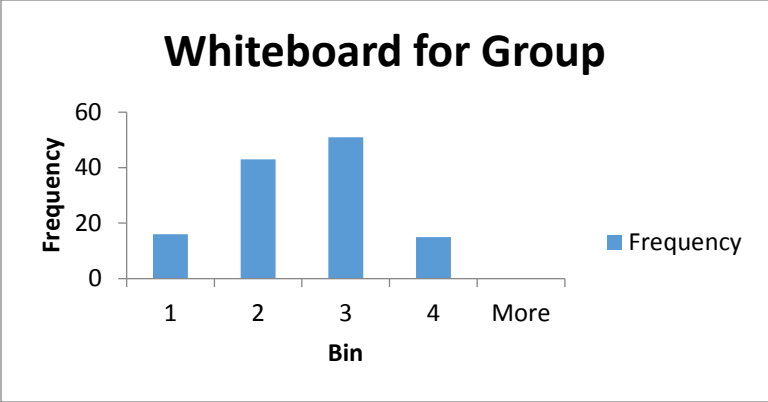
Dedicated Room

Group Table

Group Chairs

Power Outlets for Group

Whiteboard for Group

Wi-fi for Group

Projection Screen for Group

Computer Provided for Group

Student responses to the question, "In the future, if the Library were to offer the following, how often would you want to use them (for either classwork or personal interest)?" were as follows, with 1 being "Never/almost never," 2 being "1-3 times/quarter," 3 being "1-3 times/month," 4 being "1-3 times/week," and 5 being "Daily/almost daily":
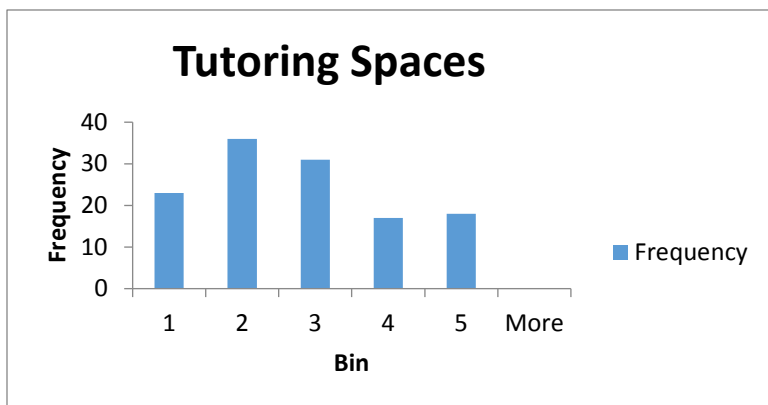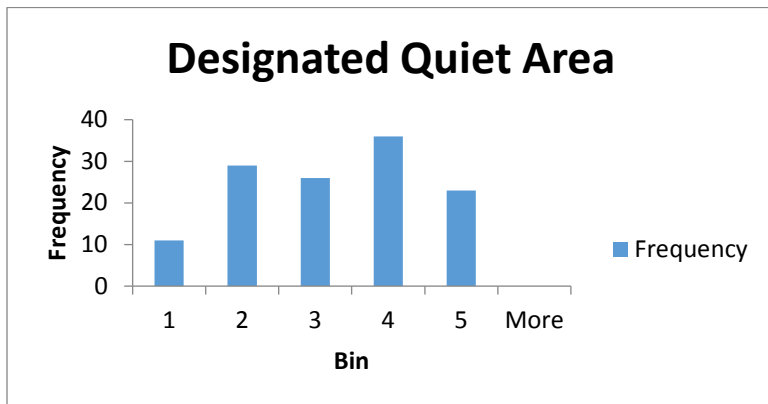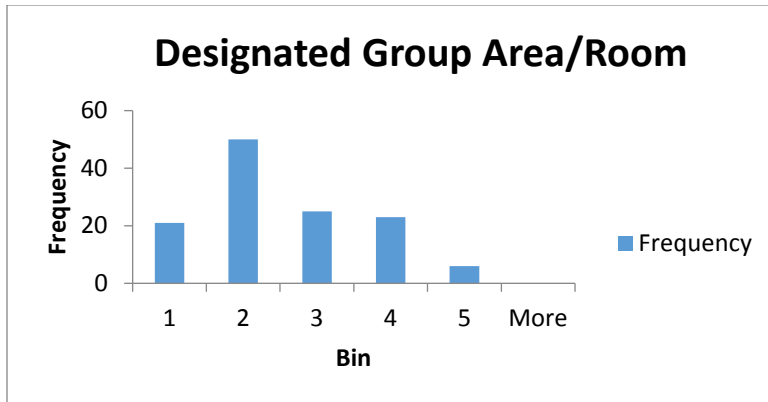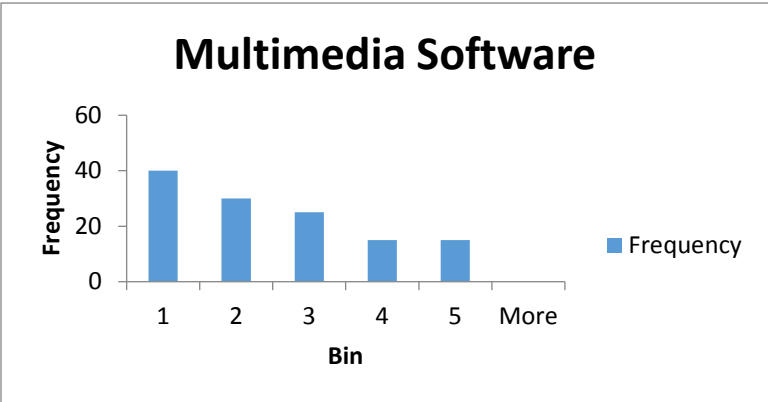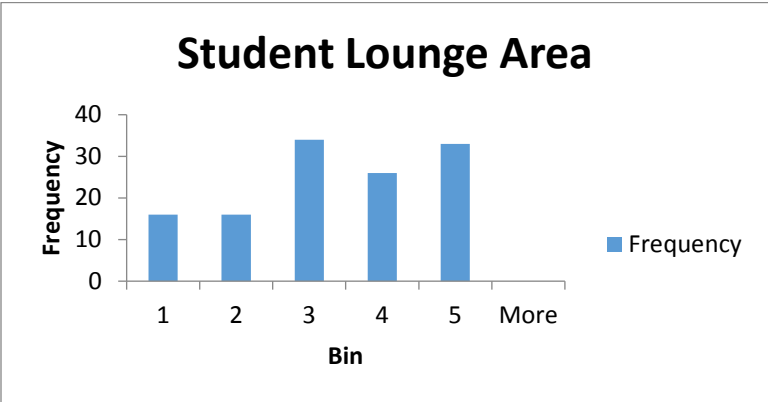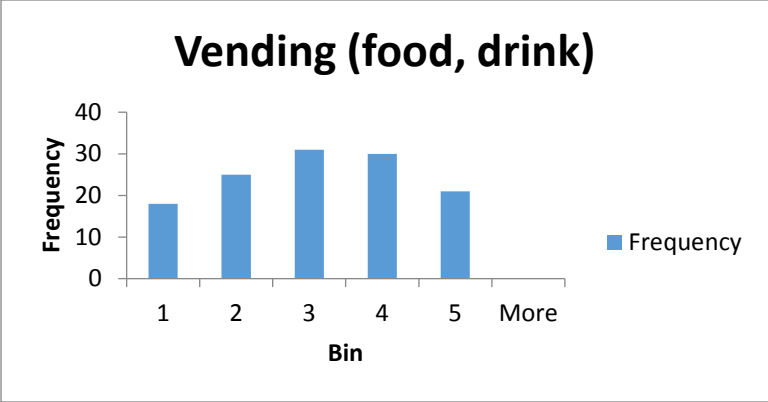
Designated Group Area/Room

Designated Quiet Area

Tutoring Spaces

Vending (food, drink)

Student Lounge Area

Multimedia Software

Student responses to the question, "In the future, if the Library were to offer the following services, how interested would you be in using them (for either classwork or personal interest)?" were as follows, with 1 being "I'm not interested," 2 being "I'm not sure if I'm interested," 3 being "I'd like to try this," and 4 being "I would definitely want to use this":

Photo/Video Cameras

Digitizing Old Media

Large and Color Printing

Studio for A/V Recording

Green Screen
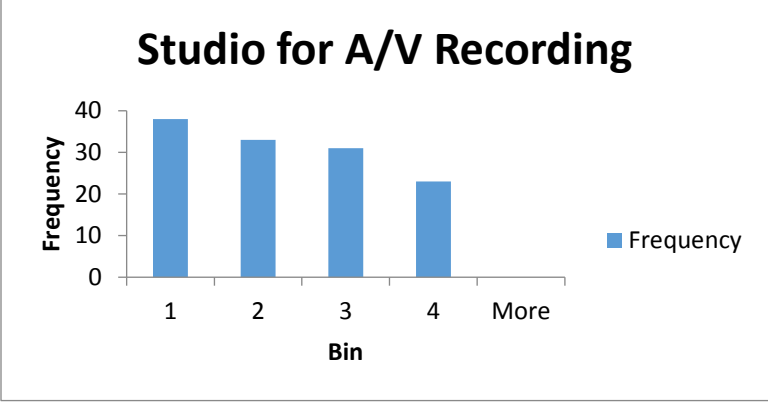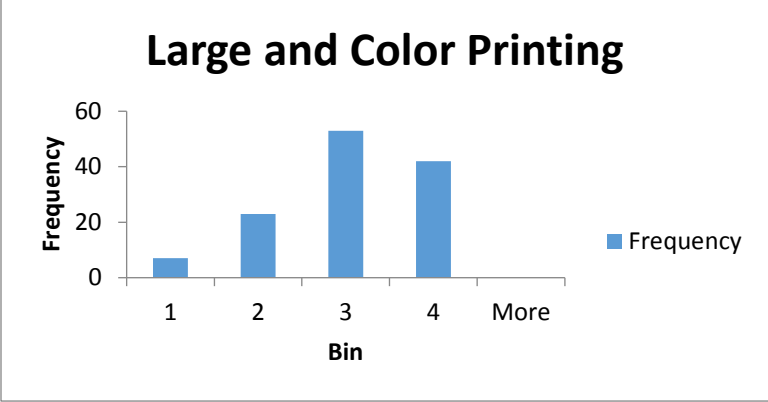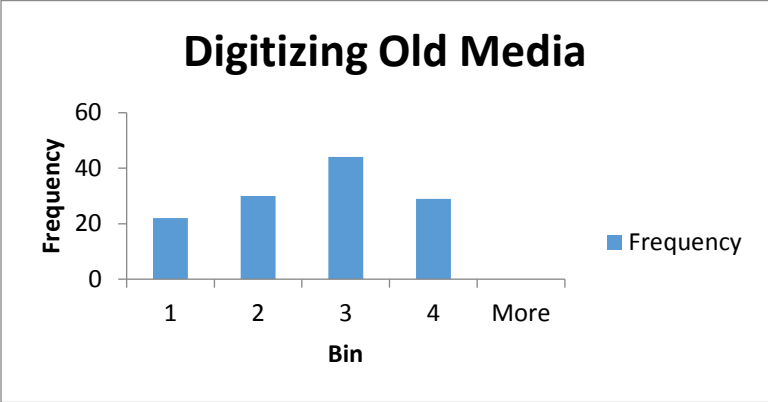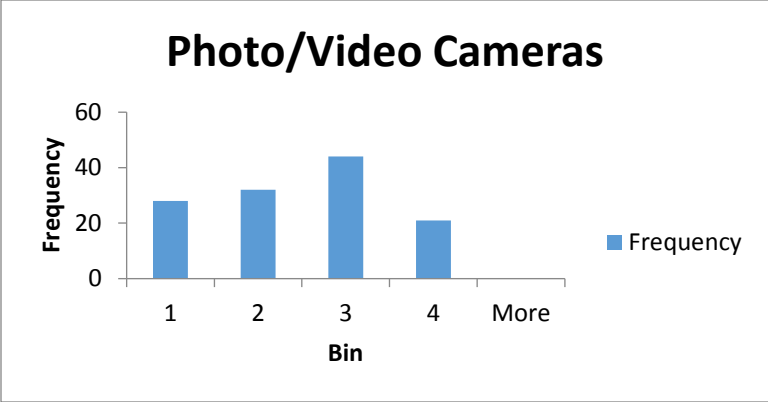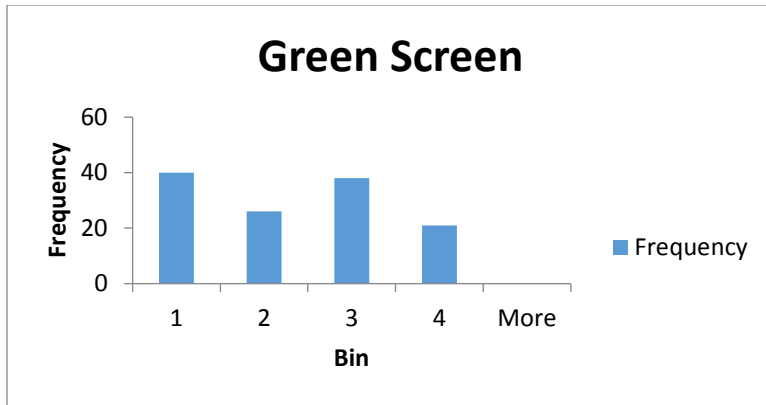
ACCESS TO FACILITIES

Student responses to the question, "It would be helpful to me if writing and math tutoring services were located in one place," were as follows, with 1 being "Strongly disagree" and 5 being "Strongly agree":

Tutoring in One Location
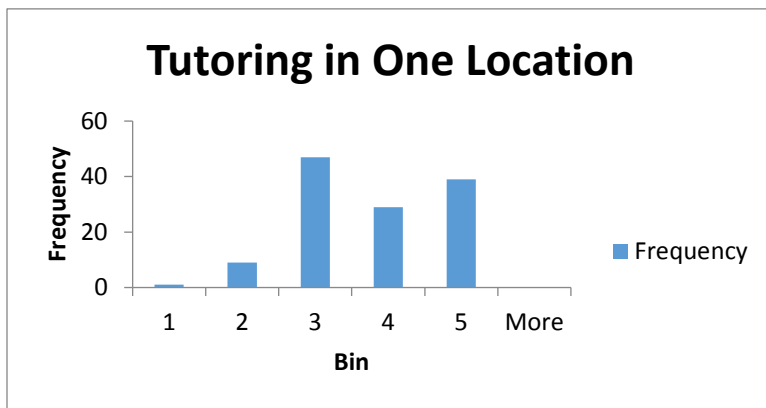
Student responses to the question, "When I'm taking a class that requires me to do a presentation, a practice room is helpful to me," were as follows, with 1 being "Strongly disagree" and 5 being "Strongly agree":

Presentation Practice Room
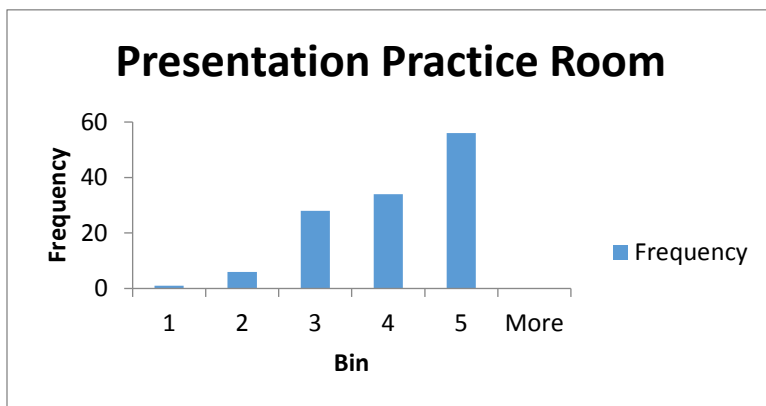
Student responses to the question, "Our campus needs more good places for groups to work," were as follows, with 1 being "Strongly disagree" and 5 being "Strongly agree":

More Group Spaces
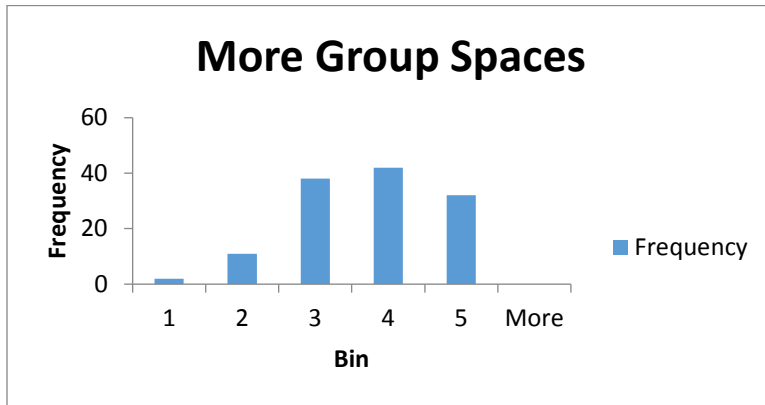
Student responses to the question, "Our campus needs better places for students to meet with tutors," were as follows, with 1 being "Strongly disagree" and 5 being "Strongly agree":

Better Spaces for Tutoring
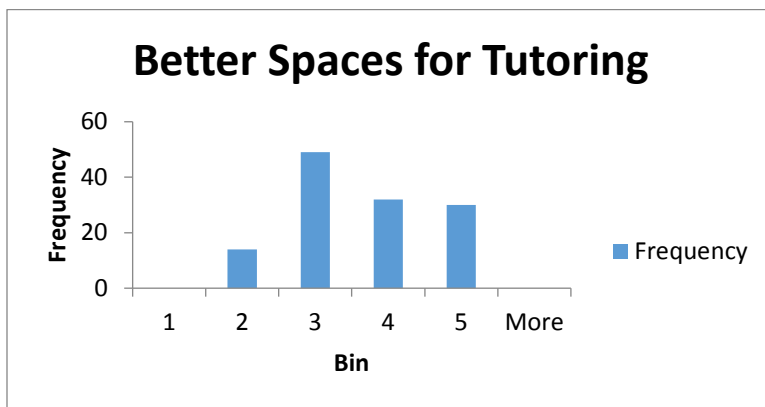
EXPLORATORY DATA ANALYSIS

Answer options for Likert-type or semantic differential survey questions varied between 4 and 5 options, which meant responses to four-option questions could not be correlated to five-option questions. Responses were changed to proportional responses on a scale of 0.0 to 1. For example, an answer of "2" on a scale of 1 to 4 became "0.25," and an answer of "1" on a scale of 5 became "0."

CORRELATION MATRIX

Using Excel, a correlation matrix was generated for the survey data, minus demographic data.[5]

---

[5] Demographic (age, gender, quarters at CC) answer options were provided on a different scale than the rest of the survey answer options and could not be logically included in the correlation matri

When discussing correlation, a positive r value indicates a positive linear relationship; the closer to 1 the r value is, the stronger the positive relationship.[6] In reference to the survey, a strong positive linear relationship indicates that people who strongly agree with one variable are highly likely to strongly agree with the other variable in question as well.

Conversely, the closer to -1 the r value is, the stronger the negative relationship. With regard to the survey, a strong negative linear relationship would indicate that people strongly agreeing with one of the two correlated variables are likely to strongly *disagree* with the other of the two variables in question.

Some general rules of thumb[7] are:

- A value of $0.8 \le r \le 1$ indicates a strong positive linear relationship
- A value of $0.6 \le r \le 0.79$ indicates a moderately high positive linear relationship
- A value of $0.4 \le r \le 0.59$ indicates a moderate positive linear relationship

CORRELATIONS: LIBRARY USAGE

Frequent visits to the Library ("VisitLib") has a moderately high positive correlation with usage of Library study carrels ("LibCube") and personal computer use ("PersComp"). Usage of Room 139 ("Rm139") has a moderately high positive correlation with working in groups in the Library using Library computers ("LibGrpComp") – in other words, people who are more likely to use Room 139 are also more likely to work in the groups in the Library using Library computers.

	VisitLib	LibComp	LibCube	PersComp	LibTable	Rm139	LibGrpComp	LibGrpPers
VisitLib	1							
LibComp	0.566737	1						
LibCube	0.707921	0.419481	1					
PersComp	0.641757	0.114742	0.65415	1				
LibTable	0.505379	0.373546	0.542809	0.5482	1			
Rm139	0.297653	0.357619	0.361386	0.32059	0.405165	1		
LibGrpComp	0.271434	0.473161	0.386994	0.241642	0.518873	0.63609	1	
LibGrpPers	0.394564	0.343169	0.461398	0.497671	0.574024	0.553717	0.724598	1

(Areas shown in pale yellow represent moderate positive correlations.)

---

[6] It is important to remember that correlation does not equal causatio.

[7] Lloyd Jaisingh, *Statistics for the Utterly Confused* (New York: McGraw-Hill, 2006), p. 106.

CORRELATIONS: FUTURE POSSIBILITIES

Students reporting higher use of Library study carrels ("LibCube") show a moderately high positive correlation with students expressing interest in using designated quiet areas ("UseQuiet"). Students expressing interest in designated quiet areas are also moderately positively correlated with more frequent visits to the Library ("VisitLib").

	VisitLib	LibComp	LibCube	PersComp	LibTable	Rm139	LibGrpComp	LibGrpPers
GrpComp	0.09911	0.429958	0.101751	-0.02057	0.256499	0.24402864	0.32503217	0.09437469
UseGrpRm	0.098	0.118813	0.123879	0.239282	0.337751	0.45947122	0.36416154	0.38307549
UseQuiet	0.531191	0.410064	0.636718	0.438167	0.440154	0.3235361	0.29429558	0.43727338
UseTutoring	0.307493	0.37624	0.345674	0.237022	0.407323	0.32879167	0.40310156	0.3712263
UseFood	0.286421	0.232389	0.181427	0.304505	0.26786	0.25136536	0.28780913	0.31086566
UseLounge	0.411764	0.262737	0.36495	0.410789	0.443631	0.27982647	0.30563282	0.40498176

Similarly, correlations were found within the future possibilities variables.

	UseGrpRm	UseQuiet	UseTutoring	UseFood	UseLounge	UseMultim	UsePhotVid	UseDigitize	UseLgColPrint	UseStudio
UseTutoring	0.464036	0.51183	1							
UseFood	0.426836	0.343784	0.530816	1						
UseLounge	0.463413	0.415084	0.509502	0.726832	1					
UseMultim	0.382232	0.222886	0.457712	0.506984	0.466813	1				
UsePhotVid	0.236456	0.19381	0.245555	0.278733	0.37517	0.533465	1			
UseDigitize	0.200013	0.177092	0.214421	0.24109	0.262836	0.359978	0.530086	1		
UseLgColPrint	0.135739	0.162463	0.301812	0.276198	0.224359	0.400064	0.490451	0.524626	1	
UseStudio	0.288264	0.025516	0.265951	0.30298	0.32021	0.653803	0.641402	0.509156	0.403666	1
UseGreenScr	0.350087	0.077018	0.249996	0.319056	0.356301	0.634259	0.658884	0.539738	0.453819	0.862458

Interest in using a green screen ("UseGreenScr") has a strong positive relationship[8] with interest in using a studio for audio/video recording ("UseStudio"). Use of green screen and studio space had moderately high positive correlations with interest in use of multimedia software ("UseMultimedia") and checking out photo/video cameras ("UsePhotVid"). Students expressing interest in vending options ("UseFood") are also likely to have moderately high interest in using a student lounge area ("UseLounge").

Other notable, moderately positive correlations in the survey were:

- Student satisfaction with Library noise levels when working alone ("NoiseLvl") and in a group ("NoiseGrp"), $r = 0.57$
- Importance of background noise ("BkgdNoise") and the presence of other people ("PplPresent"), $r = 0.59$
- Preference for table space ("TableSpc") and comfortable seats ("ComfSeat"), $r = 0.45$
- Preference for group rooms ("GrpRm") and whiteboards in group rooms ("GrpWhiteBd"), $r = 0.45$
- Use of campus computers ("CCcomp") and interest in campus computers available for groups ("GrpComp"), $r = 0.59$
- Preference for outlets ("GrpOutlet") and wi-fi ("GrpWifi") when working in groups, $r = 0.52$
- Use of multimedia software ("UseMultim") and interest in campus computers available for groups ("GrpComp"), $r = 0.43$
- Interest in dedicated tutoring spaces ("UseTutoring") and belief that CC needs better places for students to meet with tutors ("BetterTutSpc"), $r = 0.45$
- Belief that CC needs more adequate group spaces ("MoreGrpSpc") and belief that CC needs better places for students to meet with tutors ("BetterTutSpc"), $r = 0.49$

Negative correlations were found, but none that were $r \leq -0.4$.

The full correlation matrix can be found in Excel file "LibSurvey-EDA.xlsx" and also in Appendix G.

CLUSTER ANALYSIS

A dendrogram provides a visual, hierarchical clustering of variables which appear to be more closely related. We can then choose at what level we might draw a "line" which will allow us to

---

[8] This was the only strong correlation in the survey results.

see which groups we might want to investigate further (with an ANOVA (analysis of variance), for example).

Cluster Dendrogram for Solution HClust.1
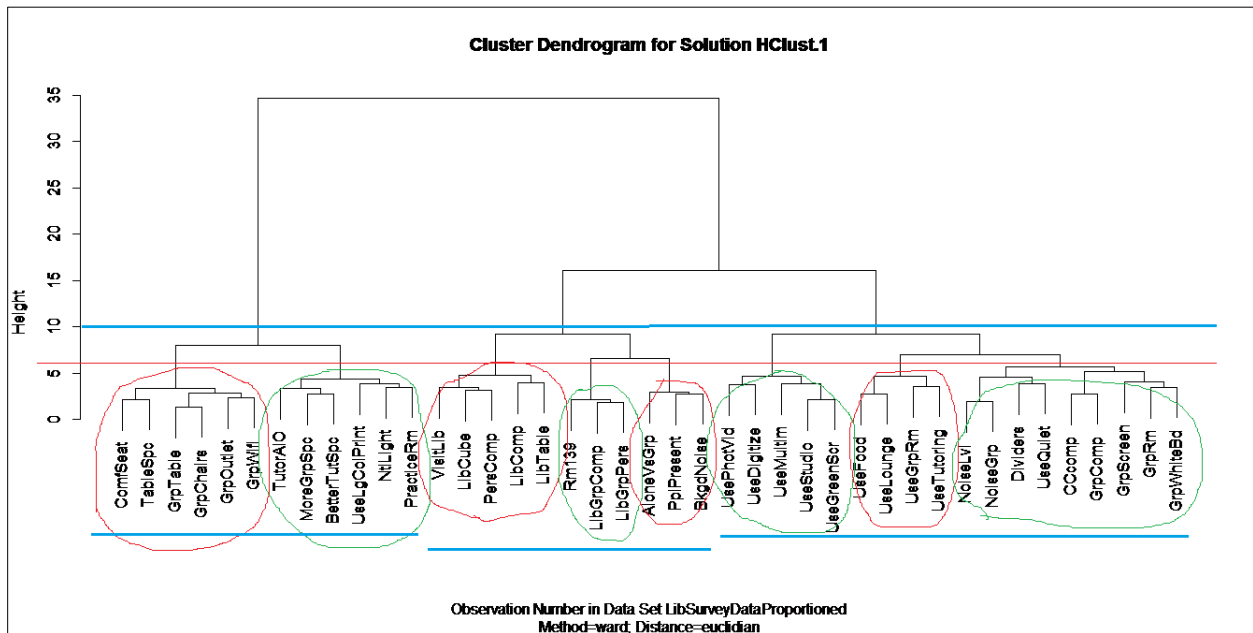
In the figure above, the red line is drawn at a level which creates eight groups of variables (circled in red and green). If the line at the height of 10, however, three groups of variables would emerge (as indicated by the blue lines).

STATISTICAL INFERENCE

ANOVA (ANALYSIS OF VARIANCE)

An ANOVA test compares the means (averages) of different samples to discover any significant differences between those means. The results of the ANOVA are used to determine if the null hypothesis should be rejected or not. The null hypothesis (H_0) assumes that the means (μ) of the populations being sampled are relatively equal, and that they are therefore the same population, and that there is also no significant difference between the samples. The null hypothesis can be written like this:

$$H_{0:} \mu_1 = \mu_2 = \mu_3$$

The ANOVA assesses the variability between means **within** each group, and **between** all the groups. The calculation which expresses this variability is the F-statistic, which is the variance of the means between the groups divided by the variance of the means within the groups. Once the F-stat has been calculated, it is compared to a critical F-value, which can be found in an F-distribution table or calculated with Excel, R, or some other statistical program.

If the F-stat is larger than the F-critical value, we can reject H_0 -- that is, we can say that there is a significant difference in the means of at least one of the groups. If the F-stat is similar to, or smaller than, the F-critical value, we fail to reject H_0 and assume that the means of the groups in question are relatively similar – that is, that all groups are relatively similar to each other.

The goal in running the one-way (aka, single factor) ANOVA shown below was to discover if student usage of the Library (as demonstrated by self-reported frequency of Library visits) varies significantly depending on the number of quarters a student has been at Centralia College.[9]

SUMMARY						
Groups	**Count**	**Sum**	**Average**	**Variance**		
1-3 Qtrs	53	31.75	0.599057	0.118605		
4-6 Qtrs	40	17.5	0.4375	0.085737		
7-17 Qtrs	31	12.32492	0.397578	0.126585		
ANOVA						
Source of Variation	**SS**	**df**	**MS**	**F**	**P-value**	**F crit**
Between Groups	1.000038	2	0.500019	4.546055	0.012483	3.07114
Within Groups	13.30875	121	0.10999			
Total	14.30879	123				

Since the F-stat of 4.54 is greater than the F-crit value of 3.07, we can reject H_0 and say that at least one group varies significantly in frequency of Library usage when assessed according to number of quarters spent at CC. This means we may construct an alternative hypothesis, H_1, which states that at least one group is not equal to the others (as determined by the means).

This ANOVA was calculated with a 95% confidence level ($\alpha = 0.05$), which means we are 95% confident we will not commit a Type I error (rejecting H_0 when it is true). Since $\alpha = 0.05$, the P-value must be 0.05 or lower to reject H_0 (that is, to claim one or more groups is significantly different). In the case of the ANOVA above, the P-value is ~0.01 – lower than 0.05 -- providing further evidence that there is a difference between students' frequency of Library use according to length of time spent at CC.

CHI-SQUARED TEST FOR INDEPENDENCE

A chi-squared test tells us the relationship between observed and expected categorical variables. It helps us rule out variation due to chance alone. While it tells us if a relationship between variables exist, it does not tell us what that relationship is. The null hypothesis, H_0, is

---

[9] ANOVA test requires at least 30 data points in each group. Students were grouped into quarter ranges because no single quarter had at least 30 responses.

that there is no relationship between the variables, while the alternative hypothesis, H_1, states that a relationship does exist. The observed values are those collected in the study. The expected values are calculated using totals for the categories within the variables (rows and columns) as well as the overall total.

A contingency table for observed values was created based on the data for the two variables of *age range* and Library visitation. Ages were grouped by 18-25 year olds vs. all other respondents because of the assumptions which must be satisfied before performing a chi-squared test; in this case, that no more than 20% of values are less than 5.[10] The values shown are frequencies (how many people in that age group selected that particular answer option):

	OBSERVED: Library Visitation by Age					
	Never	1-3/qtr	1-3/mo	1-3/wk	Daily	TOTALS
18-25	13	21	13	15	12	74
26-65	5	16	3	13	11	48
TOTALS	18	37	16	28	23	122

A similar table for expected values was created by calculating *(RowTotal x ColumnTotal)/GrandTotal* for each cell:

	EXPECTED: Library Visitation by Age					
	Never	1-3/qtr	1-3/mo	1-3/wk	Daily	TOTALS
18-25	10.91803	22.44262	9.704918	16.98361	13.95082	74
26-65	7.081967	14.55738	6.295082	11.01639	9.04918	48
TOTALS	18	37	16	28	23	122

By subtracting expected values from observed values, we can then see the differences:

	O-E: Library Visitation by Age					
	Never	1-3/qtr	1-3/mo	1-3/wk	Daily	TOTALS
18-25	2.081967	-1.44262	3.295082	-1.98361	-1.95082	
26-65	-2.08197	1.442623	-3.29508	1.983607	1.95082	
TOTALS						

We can see that some are above the expectation (positive numbers), and others are below (negative numbers). These differences can also be represented graphically:

---

[10] http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3900058/

Differences in Observed vs. Expected Library Visitation
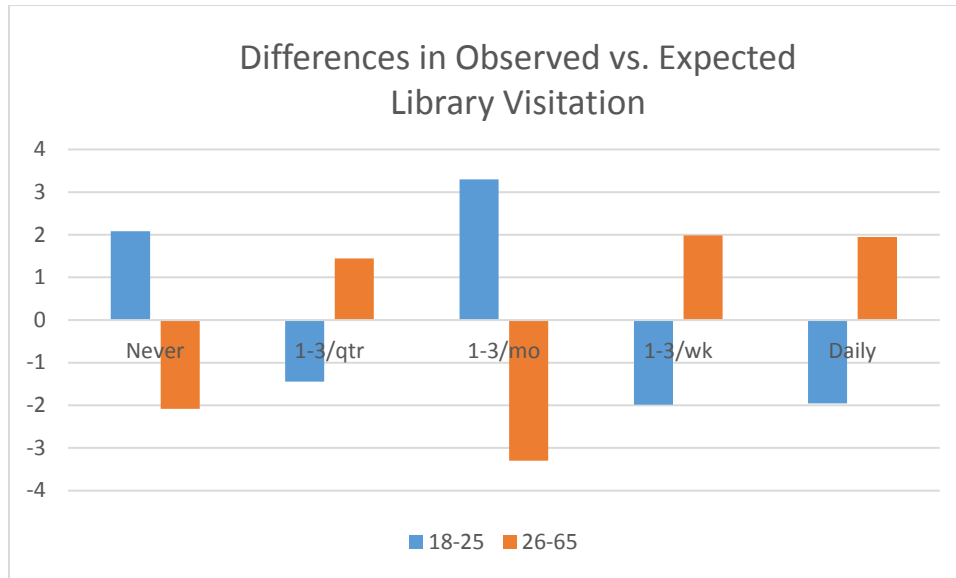
Applying the formula $(O-E)^2/E$ to each cell and finding the grand total of those values, we arrive at the chi-square value for this data, which is 5.3705:

	(O-E)^2/E: Library Visitation by Age					
	Never	1-3/qtr	1-3/mo	1-3/wk	Daily	TOTALS
18-25	0.397012	0.092733	1.118769	0.231676	0.272794	2.112984
26-65	0.61206	0.142963	1.724769	0.357167	0.420557	3.257516
TOTALS	1.009072	0.235695	2.843539	0.588843	0.693351	5.3705

Using a confidence level of 95%, the chi-squared critical value was calculated using Excel's "CHIINV" function:

Confidence level: 95%

Error probability: P-value =< .05

Degrees of freedom:[11] (5-1)*(2-1) = 4

Excel's computation of the chi-squared critical factor: 9.487729

Comparing the X^2 value of 5.3705 to the X^2-critical value of 9.487729, we find that the X^2 value is less than the X^2-critical value. Therefore, we retain the null hypothesis, which is to say we are 95% confident there is no significant relationship between the variables of age and Library visitation, and that any variation is due to natural random chance.

REGRESSION

---

[11] Degrees of freedom is calculated by (#columns – 1) x (#rows – 1)

DISCUSSION

Students are likely to appreciate dedicated group work spaces that contain Library computers. Students using study carrels are also interested in designated quiet areas, so placing study carrels away from group use areas should prove beneficial to these students.

Student usage of the Library appears to decrease over the time spent at CC (see ANOVA results).

LIMITATIONS

The questions in this section should not have been limited to Library equipment so that correlations between Library and equipment use could have been discovered:

A-H: Thinking about this quarter (Spring 2016), how often do you usually do the following:

A: Visit the Library

B: Use Library computers

C: Use Library cubicles

D: Use your own computer

E: Use tables in the Library

F: Use the Library classroom (Room 139) for group work/study

G: Work in groups in the Library using Library computers

H: Work in groups in the Library NOT using Library computers

Some Likert-type scales had four options while others had five. It's possible that correlations were found according to question groups because even though the responses were changed to proportions, the proportions for four-option questions were 0.0, 0.33, 0.66, and 1.0, while the proportions for five-option questions were 0.0, 0.25, 0.5, 0.75, and 1.0. Thus, the answers for five-option questions might be more likely to be correlated with each other, and the same might be true for four-option questions as well.

RECOMMENDATIONS

Most people think of a brand as something consumer-oriented – Nike, Apple, Subaru. Organizations and services, including libraries, also have *brand personalities*. Ask the question, "If the Library were a person, how would we describe him/her?" The answers to that question are the basis of the brand personality.

It's important to know, however, that a brand doesn't determine its own personality. Instead, the users of the brand (in this case, Library patrons) determine the personality of the brand. It is the brand's task to discover that personality and then use it to develop products or services which are that much more appealing to the target audience (the people using the Library).

Focus group research showed the Library to have a productive nature for students, but also one that lacks other personality aspects, as evidenced by students' negative comments. To develop the Library's personality, a ***product differentiation*** approach could be taken. That is, Library faculty/staff would seek to understand what makes the Library different than other study spaces on campus (WSC, WAH, tutoring centers) – what does the Library offer that these other spaces do not? -- and then create Library spaces which address those voids.

The Library's personality is serious productivity and intelligence. The Library space should reflect these qualities because they make the Library a unique space on campus and in the community: Nowhere else can students expect to acquire the focus they need while "getting stuff done," and student expectations of quiet noise levels are part of this persona.

BRAND POSITIONING STATEMENT

In the fields of advertising and marketing, account managers often develop brand positioning statements for products that address the following components:

- Target audience (the people you want to serve)
- Brand name (in this case, Kirk Library, which is more of a service)
- Frame of reference (the area you are "competing" in[12])
- Benefit provided (the thing that makes the brand/service different than its "competition")
- Reason to believe (the proof or the specific thing which makes you able to make your claim for being the "best" choice)

---

[12] While the Library does not compete with other study locations on or off campus, it may seek to provide students with a study environment that suits their needs, particularly if those needs aren't met elsewhere.

A brand/service can have several brand positioning statements, but an example of one the Library might be able to use could be:

For students who need to get stuff done, Kirk Library is the place of study that provides an environment of focus because only the Library has quiet group and individual study spaces with evening hours.

Developing a brand positioning statement provides direction, focus, unity, and purpose; it guides decision-making and outreach activities.

TABLES

While the tables were on average used at about 5% of capacity, the student survey showed that 69% of respondents "must have" tables for group work, and another 28% consider them "mostly useful." Casual observations of the tables by librarians report the round table closest to the computer lab receiving the most use. It is possible that students wanting to use the tables for group work are hesitant to use the tables that are closer to the study carrels, which are possibly perceived as a quieter work area of the library. Focus group results support this theory:

> *"…there have been times where it's been a little loud. More so than it should be. Like in a cubicle area where you'll hear people 20 feet away talking about something when you would expect it to be quiet." – Male participant*

According to focus groups, some students do use the tables for individual work. Considering these factors, the Library might be able to improve use of the tables by moving most of them away from the quieter areas of the Library. Furthermore, since observational data shows that small groups use the Library much more frequently than large groups, large table formations could be broken out into smaller four-person formations to accommodate small groups.

INDIVIDUAL STUDY AREAS

Students like and use the study carrels, the Library could consider adding carrels, especially in locations students see as "private" or "protected," like the carrels along the back wall behind the stacks.

Students consider the computer stations on the long table (vs. those at the round tables) to be individual computer stations. They would like to see some of the individual computer stations in the lab become individual carrels.

GROUP AREAS

Currently, students have no ideal group workspaces on campus. Fortunately, student needs for group work are fairly simple and achievable. Group areas should:

- Be semi-private, in order to allow conversation without disturbing others
- Provide a table
- Provide power outlets

Other features participants found useful include:

- Whiteboard
- Campus desktop computer

Group areas in the Library should be structured to preserve the Library's reputation as a quiet and serious place of productivity.

VENDING

Students would appreciate vended food and drink appropriate to the Library. Focus groups said they didn't want to hear coffee machines or other such noise in the Library, which would be consistent with the Library's brand image as a serious place of productivity.

OPPORTUNITIES FOR FUTURE STUDY & GROWTH

This research can provide the foundation for further research and outreach, such as:

- Investigating and observing how students use other study spaces on campus
- Studying student study environments with social media photo journaling – for example, students photograph their favorite study locations and tag the photos with the hashtag "#ccstudies" on Instagram, Twitter, Pinterest, and Facebook
- Developing a communications plan to market Library-related services to students
- Continuing observational "people counts" after the building is reorganized and comparing them to today's people counts
- Conducting quantitative studies to discover how courses or degree programs affect student Library visitation

REFERENCES

Burke, J. (2015, March 25). Making sense: can makerspaces work in academic libraries? *ARCL 2015*.

Cook, D. & Farmer, L. (Eds). (2011). Using qualitative methods in action research: How librarians can get to the why of data. USA: The American Library Association.

Crumpton, M., and Kathy Crowe (2009). Using Evidence for Library Space Planning. Proceedings of the 2008 Library Assessment Conference: Building effective, sustainable, practical assessment, August 4-7, 2008, Seattle, Wash., 51-64.

Elliot, M. (2015, May 3). Five skills college grads need to get a job. *USA Today*. Retrieved from http://www.usatoday.com/story/money/personalfinance/2015/05/03/cheat-sheet-skills-college-grads-job/26574631/

May, F. & Swabey, A. (2015). Using and experiencing the academic library: a multisite observational study of space and place. *College & Research Libraries*, September 2015, 771-795.

Needs assessment process. *Learning Space Toolkit*. Retrieved from http://learningspacetoolkit.org/needs-assessment/needs-assessment-process/

Stewart, C. (2011). The academic library building in the digital age: a study of construction, design, and planning of new library space. [PPT]. American Library Association Annual Conference, June 26, 2011.

Vaughn, P., Miller, J., Lesneski, T. & Cullin, K. (2014). Developing collaborative spaces that encourage community engagement. [PPT]. *ALA Annual Conference*.

APPENDIX A: PREVIOUS OBSERVATIONAL DATA LOG SHEET

			Computer Area			
Week of:						
	Monday	**Tuesday**	**Wednesday**	**Thursday**	**Friday**	**Total**
	Computer Lab	Computer Lab	Computer Lab	Computer Lab	Computer Lab	Computer Lab
8:00-9:00						
9:00-10:00						
10:00-11:00						
11:00-12:00						
12:00-1:00						
1:00-2:00						
2:00-3:00						
3:00-4:00						
4:00-5:00						
5:00-6:00						
6:00-7:00						
7:00-8:00						
8:00-9:00						
	Monday	**Tuesday**	**Wednesday**	**Thursday**	**Friday**	**Total**
	Chairs/Public	Chairs/Public	Chairs/Public	Chairs/Public	Chairs/Public	Chairs/Public
8:00-9:00						
9:00-10:00						
10:00-11:00						
11:00-12:00						
12:00-1:00						
1:00-2:00						
2:00-3:00						
3:00-4:00						
4:00-5:00						
5:00-6:00						
6:00-7:00						
7:00-8:00						
8:00-9:00						

Characteristics:

- One log sheet per week
- Three different areas of the Library
- Computer lab counts on top row; "chairs" (smart chairs) and "public" (tables, traditional chairs, front and back study carrels) on bottom row

DATE: _____   **DAY OF WEEK:**   M   Tu   W   Th   F

	Computer Lab			Smart Chairs			Regular Chairs			
	people	small groups	large groups	people	small groups	large groups	people	small groups	large groups	
8:00-9:00										8:00-9:00
9:00-10:00										9:00-10:00
10:00-11:00										10:00-11:00
11:00-12:00										11:00-12:00
12:00-1:00										12:00-1:00
1:00-2:00										1:00-2:00
2:00-3:00										2:00-3:00
3:00-4:00										3:00-4:00
4:00-5:00										4:00-5:00
5:00-6:00										5:00-6:00
6:00-7:00										6:00-7:00
7:00-8:00										7:00-8:00
8:00-9:00										8:00-9:00

	Study Carrels (front)			Study Carrels (back)			Tables			
	people	small groups	large groups	people	small groups	large groups	people	small groups	large groups	
8:00-9:00										8:00-9:00
9:00-10:00										9:00-10:00
10:00-11:00										10:00-11:00
11:00-12:00										11:00-12:00
12:00-1:00										12:00-1:00
1:00-2:00										1:00-2:00
2:00-3:00										2:00-3:00
3:00-4:00										3:00-4:00
4:00-5:00										4:00-5:00
5:00-6:00										5:00-6:00
6:00-7:00										6:00-7:00
7:00-8:00										7:00-8:00
8:00-9:00										8:00-9:00

Characteristics:

- One log sheet per day
- Six different areas of the Library, three on each row
- Time slots listed at the beginning *and* end of each row for clarity
- Added columns for small and large groups

APPENDIX C: WORDS ELIMINATED FROM FOCUS GROUP TRANSCRIPTS

Yeah

That's really

Come

Going

Get

You're

Even

Yet

Don't

Got

I've

Ago

Something

Just

I'm

Oh

Yes

Else

Also

Usually

Things

Lot

1. INTRODUCTION

The purpose of these focus groups is to gather Centralia College student feedback regarding Kirk Library's physical space. Goals are to discover:

- What aspects of current space usage should be retained, abandoned, expanded, or reduced
- Student attitudes toward potential additions, such as makerspaces, 3D printing, multimedia, scanning, faxing
- The arrangement, amount, type, and location of furniture which best suits students' needs
- Driving factors behind choice of place to study
- What qualities of space can create better work environments for both quiet individual study and collaborative group study
- Noise levels affecting students' needs
- Explore possible solutions to problems the group may voice

During each session, moderators will:

- Administer consent forms to participants
- Introduce the topics for discussion
- Elicit responses from all participants as equally as possible
- Remain objective
- Move the conversation along according to the time schedule
- Close the session with reminders to claim incentives on the way out

1.1 Prep
- ☐ Order pizza
- ☐ Write makerspace list on the board
- ☐ Set aside extra batteries, plates, utensils, napkins, incentive gift cards, incentive sign-out sheet
- ☐ Preload video(s)
- ☐ Set out consent forms, bottled water, pens, notepads, name tents
- ☐ Put out signs directive group to the room

1.2 Assistant duties
- Cue up video(s)
- Start audio and video recording
- Monitor audio and video recording
- Take notes on general ideas expressed by focus group
- Answer door if someone knocks

- Play video(s)
- Stop recordings at end
- Help with incentives (participants must sign the sheet before getting gift card) and refreshments

1.3 Materials
- Pizza
- Consent forms
- Bottled water
- Incentive gift cards
- Pens, notepads
- Screenshots or videos preloaded
- Signs directing group to room

2. PROCEDURE

1. Invite students to sit, fill out consent forms, make name tents (first name only), and help themselves to refreshments.
2. Begin recording – audio and video
3. <u>Welcome:</u> Hello, and thank you for participating in this group today. My name is _____. I'm the facilitator for today's discussion. This is _____, who will be assisting me today.
4. <u>Purpose:</u> The library is conducting these group session s in order to find out how you feel about the library area, and how it can better serve you. You opinions are very important, whether they are positive or negative. There are no right or wrong answers.
5. <u>Confidentiality:</u> I've asked you to put your first name on the name card so I can call on you during our discussion, but we will not be using any names in the reports we write about today's discussion
6. <u>Recording:</u> To help us write our reports later on, we will be audio and video recording today's discussion. Speaking clearly will give us a better recording to work from. The recording will only be seen and heard by the person transcribing the conversation.
7. <u>Guidelines:</u> As I mentioned, it's important that we hear everyone's opinion, no matter if it's the same as, or different than, other opinions in the room. If more than one person has something to say, I will choose one person at a time to talk. If I haven't heard from you, I will ask for your opinion. Now let's get started.
8. <u>Engagement:</u>
    a. Please tell us your first name, and also, a place where you like to study [Go around the room and write answers on the board]
9. <u>Exploration:</u>
    a. What might make you choose the college's library over another place to study? [prompts: comfort, convenience, copy/print/computer, librarian help, quiet, group meeting place]

b. Is the library a good place for groups to work? [prompts: space, furniture, location, hours]
c. The library would like to know how you feel about noise levels in the library.
    i. Sometimes, the classes on the other side of the building can be heard in the library area. Is it more difficult for you to work when that happens?
    ii. Are people in groups ever too loud for people working alone?
d. Do you ever have assignments that require technology you don't own? [probes: audio-visual equipment, multimedia software, screen recording, presentation building software]
    i. Where do you find and access that technology? [probes: other places on campus, friends]
    ii. When you need technical support, where or who do you go to for help? [probes: software, technology, Canvas]
    iii. Would it help you to have one place you could go, and they would direct you to the right kind of help?
e. The library has some ideas for future additions to the library space. We would like to know how you feel about each of them [show video segments from]:
    i. PCC   https://youtu.be/7f7IDMp0ECI
    ii. Studio 304 https://youtu.be/b_1cjTDz7b8
    iii. YOUmedia (Jabari)   https://youtu.be/NwPQzDsNVPU
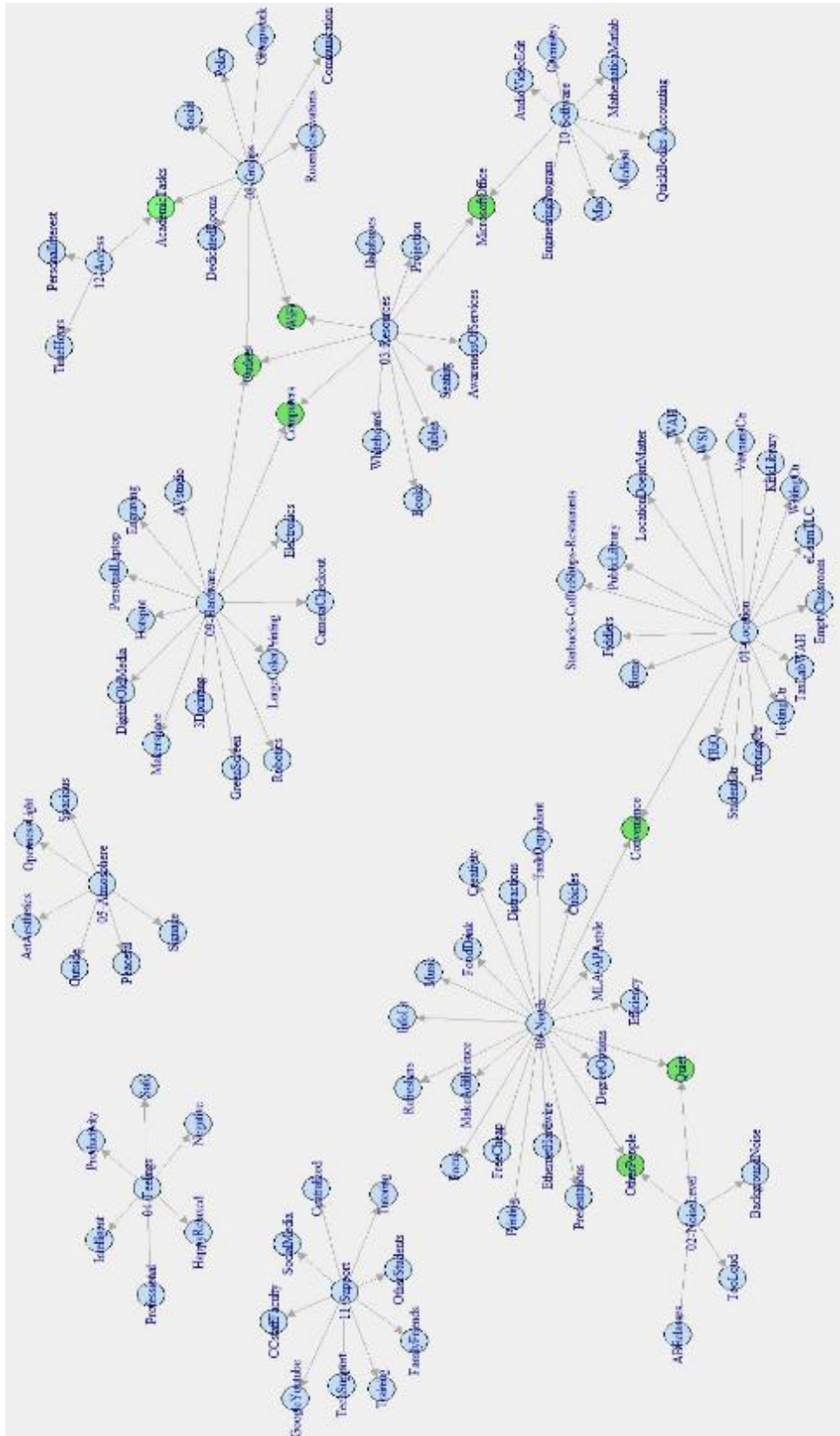
10. <u>Exit:</u>
    a. Please finish this sentence: "Being in the library makes me feel _____."
    b. …And why? [if time]

11. <u>Closing:</u>
    a. We're now out of time for the session. Please see _____ outside the door to collect your gift card and thank you for participating.

Kirk Library Student Survey (Spring 2016)

Instructions

Your answers to these questions will help the Library provide you with better study areas. Your answers are submitted anonymously. Data from this survey are stored in Google Forms and on private Library servers. You can stop taking the survey at any time. Average completion time: 5-7 minutes.

Library Usage

Thinking about this quarter (Spring 2016), how often do you usually do the following:

	Never or almost never	1-3 times per quarter	1-3 times per month	1-3 times per week	Daily or almost daily
Visit the Library	○	○	○	○	○
Use the Library computers	○	○	○	○	○
Use the Library's "quiet area" cubicles	○	○	○	○	○
Use your own computer in the Library	○	○	○	○	○
Use the tables in the Library	○	○	○	○	○
Use the Library classroom (Room 139) for group work/study	○	○	○	○	○

Work in groups in the Library using Library computers	○	○	○	○	○
Work in groups in the Library NOT using Library computers	○	○	○	○	○

Noise & Quiet

Please rate the noise levels in the Library when you're doing classwork or studying ALONE (with "3" being "Just right"):

	1	2	3	4	5	
Too quiet	○	○	○	○	○	Too loud

Please rate the noise levels in the Library when you're doing classwork or studying IN A GROUP (with "3" being "Just right"):

	1	2	3	4	5	
Too quiet	○	○	○	○	○	Too loud

Your Study Preferences

When you're looking for a good place to get classwork or studying done, how important are the following features?

	I try to avoid it	I don't care if it's there or not	It's nice to have	I must have this
Presence of other people	○	○	○	○
Background noise	○	○	○	○
Natural light/windows	○	○	○	○
Comfortable seating	○	○	○	○
Table space	○	○	○	○
Dividers between your space and others'	○	○	○	○
Desktop campus computer	○	○	○	○

When it comes to doing classwork or studying alone vs. with others, what is your preference?

○ I always prefer to work/study alone.

○ Most of the time, I prefer to work/study alone, but occasionally prefer being with others.

○ I prefer a mix of each, depending on my needs.

○ Most of the time, I prefer to work/study with other people around, even if we're all working on different things.

○ I always prefer working/studying with other people around.

Group Spaces

Thinking about places you do classwork or study when you are in a group, how useful are the following features when working/studying in a group?

	Don't need it	A little useful	Mostly useful	Must have
A room to ourselves	○	○	○	○
Tables	○	○	○	○
Chairs	○	○	○	○
Power outlets/plugins	○	○	○	○
White board	○	○	○	○
Wi-fi (wireless internet)	○	○	○	○
Projection TV/monitor	○	○	○	○
Computer provided	○	○	○	○

Future Possibilities

In the future, if the Library were to offer the following, how often would you want to use them (for either classwork or personal interest)?

	Never or almost never	1-3 times per quarter	1-3 times per month	1-3 times per week	Daily or almost daily
Designated group study areas/rooms	○	○	○	○	○
Desginated quiet area	○	○	○	○	○
Tutoring spaces	○	○	○	○	○
Vending (food, drink)	○	○	○	○	○
Student lounge area	○	○	○	○	○
Multimedia software for audio/video editing	○	○	○	○	○

In the future, if the Library were to offer the following services, how interested would you be in using them (for either classwork or personal interest)?

	I'm not interested in this.	I'm not sure if I'm interested.	I'd like to try this.	I would definitely want to use this.
Photo/video cameras and tripods for checkout	○	○	○	○
Scanners, etc., for digitizing old media	○	○	○	○
Large format or color printing	○	○	○	○
Studio for audio/video recording	○	○	○	○
Green screen for photo/video projects	○	○	○	○

Access

Please tell us your level of agreement or disagreement with the following:

It would be helpful to me if writing and math tutoring services were located in one place.

	1	2	3	4	5	
Strongly disagree	○	○	○	○	○	Strongly agree

When I'm taking a class that requires me to do a presentation, a practice room is helpful to me.

	1	2	3	4	5	
Strongly disagree	○	○	○	○	○	Strongly agree

Our campus needs more good places for groups to work.

	1	2	3	4	5	
Strongly disagree	○	○	○	○	○	Strongly agree

Our campus needs better places for students to meet with tutors.

	1	2	3	4	5	
Strongly disagree	○	○	○	○	○	Strongly agree

Demographics

You're almost done! This last set of questions helps us know if some groups of people have different experiences than others.

Your age:

Choose ▾

Quarters you have been enrolled at CC (for example, if this is your second quarter at CC, put "2"):

Choose ▾

Gender you most identify with (female, etc.):

Your answer

That's it!

Thanks for your time.
Please direct questions about this survey to Franji Mayes, fmayes@centralia.edu.
You can choose to enter the drawing for one of six $10 coffee gift cards after you submit your responses.

SUBMIT

	Visit Lib	LibC omp	LibC ube	PersC omp	LibT able	Rm139	LibGrp Comp	LibGrp Pers	Nois eLvl	Nois eGrp	PplPr esent	Bkgd Noise	NtlLi ght	Co..Se
VisitLib	1													
LibComp	0.566737	1												
LibCube	0.707921	0.419481	1											
PersComp	0.641757	0.114742	0.65415	1										
LibTable	0.505379	0.373546	0.542809	0.5482	1									
Rm139	0.297653	0.357619	0.361386	0.32059	0.405165	1								
LibGrpComp	0.271434	0.473161	0.386994	0.241642	0.518873	0.6360896	1							
LibGrpPers	0.394564	0.343169	0.461398	0.497671	0.574024	0.55371698	0.72459786	1						
NoiseLvl	0.121528	0.04744	0.149763	0.025658	0.004499	-0.08204431	-0.1623504	-0.1417821	1					
NoiseGrp	0.03415	0.005544	0.054307	0.011902	0.01996	-0.00252027	-0.0410929	-0.0351758	0.56513	1				
PplPresent	0.041821	0.090593	0.043909	0.192114	0.242157	0.21030355	0.21970295	0.22105645	-0.27795	-0.1109	1			
BkgdNoise	0.025127	0.022264	0.05512	0.174395	0.238082	0.05369016	0.17593913	0.25111528	-0.38031	-0.1827	0.590296	1		
NtlLight	-0.12892	-0.09784	-0.07666	0.08562	0.049421	0.05440355	0.0715773	0.1207901	-0.19331	-0.001565	0.209681	0.285004	1	
ComfSeat	-0.0163	-0.0407	-0.07061	0.08171	0.116726	0.08581991	0.08743461	0.17079263	-0.10998	-0.09638	0.068862	0.176408	0.218304	
TableSpc	-0.12501	-0.13646	-0.01301	-0.00215	0.187457	0.04726139	0.15933755	0.14093896	-0.1005	-0.02963	0.142194	0.312206	0.219394	0..79
Dividers	0.221407	0.043712	0.283114	0.183593	0.047268	0.04453289	-0.00501583	-0.00395441	0.129078	0.053792	-0.20671	-0.06612	-0.07832	0..83
CCcomp	0.103727	0.437198	-0.074954	0.10775	0.116008	0.18063846	0.2821602	0.09765768	-0.05172	-0.02256	0.049944	0.0465	-0.03579	0..54

AloneVsGrp	-0.09187	-0.17687	-0.03304	0.169655	0.058235	0.02499864	0.07960882	0.12207708	-0.18227	-0.02131	0.371442	0.427311	0.195528	0.34…
GrpRm	0.01185	0.08145	0.126411	-0.09196	0.090855	0.09996786	0.12745551	0.0514429	0.099197	0.052117	0.026243	-0.00295	0.062762	0…
GrpTable	-0.0507	-0.05053	0.093285	0.03053	0.102562	0.05906499	0.0984661	0.13061647	0.147713	0.01374	-0.011581	0.151898	0.157762	0.77…
GrpChairs	-0.06807	-0.05802	-0.042405	-0.00162	0.048535	0.00502369	0.05250908	0.0827535	0.037295	-0.029591	0.01113	0.086118	0.11732	0.43…
GrpOutlet	0.013871	0.01948	-0.152902	0.130494	0.137767	0.02101616	0.0523565	-0.10976	0.004099	0.05409	0.028249	0.220273	0.066578	0.6…
GrpWhiteBd	0.051252	0.108842	0.16143	0.051751	0.265389	0.19924751	0.27824671	0.15725209	0.107794	0.009469	0.014913	0.02587	-0.093997	0.66…
GrpWifi	-0.04129	-0.09367	0.043371	0.068183	0.203392	0.08805284	-0.009146	-0.02369178	0.064063	0.00498	0.031372	0.233064	0.19774	0…
GrpScreen	0.01347	0.083598	0.152424	0.09396	0.287763	0.17142499	0.25567532	0.21514741	0.037906	0.027469	0.145343	0.174859	0.06635	0.74…
GrpComp	0.09911	0.429958	0.101751	-0.02057	0.256499	0.24402864	0.32503217	0.09437469	0.15943	0.08841	0.130418	0.024118	-0.03926	0.10…
UseGrpRm	0.098	0.118813	0.123879	0.239282	0.337751	0.45947122	0.36416154	0.38307549	0.18344	0.07155	0.383062	0.171037	0.1626	0.18…
UseQuiet	0.531191	0.410064	0.636718	0.438167	0.440154	0.3235361	0.29429558	0.43727338	0.236691	0.143627	-0.10363	-0.1706	-0.22408	0.38…
UseTutoring	0.307493	0.37624	0.345674	0.237022	0.407323	0.32879167	0.40310156	0.3712263	-0.11161	-0.05737	0.213942	0.173409	0.176073	0.99…
UseFood	0.286421	0.232389	0.181427	0.304505	0.26786	0.25136536	0.28780913	0.31086566	-0.25077	-0.16674	0.281029	0.154884	0.057127	0.46…
UseLounge	0.411764	0.262737	0.36495	0.410789	0.443631	0.27982647	0.30563282	0.40498176	-0.169	-0.07769	0.32358	0.196821	0.024859	0.04…
UseMultim	0.248728	0.312319	0.184113	0.267773	0.326239	0.34749963	0.3830752	0.30402619	-0.19887	-0.08951	0.227245	0.155519	0.032419	0…
UsePhotVid	0.245912	0.210668	0.199636	0.26198	0.348768	0.26306034	0.33583972	0.33719664	-0.22853	-0.15529	0.181346	0.301948	-0.06735	0.87…

UseDigitize	0.176273	0.213581	0.163338	0.165055	0.214314	0.27852391	0.29848515	0.30420959	0.11792	-0.04396	-0.0401	-0.084889	0.00784	0…83
UseLgColPrint	0.089065	0.175655	0.073732	0.097042	0.213496	0.14178501	0.23091913	0.26292972	0.13515	-0.03374	-0.0393	-0.1886	0.013956	0…06
UseStudio	0.141908	0.182551	0.126764	0.193448	0.272081	0.25924729	0.30604335	0.2297994	0.22423	-0.1308	-0.219067	0.256838	0.076771	0…10
UseGreenScr	0.190256	0.242431	0.214918	0.243304	0.324554	0.35287174	0.3879045	0.2907684	0.24145	-0.12972	-0.188588	0.233501	0.04219	0…4
TutorAlO	0.110773	0.073203	0.105398	0.088849	0.090883	0.16271395	0.08509025	0.05844601	0.12424	-0.17713	-0.134793	0.035848	0.078287	0…04
PracticeRm	0.098529	0.088065	0.058016	0.06916	0.093831	0.10169527	0.08681815	0.0525728	0.08479	-0.05733	-0.012594	0.00277	-0.154911	0…81
MoreGrpSpc	0.111219	-0.04212	0.112389	0.185163	0.202454	0.16841056	0.12686577	0.24816598	0.12333	-0.11451	-0.097604	0.190236	0.003438	0…70
BetterTutSpc	0.252839	0.171841	0.171452	0.174226	0.208321	0.16946688	0.11891547	0.10870251	0.09581	-0.11881	-0.075024	0.02581	-0.108289	0…44