EXECUTIVE SUMMARY PAGE

This study discovered how students used the first and third floors of the library to help design future library services and spaces. This study included both observations of how students use these spaces and interviews with eight UCM students to determine how they use the library.

Findings

- Students want more seating, more comfortable furniture, and varied work spaces.
- They value the library as space to get work done, both individually and collaboratively.
- Students see the first floor as a gateway rather than a place to work.
- Students were unaware of instruction and consultation provided by librarians outside of the McNair Scholars Program.
- Students do not see a distinction between Learning Commons and Library Services.
- Also, students were confused about recent changes to the library service desk and printing services.

Outcomes

- New seating options for more conducive study environments
- Open first floor by removing barriers and adding more individual and group seating
- Create service points that are smaller and closer to the entrance
- Librarians need to be more accessible to students
- Some Learning Commons services downstairs to better reach students
- User engagement changes
  - Improve marketing strategies when service changes occur
  - Collaborate with Center for Teaching and Learning to promote information literacy and research instruction to support teaching faculty and students
  - Foster librarian-student engagement through increased instruction and consultations

Implementation of Outcomes

- JCKL will add more tables and chairs throughout the second and third floors to provide additional study space. JCKL will also begin to replace the original wooden chairs with cushioned chairs to increase the number of comfortable seats.
The Library Assessment Committee designed a renovation plan of the first floor based off of student comments and observation data that will provide more study space. (See Proposed Renovation Panorama 1 to get overview of proposed changes. Click on image and drag to move point of view.)

In the renovation plan, service points will become smaller and closer to the library proper entrance to improve services. (See Proposed Renovation Panorama 1 to see proposed change. Click on image and drag to move point of view.)

Liaison librarians offices have been moved to the first floor so students have more direct access to research assistance.

In the renovation plan, space will be provided for Learning Commons writing services to meet with students. This will place writing and research help in the same area and increase access to both services. (See Proposed Renovation Panorama 2 and Proposed Renovation Panorama 3 to see proposed changes. Click on image and drag to move point of view.)

User Engagement Changes:

- JCKL Administration and Liaison Librarians will work to improve outreach by increasing use of UCM Weekly and UCM Daily to reach students and faculty.

- Signage (both digital and analog) within the library spaces will be utilized to better alert students on changes to spaces in the library.

- Liaison librarians will work with the Center for Teaching & Learning to provide faculty workshops on information literacy and librarian instruction.

- Liaison librarians will market research assistance to teaching faculty across the campus so faculty may increase usage and refer students.

- JCKL faculty and staff will participate in more student events to speak directly to students about library services designed to help them in their coursework.
Introduction to study

For two years, the Library Assessment Committee has conducted usability studies on various areas of the library. For FY17, the committee sought to answer two research questions:

1. How are students using the first floor and third floor of the James C. Kirkpatrick Library?
2. Why do students chose the floor they are on?

This study discovered how students used the first and third floors of the library to help design future library services and spaces. Student behavior on both floors as well as noise level on the third floor were recorded. First floor furniture was photographed daily to monitor rearrangement and then reset to a default setting. Eight student interviews were conducted by a trained graduate assistant to explore how they use the library and how the library works for them.

Findings

Overall Findings
Students want more seating, more comfortable furniture, and varied work spaces. They value the library as space to get work done, both individually and collaboratively. Students were unaware of instruction and consultation provided by librarians outside of the McNair Scholars Program. Students were confused about recent changes to the library service desk and printing. During the interviews, students consistently mentioned their initial confusion with the new WEPA printing system, although many found it easier once they used it. The interview data also highlighted the need for better advertising and outreach strategies.

First Floor
Few students were observed using the first floor in the library proper as a place for study or relaxation (Fig. 1). Changes made to increase comfortable group seatings were made prior to the study. During the observation period, few students used the furniture for group work or for socializing. The occasional students who did stay for periods of time on the first floor were more likely doing individual study or individual relaxing activities (Fig. 2, Fig. 3, Fig. 4 & Fig. 5). (See Observation Methodology section for definitions of observed activities on the first and third floors during the study.)

Both the qualitative and quantitative data suggest students did not view the first floor as usable space. Headcount data showed very low usage of first floor seating compared to the third floor. The first floor furniture in the corners furthest from the service desk received the heaviest use, which implies the service desk affects seating choice. Furniture further away from the service desk also tended to be moved more, but generally, there was little furniture movement (Fig. 11).
and Fig. 12). During the interviews, students did not comment significantly on the first floor. These findings demonstrated students did not recognize the first floor as an optimal study area.

**Third Floor**
The third floor of the library was a heavily used floor during the study (Fig. 6). The third floor of the library is the designated quiet floor, meaning that students are to speak in low volume and generally work independently. Students consistently used the floor as designed, primarily studying individually with some individual relaxation (Fig. 8 & Fig. 9). There was a small amount of group work occurring at tables outside of the Learning Commons and very little socializing (Fig. 7 & Fig. 10). A steady trend was noted in the observations that individual carrels were used more than tables on the third floor (Fig. 6). It is likely carrels are preferred as they allow students to focus and also have computers for working on assignments. It was observed that noise levels did fluctuate during the day on the third floor (Fig. 13). It was most likely to be quiet at 11 am, but the floor often became moderately noisy during the afternoon.

All students interviewed mentioned using the Learning Commons for tutoring and writing help located on the third floor of the library, a unit separate from the library organization (Fig. 14 through Fig. 22). Students interviewed did not see a distinction between the Learning Commons and Library Services. A majority of students equated using the third floor with using the writing and tutoring services provided by the Learning Commons. Students also desire the quiet environment, as well as study rooms, to minimize distractions and focus on work.

The study findings suggest students use the third floor as it was designed and highly value the quiet space that supports concentration. Students also greatly value the writing and tutoring support. It is noted by the authors the activity from the Learning Commons services conflict with keeping the floor a quiet area. As the activities in the Learning Commons increase, it will become harder to keep the third floor a dedicated quiet floor.

**Outcomes**

- New seating options for more conducive study environments
- Open first floor by removing barriers and add more individual and group seating
- Create service points that are smaller and closer to the entrance
- Librarians need to be more accessible to students
- Some Learning Commons services downstairs to better reach students
- User engagement changes:
  - Improve marketing strategies when service changes occur
  - Collaborate with Center for Teaching and Learning to promote information literacy and research instruction to support teaching faculty and students
  - Foster librarian-student engagement through increased instruction and consultations
Implementation

- JCKL will add more tables and chairs throughout the second and third floors to provide additional study space. JCKL will also begin to replace the original wooden chairs with cushioned chairs to increase the number of comfortable seats.
- The Library Assessment Committee designed a renovation plan of the first floor based off of student comments and observation data that will provide more study space. (See Proposed Renovation Panorama 1 to get overview of proposed changes. Click on image and drag to move point of view.)
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- User Engagement Changes:
  - JCKL Administration and Liaison Librarians will work to improve outreach by increasing use of UCM Weekly and UCM Daily to reach students and faculty.
  - Signage (both digital and analog) within the library spaces will be utilized to better alert students on changes to spaces in the library.
  - Liaison librarians will work with the Center for Teaching & Learning to provide faculty workshops on information literacy and librarian instruction.
  - Liaison librarians will market research assistance to teaching faculty across the campus so faculty may increase usage and refer students.
  - JCKL faculty and staff will participate in more student events to speak directly to students about library services designed to help them in their coursework.
Research Method

Study Methodology
The usability study done of the first and third floors of the James C Kirkpatrick Library utilized a mixed method approach. The study consisted of observation data noting furniture usage, furniture movement (first floor only) and behaviors of the students during the observations. Interviews of eight students were also done asking questions related to their usage of the 1st and 3rd floors and general library services. (See appendix for interview questions and observation form used in the study.)

Observation Methodology
Observations were gathered over a two week period from October 30th - November 11th, 2016. This time period was chosen as it was within the peak activity for the fall semester. Observations were gathered by members of the Library Assessment committee at consistent times of the day. The collection times were 11 am, 3 pm and 9 pm (when the library was open during these times) for a total of 30 observations. Observers walked the first and third floor noting what furniture was in use on each floor and what behavior the library user exhibited. Behaviors were categorized as follows:

- **Individual Studying/Productivity** - Work of an academic nature: reading, taking notes, computer work without anyone nearby engaged in a shared activity.
- **Group Work** - Two or more people engaged in a shared activity of an academic nature, including working with an Academic Responsibility Coach (ARC).
- **Relaxing** - Engage in an individual, non-academic activity including talking on cell phone.
- **Socializing** - Engaged in a shared social activity of an non-academic nature, must be verbal.
- **Walking to Service Point**
- **Browsing Best Seller/DVD Collection** - Intentionally standing/interacting with this collection (first floor only)
- **Playing piano** (first floor only)

The observer also noted the noise level on the third floor of the library at the beginning of each observation. Noise levels were defined as follows:

<table>
<thead>
<tr>
<th>Noise Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quiet</td>
<td>No one talking, low ambient noise (rotunda sounds, typing, paper shuffling)</td>
</tr>
<tr>
<td>Moderate</td>
<td>Group talking in “hushed tones”, pantomiming, phone vibrating once</td>
</tr>
<tr>
<td>Noisy</td>
<td>Group (2 or more) talking at normal level, tour, talking on phone, phone ringing at least once, phone vibrating repeatedly, loud entry onto floor</td>
</tr>
</tbody>
</table>
July 2017

**Interview Methodology**
Volunteers were recruited using the *UCM Weekly* email that all university students receive. Eight UCM students were interviewed using a semi-structured approach during the Fall 2016 semester. Interviewees provided consent and all interviews were audio recorded. The interviewer was trained in the semi-structured interview technique and each interview was conducted one-on-one. All interviews were done by the Graduate Assistant on the project. This choice enabled students to feel more comfortable talking with a fellow student interviewer. Each interview was held in a study room so students would feel comfortable during their interviews. All interviewees were asked the same questions and the interviewer would follow up with additional questions to student responses. Students were asked open-ended questions regarding their use of the first and third floors, what area they liked best in the library and their knowledge of library services (see Appendix for interview questions). Each student who participated in the interview received a $20 gift card to the UCM Bookstore.

Audio recordings were transcribed by the Library Assessment Committee members, excluding the Graduate Assistant who performed the interviews. This ensured no one would be identifiable from their responses. The committee then discussed each transcript to identify unique comments as well as any general trends across interviews. The Graduate Assistant then took the transcript text and created word clouds for each interview and then a combination of all transcript information. This allowed the committee to re-analyze student comments to identify any additional patterns.
Heatmaps

The following heatmaps reveal the seating preferences of students who use the first and third floors of the library. The seating preferences are indicated on a color scale, where the darkest color (i.e. black) equals no use and the brightest color (i.e. red) equals heaviest use. The data was gathered over an observation period of two weeks. There are five heatmaps per floor (first and third), for a total of ten heatmaps. Each individual heatmap relates to a different library behavior including overall seating preference, group work, individual work, relaxation, and socialization.

Figure 1. First Floor - **Overall** Seating Preference (Black = No Use; Red = Heavily Used)
Figure 2. First Floor - Seating Preference for **Group** Work (Black = No Use; Red = Heavily Used)

Figure 3. First Floor - Seating Preference for **Individual** Work (Black = No Use; Red = Heavily Used)
Figure 4. First Floor - Seating Preference for **Relaxation** (Black = No Use; Red = Heavily Used)

Figure 5. First Floor - Seating Preference for **Socializing** (Black = No Use; Red = Heavily Used)
Figure 6 - Third Floor - **Overall** Seating Preference (Black = No Use; Red = Heavily Used)
Figure 7. Third Floor - Seating Preference for **Group** Work (Black = No Use; Red = Heavily Used)
Figure 10. Third Floor - Seating Preference for **Socializing** (Black = No Use; Red = Heavily Used)
July 2017

1st floor furniture behavior maps

The furniture behavior maps below reveal the moving of first floor furniture by students. The data was obtained by taking pictures of the furniture in predetermined locations each morning for the duration of the study. After taking the pictures, the furniture was then moved back to its default position. The bolder colors indicate the original position of the furniture and the fainter colors indicate the position to which the furniture was moved. The first graph is an overlay furniture map showing the results throughout the study and the second graph is an animated furniture map that shows the movement of furniture on a daily basis.

![First Floor Furniture Movement Overlay Map](image-url)

Figure 11. First Floor Furniture Movement Overlay Map
The noise level on the third floor appeared to fluctuate throughout the day, with the floor becoming moderately noisy as the day progressed. It appears increased noise levels are correlated with the hours the Learning Commons is open (9 am - 9 pm, M - Th, 9 am - 5 pm, F).
July 2017

Interview Data

Word Clouds

The following word clouds are visualizations of participant interview transcripts. There are a total of nine word clouds including a combination of all eight participant comments to show pattern across students interviewed as well as a word cloud for each participant. Larger text in a word cloud indicates more frequent mentions during the interview (Fig. 14 - 21).

Selected Key Quotes from Individual Students Interviewed

Two quotes were selected from each interview and included with each individual interview word cloud. These quotes were considered key statements each student made regarding how they use and value the library.

Figure 14. All Interview Participants Word Cloud
Selected Key Quotes from Participant 1 Interview:

“I like to be surrounded by other people. That’s why I enjoy being in the library because we have the same thing to study and we are kind of like together even if we don’t know those people.”

“So since they moved [the Writing Center] I am a regular on the 3rd floor. Last semester they were in another building and I went to the 3rd floor only to grab some books. But you know sometimes I might use a table with a computer on the 3rd floor and 2nd floor if they don’t have enough space on the 2nd floor.”
Figure 16. Participant 2 Interview Word Cloud

Selected Key Quotes from Participant 2 Interview:

“I always go to third floor. That’s my favorite place of all...like it is quiet and peaceful.”

“I’m one of the international students so I like to pick up what is new here or whatever is more popular in the United States and try to pick up on that. And I creep up [to the children’s literature section] because I am bored of studying so I just go there, read and sit down on the floor.”
Figure 17. Participant 3 Interview Word Cloud

Selected Key Quotes from Participant 3 Interview:

“The biggest thing is that if I’m at home working, I can’t focus because there’s a TV, and there’s a bed, and there are video games. So I really try to come to the library when I know I need to get stuff done.”

“It’s so nice to be able to go in there [a library study room], be alone in a room with a computer and just work. I don’t mind the outside areas, but if I can snag a group study room, that’s really awesome.”
Selected Key Quotes from Participant 4 Interview:

“There are so many computers on every floor, it is super helpful.”

“Um, well the building is awesome. I love the building. I remember when I was... since I transferred I like, looked at a lot of places and I remember thinking this is the coolest building I’ve ever seen.”
Selected Key Quotes from Participant 5 Interview:

“I have some tougher classes this semester so, in order for me to focus, I actually come here.”

“My library mentor, Scott Norwood, was able to tell me about lot of different online navigations or links to help me with papers, and then different things that are offered in the library that I wouldn’t have known if I didn’t not only meet him, but hadn’t taken that tour of the library as well.”
Figure 20. Participant 6 Interview Word Cloud

Selected Key Quotes from Participant 6 Interview:

“You know, when you come to the library everyone is in the same boat. You’re here to do your homework.”

“Sometimes I will visit with other classmates [in the library] and we will go over what we had just talked about in class. You know, kind of study together, work together on homework, gaining that insight from another student really helps you understand the class better.”
Figure 21. Participant 7 Interview Word Cloud

Selected Key Quotes from Participant 7 Interview:

"Without a doubt this is probably one of my favorite buildings because it allows me to do just that, stay focused on my studies, especially when I am currently doing 19 credit hours."

"[The library] has the functionality of working independently but also in groups such as study rooms and also the large tables that are wide open."
Figure 22. Participant 8 Interview Word Cloud

Selected Key Quotes from Participant 8 Interview:

“The quiet atmosphere helps me concentrate and just the feeling of being in a library for some reason helps me focus better.”

“Some aspects of the [library] website have been talked about in some classes, as far as using it to do research and finding books you need. Everything else I pretty much either stumbled upon or figured out on my own.”
APPENDIX - RESEARCH INSTRUMENTS

Usability Study FY17 Interview Questions

Instructions for Interviewer: Prior to interview, have the participant read and sign the consent form. Be sure to give them a copy to keep. Also, turn on the audio recorder before you begin the script.

Interview script:

Thank you for volunteering to participate in our study. This study is focused on getting your student perspective regarding how the library works for you and how you use the library. Your comments will help with designing future library services and spaces.

The first thing I will ask is some basic demographic information.

- What is your gender? (open response)
- What is your age range? (read these ranges: 18-24, 25-29, 30-36, over 36)
- What is your year in school? (open response)
- Do you have job while attending college? If so, how many hours a week do you work?
- How far from campus do you live currently? (read these options: on-campus, in town, you commute)

Thanks. Now I will ask questions on how you use the library.

- How many hours in a typical week do you use the library?
- How does the library help you work independently on your schoolwork? (IF participant needs clarification - working on assignments or presentations, studying, preparing for tests, etc.)
- How does the library help you work with other students on schoolwork?
- Do you use the 1st floor of the library?
  - If so, what do you use it for?
- Do you use the 3rd floor of the library?
  - If so, what do you use it for?
- What’s your favorite spot in the library?
  - Please describe what you like about this space and why you like it.
- What services are you aware of in the library?
  - Describe how you learned about these services. (IF participant needs clarification - friends, tour, a class assignment, a librarian came to class, etc.)
- What would you like to see more of in the library? (IF participant needs clarification - more kinds of furniture, more kinds of services, etc.)

Thank you so much for your time.

Instructions for Interviewer: Provide the participant with the gift card. Have her/him sign an acknowledgement s/he received the card for participating in a study.
# 1st Floor Observation Form

**FY17 Usability Study**

Date: _____________________

Time: 11 AM   3 PM   9 PM

Initials: ___________________

<table>
<thead>
<tr>
<th></th>
<th>Activity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>Socializing</td>
<td>Engaged in a shared social activity of a non-academic nature, must be verbal</td>
</tr>
<tr>
<td>I</td>
<td>Individual Studying/Productivity</td>
<td>Work of an academic nature: reading, taking notes, computer work without anyone nearby engaged in shared activity</td>
</tr>
<tr>
<td>G</td>
<td>Group Work</td>
<td>Two or more people engaged in a shared activity of an academic nature, including ARC</td>
</tr>
<tr>
<td>R</td>
<td>Relaxing</td>
<td>Engaged in an individual, non-academic activity, including talking on cell phones</td>
</tr>
<tr>
<td>B</td>
<td>Browsing Best Seller/DVD Coll.</td>
<td>Intentionally standing/interacting with this collection</td>
</tr>
<tr>
<td>P</td>
<td>Playing piano</td>
<td>—</td>
</tr>
<tr>
<td>W</td>
<td>Walking to Service Point</td>
<td>— Note this category as the observer walks onto the floor</td>
</tr>
</tbody>
</table>

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**Notes:**

- Media Preview Room 1
- Media Preview Room 2
- Media Preview Room 3
- Media Preview Room 4
- Media Preview Room 6

**Best Sellers/DVD Collection**

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3rd Floor Observation Form  FY17 Usability Study

Date: ____________
Time:  11 AM  3 PM  9 PM
Initials: ____________

Noise Level:
☐ Quiet— no one talking, low ambient noise (rotunda sounds, typing, paper shuffling)
☐ Moderate— group talking in “hushed tones”, pantomiming, phone vibrating once
☐ Noisy— group (2 or more) talking at normal level, tour, talking on phone, phone ringing at least once, phone vibrating repeatedly, loud entry onto floor

S  Socializing  Engaged in a shared social activity of a non-academic nature, must be verbal
I  Individual Studying/Productivity  Work of an academic nature: reading, taking notes, computer work without anyone nearby engaged in shared activity
G  Group Work  Two or more people engaged in a shared activity of an academic nature, including ARC
R  Relaxing  Engaged in an individual, non-academic activity, including talking on cell phones
W  Walking to Service Point  — Note this category as the observer walks onto the floor

Instructions for observations

Make two sweeps of the floor.

First Sweep (Orange):
- Walkway to the Learning Commons
- Carrels around the rotunda

Second Sweep:
- Tables, carrels, and soft seating around the rotunda perimeter (against the windows)

Notes: