TUTORING OUTSIDE THE BOX:
Creating Inclusive, Student-Centric Services

Sharon Thompson and Christina Mune*

As part of a campus-wide initiative to reduce time-to-graduation, San Jose State University's Dr. Martin Luther King, Jr. Library has developed a late-night peer tutoring program focused on supporting bottleneck math and science courses. The late-night tutoring program provides service during the library's extended hours, from 8pm–12am, in response to student feedback, data, and research showing student preferences for late night study. This library-run tutoring service has found success reaching students in bottleneck courses by developing 20-minute drop-in tutoring sessions in a causal, collaborative environment staffed by well-trained tutors. It has also established lasting relationships with other campus entities through the program's outreach and recruitment activities. In response to COVID-19 the peer tutoring program is evolving a hybrid delivery model to ensure continued growth.

BACKGROUND

In 2015 the California State University (CSU) launched its Graduation Initiative 2025, aimed at improving graduation rates and eliminating equity gaps across its 23 campuses over the next ten years. As part of this initiative, San Jose State University's (SJSU) Dr. Martin Luther King, Jr. Library began developing new services and spaces to support undergraduate student progression, retention, and graduation. As part of this effort and in direct response to student requests that the library extend its study hours, SJSU Library was awarded funds from the university's student success fees to support extended study hours to 24 hours a day Sunday through Thursday. The allocation of these fees is determined by a vote of the university's student body. The significant use of the library after 8 pm, especially during midterm and finals, indicated that additional services during the new extended hours may be warranted and appreciated. It was thought that extended hour services could potentially reach student populations not always served by typical business-hour university services, including established tutoring offices, which traditionally close by 6pm. Populations better served through extended hours programming might include working/commuting students, students with child or elder care responsibilities, and student athletes.

*Sharon Thompson, Student Technology Training Coordinator, San Jose State University; Christina Mune, Associate Dean of Innovation and Resource Management, San Jose State University
Peer tutoring has proven beneficial to academic outcomes across grade levels in numerous studies. These benefits include better grades and content mastery in college-level STEM courses. Peer tutoring intervention in high “DFW” or Drop, Fail, Withdraw courses is desirable as these courses result in “bottlenecks,” impeding student progression and graduation, decreasing retention, and lowering GPAs as students are forced to repeat these courses or wait for open seats often filled by repeating students. Many high DFW courses are introductory or general science courses. The CSU offers campuses data dashboards analyzing high DFW courses and bottlenecks. As of 2021, SJSU’s top bottleneck courses include Chemistry 1A (General Chemistry), Math 71 (Calculus for Business) and Math 31 (Calculus II), as well as many introductory Physics, Biology, and Computer Science courses. These courses are also frequently found to have high equity gaps for underrepresented populations at SJSU. Because of these factors, SJSU Library identified peer tutoring as a possible service for extended hours that would contribute to Graduation Initiative 2025.

In 2017, the University Library reached out to Florida State University (FSU) regarding their Learning District program. This program offers group tutoring sessions from 8pm–1am in the FSU university library, managed by library personnel. According to Michelle Demeter, FSU’s Assistant Director of Undergraduate Library Services, student surveys found that students were eight times more likely to study between the hours of 8pm and 12 am than 8am and noon and five times more likely to study between 12am and 4 am than 8am–noon. This data, in addition to the usage seen at SJSU library during 8pm-8am hours, was persuasive that study assistance during late night hours could be successful. SJSU Library applied for additional funding through the same student success fee program that funded extended hours and was awarded monies for a late night peer tutoring program (LNT).

DEVELOPMENT

To facilitate the exchange of ideas and methods used so successfully by FSU, the administration of SJSU Library asked Demeter and her colleague Bridgett Birmingham to visit SJSU Library and provide a workshop on their Learning District services. The workshop was well-attended by library employees. Once a peer-tutoring coordinator role was established at SJSU Library, the new coordinator, Sharon Thompson, visited FSU to see the Learning District space and speak to FSU employees. These visits established a productive working relationship between the organizations and helped shape the LNT services at SJSU Library.

One factor easing the establishment of library services during extended hours is that many spaces in the library can simply be converted to house the new service space once daytime services have ended. A year before LNT was developed, SJSU’s Writing Center had relocated to the library and remodeled their area with new chairs, tables, welcome desk, and large digital screen. It was agreed with the Writing Center that after their services ended each day at 7pm, LNT would inhabit the same area, utilizing the new furniture and renovated space. Each evening at 7pm Writing Center tutors replaced their signage with “Reserved for Late Night Tutoring” signs to indicate the service switch. Additional resources to support tutors and tutees were purchased using the student success fees. This included textbooks in all courses offered during LNT, laptops for tutors along with a wheeled laptop cart for easy storage, individual whiteboard for writing equations and formulas, and large whiteboard for group work.

Initially, LNT was under the supervision of the library’s Student Technology Training Coordinator as part of their responsibilities for various peer learning services. However, it was determined that dedicated in-person supervision was needed for LNT. A part-time Late Night Tutoring Coordinator position was created to manage the day-to-day operations, oversee the tutoring budget, hire and train tutors, perform outreach, communicate with instructors, and ensure tutors have access to course syllabi and materials.

The LNT program is designed to be student-centric both in its delivery of service and its focus on providing a positive growth experience for both tutor and tutee. With this in mind, recruitment and training of effective, supportive tutors is the most critical part of running a tutoring service, regardless of when the service is offered. After consulting with both FSU and San Jose State’s local Peer Connections group, a multi-part strategy was developed to recruit quality tutors and a robust training program was established.
Advertising and Recruitment

To attract tutors into the LNT program, a variety of platforms were used to market the new positions. This included the library's website, Facebook, Twitter, and Instagram. The LNT Coordinator also reached out to departments and organizations across campus to assist in locating candidates or post our positions. The San Jose State Career Center, student organizations, and individual college success centers were targeted for advertising. Working with cultural organizations such as the African American Success Center and Chicano/Latino Success Centers was an important part of this advertising to ensure the tutors represented SJSU's diverse student body. Interestingly, a number of peer tutors working for San Jose State's established Peer Connections program chose to take additional work hours in the late night tutoring program or moved entirely to working for the library's late-night program. This exemplifies an unmet need not just for student services during extended hours but also student employment opportunities during non-traditional hours.

The Coordinator sent out email notifications to faculty and staff asking for recommendations or to forward the tutor job posting to potential candidates. Previous bottleneck course instructors, course coordinators, and employees that run student success centers have proven to be great resources for locating and recruiting qualified students for tutor positions. Many positions have been filled by staff and faculty referrals since the service launched. Existing tutors have also provided valuable referrals of classmates as potential tutors. The connections made with the departments, faculty and staff, the Career Center, and student organizations are instrumental in marketing the service to students in need of tutoring. These organizations share recruitment strategies amongst each other and refer students to the best organization for their employment needs. Tutor word-of-mouth is also an invaluable marketing resource.

Interview Process

Advertising and recruitment are an important part of developing the service because the qualifications for the tutoring positions are more stringent than most student positions on campus and the interview process is fairly rigorous. Requirements include:

- Grade B or above in the course, received at San Jose State or other CSU
- Faculty reference letter
- Successful completion of assessment involving real-world scenarios
- Expressed interest in helping and supporting others proving a cultural fit into our student-centric model
- Short- and long-term goals that represent dedication to academic excellence

All hiring was originally performed by the LNT Coordinator. As the program has taken shape, existing tutors have been included in developing some of the assessment and interview practices. Tutors are best placed to recognize what kind of skills or attitudes are most helpful during tutoring interactions.

Training

LNT training was developed with input from FSU, SJSU's Peer Connections, a review of tutoring best practices, and a dedication to student-centered learning. As the program continues to evolve, so does the training with input from our tutors and tutees. SJSU Library takes a holistic approach to tutor training, seeking to train a "well-rounded" tutor with the tools to provide flexible, on-demand assistance to a diverse group of undergraduate students. Before each term all tutors complete a week-long training session as a cohort with the library. Library tutors also attend training sessions with SJSU's Peer Connections group to extend their support network. During each term refresher training is required to reinforce core concepts. Some aspects of the holistic training approach are:

- Providing support with a customer service oriented attitude
- Effectively assisting individual and groups
- Working with stressed-out students
• Working with students with various learning styles
• Adapting services for tutees with disabilities
• Connecting students with appropriate SJSU resources outside of tutoring
• Helping tutees build better study skills, such as note-taking or problem review
• Helping tutees be more independent in their learning
• The importance of maintaining confidentiality
• General operations of the Late Night Tutoring Center such as signing in procedures, safety protocols, setup and takedown of equipment and signage

METHODS

The overarching ethos of LNT at SJSU Library is to provide a student-centric learning experience while building relationships between peers. Before COVID-19 forced all campus services into a fully virtual modality, LNT was completely in-person. In March 2020 the program quickly shifted to fully online with tutors meeting with tutees via Zoom. As SJSU slowly repopulates, LNT will shift into a hybrid mode to support both online and in-person tutees. Let’s review those modalities and the methods used to provide student-centric tutoring in each.

In-Person Modality

Regardless of modality, the aim of the LNT program is to create a collaborative, drop-in environment focused on quickly helping an individual or group of students on a particular assignment, exam, or problem. To do this effectively, it is necessary for the tutors to have an understanding of typical assignments or work in the courses they are supporting. This is a major motivation in hiring students that have successfully completed the course at SJSU rather than any other university. To remain up-to-date on course assignments and pedagogy, the tutoring Coordinator reviews the syllabi each term for courses that will be supported by LNT and purchases the learning materials assigned in the course (if possible—online homework codes continue to be a pain in the side of both the LNT Coordinator and most students in the course). These materials are made available to each tutor at their table at the beginning of each evening.

Students arrive on a drop-in basis for a 20-minute session. They join the queue for tutoring by signing in to a Google form that collects their student ID, course they need assistance in, and their email address. Using the student ID we can access some of their demographic information in our student success management system (SSMS), EAB, preventing the need for long questionnaires. The LNT Coordinator ensures that arriving tutees know what their wait times are and helps to move students along their 20 minute sessions. The library environment encourages students to pop in whenever they need help and provides a comfortable, low-stress environment to wait their turn.

Unlike pre-scheduled hour-long tutoring sessions available elsewhere on campus, the focus of each session is the assignment or problem presented. A meeting with a library late night tutor does not require a review of study habits, current academic performance, or any required follow-up. This allows the students to have a casual, friendly encounter that may be less intimidating than other options. However, library tutors do recommend study habits and can make referrals to peer mentors, counselors, or other resources if they believe the student is in need. Tutors make sure each student knows they are in safe and confidential space. Feedback from tutees suggest that this more casual structure promotes comfort and return visits.

Library LNT also offers group tutoring with up to eight students in a group. There are two ways groups usually form for tutoring sessions. A group of individuals may drop-in together and request a group session for a particular course assignment. In this case more time may be spent with the group, although if individuals outside the group arrive the tutor will move on to the next tutee signed up. Alternatively, groups may form spontaneously when multiple students from a single course visit at the same time. This frequently occurs before a major assignment or exam is scheduled. Tutees will then be helped as a group to promote collaborative learning and relationship building, although individuals may wait for personal attention. If a student is having particular difficulties they will be encouraged to sign up again for another 20 minute session once others that are waiting
have been helped. Frequently, tutors have experience in multiple courses supported by LNT and can assist students from different courses.

**Online Modality**

The initial goal during virtualization of LNT was to re-create the in-person tutoring experience in the online environment. Although various online tutoring platforms were reviewed for possible adoption, it was eventually decided to provide tutoring through Zoom due to students' familiarity with the platform and its easy-to-use whiteboard function that allows multiple users to draw simultaneously.

The Zoom link is posted on the LNT website and provided on all marketing material. It is not password protected, but the main Zoom room is under constant supervision during LNT hours by the LNT Coordinator. To recreate “tables” in the space, breakout rooms were created and labeled for each course. The LNT Coordinator welcomes arrivals into zoom, asks them to complete the Google form, and moves them to the designated breakout room for the course. Tutees are not allowed to move between rooms on their own for security purposes (i.e. preventing zoom bombings). While relationship building is still possible, students forming spontaneous connections with others in the same course appear less prevalent. The restricted ability of participants to speak at the same time in Zoom tends to inhibit collaboration. In this scenario the zoom experience may feel more formal and opportunities to connect diminished.

Other considerations are the effect the intervening technology has on some learners. Tutors have found that some tutees have greater problems focusing or keeping their attention on the session or need extra time to get through the work. The LNT Coordinator and tutors have learned to build in extra time to sessions as an accommodation for this issue. They may also ask the student to join an individual breakout room where they can spend additional time assisting or talking out the process with the tutee.

**Hybrid Modality**

As the SJSU campus repopulates, LNT has begun planning for a hybrid model of service provision. This mirrors the expected hybrid modality of instruction at SJSU for the 2021-2022 year. Individual tutees or groups will be able to sign up either in-person or online for their 20-minute session. Zoom whiteboards will continue to be used so that students in-person or in the zoom session may watch the tutor draw a problem or formula concurrently. Wacom tablets with stylus have been purchased providing tutors a larger, more comfortable drawing area for this work, which can be displayed on digital screens on premises as well as laptop screens or through Zoom. LNT will continue to purchase both physical and electronic course materials for supported sections. In-person experiences will of course look different with masks, social distancing, and possibly plexi-glass barriers.

**IMPACT**

**Tutoring Supervisor Council**

One immediate impact of planning SJSU Library’s LNT was the development of a campus-wide Tutoring Supervisor Council. As Thompson sought out partnerships from various tutoring and peer service centers across the university a need was revealed for a more cohesive group understanding of what was available for students and an explicit goal for these services areas.

The Council has defined their goal: “To provide SJSU students with the best and most seamless tutoring experience possible.” Council participants check in monthly and engage in team-building activities. The groups discuss research literature on tutoring, alternating the discussion leader to provide facilitation opportunities to all participants. They celebrate each program’s successes and troubleshoot challenges for colleagues. The Council plans to establish a reoccurring peer educator conference or symposium at SJSU and possibly for the entire CSU system.
Usage

There are a number of important data points around usage that LNT collects to inform services and assess impact. Google form entries may be used to determine scheduling and outreach efficacy. After LNT’s first term, an analysis of visit timestamps indicated that the 9pm–1am hours, initially offered based on the FSU model, did not fit the patterns of SJSU students exactly. More visits occurred earlier in the evening and the 12am–1am hour was not well utilized. In response, the hours were adjusted to 8pm–12am, which have been maintained since 2018. A post first year review of traffic revealed certain weeks of each term experienced significant increases due to final exam prep. Additional days were added to the LNT schedule the following academic year to compensate for the usage increase.

Collecting major and class level information helps the Coordinator understand where and when more outreach is needed—think transfer student orientations or business majors trying to pass Calculus. While a Google form that collects all this information may be tedious, it may also be worth it. Alternatively, access to a campus SSMS may help by collating student IDs with the student demographic information. If student IDs will be collected to later match the student with the information in the SSMS, the Google form should include a notification of that intention and the student provided an option to “opt out” of that process.

The LNT program has provided over 6,000 tutoring sessions for approximately 20 courses since its inception in 2017. Table 1 shows session numbers for selected courses. Although numbers for each course tend to fluctuate by semester as sections are provided on a cyclical basis, between the 2017-2018 and 2018-2019 academic years LNT saw impressive growth. Based on these numbers the program’s funding was renewed through the student success fee program. If numbers for a certain course start to dip, the LNT Coordinator will perform outreach through emails to faculty and course coordinators, along with social media blasts to reach students directly. The 2019-2020 session numbers declined from the previous year, likely due to the COVID-19 campus shutdown in early March 2020. We believe establishing a hybrid model and continuing to communicate that we are available virtually will help recover usage numbers.

Math 71, Calculus for Business, is a required math course for business majors at SJSU and provides an excellent example of LNT in action. In the last year LNT has seen a significant increase in tutee visits for Math 71, from 1 visit in 2017-2018 to 527 visits in 2019-2020. Math 71 is one of the top three bottleneck courses at SJSU. This increase is due to both word of mouth between students in the course, tutors, and past tutees; as well as

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Chem 1A (General Chem I)</td>
<td>239</td>
<td>512</td>
<td>296</td>
</tr>
<tr>
<td>Chem 1B (General Chem II)</td>
<td>341</td>
<td>472</td>
<td>188</td>
</tr>
<tr>
<td>Chem 30A (Intro Chem I)</td>
<td>247</td>
<td>301</td>
<td>63</td>
</tr>
<tr>
<td>Chem 30B (Intro Chem II)</td>
<td>10</td>
<td>20</td>
<td>9</td>
</tr>
<tr>
<td>Math 19 (PreCalc)</td>
<td>97</td>
<td>246</td>
<td>202</td>
</tr>
<tr>
<td>Math 30 (Calc I)</td>
<td>170</td>
<td>140</td>
<td>43</td>
</tr>
<tr>
<td>Math 31 (Calc II)</td>
<td>114</td>
<td>151</td>
<td>197</td>
</tr>
<tr>
<td>Math 32 (Calc III)</td>
<td>102</td>
<td>302</td>
<td>199</td>
</tr>
<tr>
<td>Math 71 (Calc for Business)</td>
<td>1</td>
<td>49</td>
<td>527</td>
</tr>
<tr>
<td>Phys 50 (General Physics)</td>
<td>150</td>
<td>248</td>
<td>364</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1471</strong></td>
<td><strong>2441</strong></td>
<td><strong>2088</strong></td>
</tr>
</tbody>
</table>
from the LNT Coordinator’s outreach to Math 71 instructors. This increase signifies that not only are students in bottleneck courses reaching out for assistance, but that they are finding it in the library’s LNT program. Based on this growth LNT will hire additional tutors to support this course. We will also use this course to begin systematically tracking the use of LNT and course completion to identify potential correlation. As LNT moves into its fourth year a larger analysis looking at student usage of LNT in relation to student time-to-graduate will be conducted with assistance from SJSU’s Office of Institutional Research using our SSMS.

**CONCLUSION**

Since 2015, SJSU graduate rates are up 5% for 4-year graduates and 8% for 6-year graduates—more than any other CSU. While we’re still analyzing the data to see if LNT had a direct impact on those increases, certainly LNT has inspired others in the library and on campus to consider unique, out-of-the-box, student-centric solutions for bottleneck courses that impede student success. This program has forged ties between the university library and college success centers, as well as campus tutoring programs through the Tutoring Supervisors Council. LNT has offered tutors and tutees a safe, comfortable space to learn, teach, build connection, and feel supported as part of a larger campus community. LNT has also shown that students welcome and will utilize library services during extended hours, if they are offered.

**NOTES**