

The Evolution of the STEM Libraries at Florida State University

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Introduction

This chapter documents the transformation of the STEM Libraries at Florida State University (FSU) Libraries. The authors describe the departmental evolution and its placement in the context of a larger organizational evolutionary process in the Research and Learning Services (RLS) division of the FSU Libraries.

The Florida State University is located in Tallahassee, the capital of Florida. FSU is a Research 1 university according to the Carnegie Classification of Institutions of Higher Education and has approximately 42,000 students and over 1,900 faculty members. FSU's STEM Libraries consist of the Paul A. M. Dirac Science Library as well as the FAMU/FSU College of Engineering Library, which is a joint-use facility between FSU and Florida Agricultural and Mechanical University (FAMU), a historically black college or university. The FSU STEM Libraries also provide library support to various research centers and institutes both on and off campus, including the National High Magnetic Field Laboratory, the Center for Advanced Power Systems, and the Center for Oceanographic and Atmospheric Prediction Studies.

Setting the Change Stage

As is so often the case with organizational change, there is not always a clear date when changes start happening. Organizations are always shifting and changing and responding to their environmental stimuli. This case study begins in the summer of 2014, following a major renovation of the Dirac Science Library and with the appointment of a new director of STEM Libraries. Dirac Science Library was redesigned to better meet the research and learning needs of STEM students and faculty. To support this charge, the

Dean of Libraries asked the new director of STEM Libraries to work on developing a more proactive culture in the STEM Libraries. This charge included an expectation that the director would dedicate time to developing staff skills, recruiting new talent to fill open lines, and empowering the team to increase engagement with STEM scholars.

A new associate dean (AD) for RLS arrived in August 2015. The RLS group includes subject librarians across disciplines and is also responsible for circulation and access services at all library locations. During the first year, the new AD gathered the organization's history and context to understand the current status of the STEM Libraries and to start the development of a vision for the future of RLS. Small changes were made along the way, but by early 2017, a clear picture emerged as to how the division needed to change in order to address inefficiencies, eliminate duplication of services and tasks, and break down silos that had been sources of contention among the various groups in the libraries. A process termed "the evolution of RLS" emerged, which included significant changes in the STEM Libraries.

From the very beginning, the AD regularly met with the director of the STEM Libraries, and a consistent thread in all conversations was a desire to serve FSU's STEM scholars better. The conversations typically centered around themes of how to streamline the operations of the STEM Libraries, find alignment with the services in the central libraries, increase capacity, and address staffing issues. The discussions were shaped by information gathered through a variety of channels such as conversations with library staff, but also through examination of transaction data on instruction, consults, and gate counts. In an effort to build capacity and to shore up the leadership structure of the STEM Libraries, a position for a STEM and Data Librarian was posted in 2016. Not long after being hired, the librarian took on additional responsibilities and was appointed to a newly created position as Associate Director, STEM Libraries. With the increase of capacity at the leadership level, the STEM Libraries' transformation accelerated. However, the leadership faced a new challenge when the Director, STEM Libraries accepted an offer at another institution in 2017. Nonetheless, the team moved forward with formulating a vision, wrote and updated position descriptions, and advertised to fill two vacant librarian positions. Upon the departure of the director, the associate director was promoted to interim director to ensure stability and consistency with the plan that was previously developed. As it turns out, the evolution of the STEM Libraries had to be designed and implemented in a more flexible way in order to accommodate all the changes.

I. Warm-up Phase

STAGE 1: ESTABLISHING A SENSE OF URGENCY

The sense of urgency as defined by Kotter (who looks at organizations through a more competitive lens, i.e. companies operating in a for-profit context have a different sense of urgency than libraries) was not the driving force behind the STEM Libraries' changes. The changes envisioned were a response to the shifting needs of STEM scholars and the changes in personnel in the libraries. The changes coincided with a larger divisional rethink. The RLS organizational structure was developed in prior years by a leadership team no longer in place, and thus the organization was due for a rethink. The departure of key figures in RLS leadership positions created an opportunity to

review and update the internal organization. The process that emerged was intentionally titled “the evolution of RLS” to make it clear that this was not a reorganization for the sake of change, but rather a deliberate process to move the organization forward, to create the next model to serve scholars in the best way possible, and to get the library future-ready.

The evolution of the STEM Libraries was included in and aligned with the evolution of RLS. However, one driver of the changes unique to the STEM Libraries was a period of short staffing that needed to be addressed in order to keep the libraries functioning. The short staffing was a result of staff leaving the organization, which presented challenges as well as opportunities. One major challenge was that the entire team, irrespective of title and formal job responsibilities, had to pitch in to run the day-to-day operations of the STEM Libraries. This in turn caused major setbacks in progress toward the goal to increase the scholarly support and engagement with STEM scholars. Thus, STEM Libraries staff were willing and eager to find solutions for their problems in connection with the RLS evolution.

STAGE 2: CREATING THE GUIDING COALITION

The guiding coalition was born out of a shared understanding between the Director, STEM Libraries, the Dean of Libraries, the RLS associate dean, and the RLS leadership team. Discussions over time between the different coalition partners established an understanding of needs, strengths, weaknesses, and opportunities for the STEM Libraries.

In order to develop the vision and plan for the evolution of the RLS and STEM Libraries, the guiding coalition consulted many different stakeholders. However, the majority of the planning and design was in the hands of the RLS leadership team, which included the director and associate director of the STEM Libraries. This leadership group actively engaged among themselves at regular weekly meetings and during special retreats. It is important to note that the changes considered by the STEM Libraries needed to be discussed at the RLS division level since the strategic plan to evolve RLS would produce division-wide decisions and consequences. The key objective for all meetings was to maintain communications and provide ample opportunities for participation and input. In addition to conversations at the RLS leadership level, the RLS associate dean frequently communicated with the dean and peers at the associate dean level. This was done to create opportunities for advice, to inform other stakeholders, and to advocate for the resource needs of RLS. Further, the changes needed in the STEM Libraries were informed by the library’s strategic planning process, which was also taking place.

In the STEM Libraries, an important coalition was formed with the hire of the STEM Data and Research Librarian in 2016. The librarian was from a different group in RLS and already had experience with the STEM disciplines. Having worked closely with the Director of STEM Libraries in his previous role in providing data management support, the new STEM Data and Research Librarian was familiar with the values and vision for the STEM Libraries and eager to help achieve the goals. The coalition of the new librarian with the director led to alignment in leadership and opened up capacity for designing and implementing the changes.

STAGE 3: DEVELOPING A VISION AND STRATEGY

The FSU Libraries' strategic planning process, which started in 2015, identified the STEM Libraries as an area for development. The STEM Libraries were charged with increasing the level of service provided to scholars in STEM disciplines as a priority. In late 2016, a library committee was formed to determine future growth areas for library services and programs for STEM scholars and to advance FSU's leadership in scientific research and education.¹ The group applied the SWOT (strengths, weaknesses, opportunities, and threats) approach to analyze the challenge above. This inquiry identified two weaknesses that were obstacles to increasing the level of support the libraries offer to STEM scholars. One was the relatively small staff of the STEM Libraries, and the other was the fact that the STEM population on campus was relatively unaware of current library services beyond activities in the science library. These two challenges were related to one another. Being charged with operating two library facilities, the team was not adequately staffed, and thus everybody had to pitch in to ensure the library was open and available to patrons. This in turn meant that attention was diverted to administrative tasks, and outreach and user engagement were neglected. As a result, the librarians did not have the capacity to make the campus aware of the resources and programs already available to them, such as research data management and scholarly communication support.

In the summer of 2017, the committee identified six strategies to address the research and learning needs of STEM scholars. Of these six strategies, half were related to outreach and engagement:

1. Raise awareness within FSU community about the library services and programs already available to STEM scholars;
2. Build and strengthen relationships with key stakeholders in FSU community to better serve the research and learning needs of STEM scholars; and
3. Increase levels of outreach and engagement to international students in STEM disciplines.²

The committee's final report made two recommendations to aid in achieving the stated goals. The first was related to the focus on cross-functional teams to work toward unique and emerging areas such as research data management and open educational resources. Much of this structure was already in progress at the STEM Libraries, and the committee recommended continuing in that direction. The second recommendation was drafted with the understanding that a larger unit-wide reorganization was forthcoming. In agreement with the future direction of the RLS division, the committee recommended merging the building, circulation, and access management of the Dirac Science Library and the FAMU/FSU College of Engineering Library into the management structure of Strozier Library, which is the main library on campus. This would allow the smaller team of STEM librarians to focus on user engagement and better meeting the needs of STEM scholars.

STAGE 4: COMMUNICATING THE CHANGE VISION

The big test for the vision came in August 2017 when the RLS leadership team organized a special all-staff meeting. At that time, the larger vision for the RLS evolution was

communicated for the first time. The approach of having a large all-staff meeting was intentional. Many of the librarians and staff had been aware of upcoming changes, but details were scarce as much of the plan was in development. Some on the team embraced the change, some were ambivalent, and some struggled with the uncertainty. The best way to share the plan and to make sure all heard the complete message at the same time was by calling this all-staff meeting. During the meeting, a slideshow provided clarity on the evolving structure and the changes that were coming. The slideshow was later distributed to make sure all had access to the same source documentation. The presentation was followed by a live Q&A with the RLS leadership team.

The next step was for the STEM director to further explain and share the plan for the evolution with the team and to engage them in conversations so that their hopes and concerns could be heard. The change vision for both RLS and STEM Libraries was communicated through multiple forms of communication to facilitate discussion and gather feedback from everybody. These methods included weekly direct report meeting times which were utilized to communicate strategy and vision and proved useful because individuals were often more comfortable providing feedback in this more intimate setting rather than in a group. The STEM Libraries team also came together weekly and was kept up-to-date during team meetings. During these meetings a team-wide discussion took place to provide opportunities for all to share. By holding weekly meetings, an opportunity was provided for those who wanted to take the time to process the information between meetings to then be able to follow up at the next meeting.

All feedback, even if it challenged the vision, was encouraged and considered. This was largely because the team was empowered to think about the upcoming changes critically and not to keep negative feedback to themselves. Direct report meeting times were used to collect feedback on the plans for change in the STEM Libraries and also to highlight opportunities provided by the RLS changes. This method allowed the achievement of higher levels of credibility and trust between the RLS leadership team and the STEM team. One example where this trust was critical was in the efforts to consolidate the STEM service points into centralized management. As the vision and plan were evolving, many questions remained unanswered and the impact on the STEM Libraries was not quite clear. The STEM Libraries understood that the department heads in RLS were developing a strategy for consolidating library service points. The impact on the STEM Libraries team was not entirely clear, including what types of staffing changes would be necessary for an effective library-wide consolidation. However, due to the level of communication and trust established, concerns were surfaced along the way and considered in the final plan.

II. Introducing New Practices Phase

STAGE 5: EMPOWERING BROAD-BASED ACTION

Empowering broad-based action at the STEM Libraries level required aligning organizational structure with the new vision. The clearest need for organizational realignment was consolidating the library operations and service desks into one unit, which in turn empowered the STEM librarians by freeing them of the responsibility of managing the day-to-day operations of the libraries. With this newly freed-up time, the entire STEM librarians team agreed to a narrowed focus on user engagement and outreach toward

the undergraduate population in STEM disciplines. This was due to an identified lack of undergraduate student engagement and in line with the recommendations that had been made in a previous Libraries strategic planning exercise. In particular, assessment showed that students beyond general studies courses were difficult for the STEM librarians to reach, and thus a deliberate effort was made to approach them.

As the service model was changing and the librarians were focusing on engagement, some challenges occurred. The changes that were happening at the staff level in the organization to consolidate the building and service points management were not moving as quickly as originally anticipated in the STEM libraries. This caused frustration for the library faculty, including the director, because they still had to open and close the building and perform other staff-level jobs while changes in other departments were taking place. However, open lines of communication were set up to explain the delays in achieving the plan. While this did not solve the problems immediately, it did help to alleviate some of these frustrations while the work to implement the changes continued. During this period of change another challenge was that although the vision for change had been explicitly stated, it took some adjustments in expectations to get to implementation. In some cases, the staff were now reporting centrally while still located at the STEM libraries which led to some confusion about the role of the librarians who were previously their managers. This was further compounded with the librarians who were also adjusting to the new model and had to figure out how they were to interact with the circulation desk going forward. There were certainly growing pains, but they were necessary for the evolution of the STEM Libraries as well as the broader RLS division. There were most certainly going to be slips and falls along the way, but empowering the new STEM Libraries team to learn from their mistakes was critical in achieving organizational change.

By spring of 2018, most of the changes to the organizational structure and position descriptions were finalized, which allowed STEM librarians to focus on working toward engaging STEM scholars, since they were now relieved of the responsibility for facilities or circulation services in the Dirac Science Library and Engineering Library. This allowed the director to challenge his team of librarians to spend approximately 25 percent of their time engaging STEM scholars in new ways. Librarians started attending departmental seminars and set up offsite office hours in the College of Engineering as well as in research centers such as the High Field Magnetic Laboratory and the Center for Advanced Power Systems.

STAGE 6: GENERATING SHORT-TERM WINS

One noticeable achievement resulting from the organizational change was the improved work-life balance of the two STEM librarians. Due to not having to worry about opening and closing a building that was open seven days a week reduced the number of hours they were required in the libraries. This sense of relief was an easily identifiable short-term win and energized them to continue toward achieving the strategic objectives of increasing scholarly engagement with the STEM libraries. This change also benefited their work and personal lives, which was also seen as a short-term win. As the team grew and two previously vacant librarian positions were filled in early 2018, the expanded team focused on outreach and engagement. At the time of

this writing, the number of research consultations and instruction sessions in STEM disciplines has increased almost four-fold from the previous year. This is a significant win for the team and continues to motivate them to find new ways to engage STEM scholars.

Another short-term win was the service point consolidation. Moving the traditional circulation and access portions of the STEM Libraries' portfolio into a different part of RLS, which was created to focus on these areas, increased the capacity of the STEM librarians to achieve the aforementioned goal of increasing engagement with scholars in STEM disciplines. It also helped the STEM librarians to reach equal status with their colleagues in the social sciences, arts, and humanities (SSAH). The Associate Dean for Research and Learning Services as well as the STEM Libraries director shared areas of success achieved by the SSAH librarians, a team tasked with providing subject librarian and collections support for the SSAH disciplines, which served as motivation to gain departmental buy-in.

While there were plenty of other achievements in the STEM Libraries, we encountered challenges with finding assessments to measure how we did with regards to accomplishing the goals. Broad initiatives such as the strategic plan goal to "engage the STEM scholarly community beyond the walls of the library" are lofty charges, and libraries are not well equipped to assess their success beyond measuring transaction data. Moving forward, the STEM team is developing departmental and individual goals and finding metrics and tools to measure their accomplishments.

STAGE 7: CONSOLIDATING GAINS AND PRODUCING MORE CHANGE

As the RLS—division and the STEM Libraries experience short-term success as a result of significant organizational change, it is important to support these changes so that the STEM Libraries can continue to provide increased levels of engagement with scholars. Establishing measurable goals moving forward is an important part of grounding this change. Additionally, these goals will include challenging the team to aim higher and set loftier expectations for themselves. Challenging the STEM Libraries team to move forward with larger projects and initiatives has largely been met with enthusiasm. For example, in collaboration with other departments in RLS as well as the libraries, a climate science symposium is being planned for the upcoming school year that involves partnerships across campus, including FSU's Office of Faculty Development and Advancement and Office of Sustainability. Moving forward into the next academic year, the STEM team has exciting projects and initiatives planned to better meet and exceed the needs of STEM scholars.

The process of the RLS evolution is ongoing. As a result of the new service model and the changes that have taken place, many job descriptions have been reviewed. The review has often been triggered by one of two main causes. One cause is when positions are vacated. Every position is carefully reviewed before posting in light of the current service model and the new set of expectations. The second is that all staff positions have been systematically reviewed in order to ensure that the job descriptions and classifications are appropriate in the new service model. In most cases this has led to an upgrade in status, responsibilities, and compensation. This is important since the team

at all levels is being challenged to contribute and help improve services for our scholars, and the organization has been able to reward and recognize the team for their efforts.

III. Grounding Phase

STAGE 8: ANCHORING NEW APPROACHES IN THE CULTURE

The focus on providing better services to STEM scholars remains, and the STEM team is actively working toward increasing user engagement and reaching out to potential users of the libraries. Forward movement in the evolution of RLS and STEM Libraries has aided the ability of the STEM librarians to spend time meeting scholars in their labs, classrooms, and offices. An important component of leading change moving forward is the anchoring of the new work approaches. Part of anchoring new approaches in the culture of the department and the evolving goals includes intentional partnership building with units, departments, and teams across the libraries so that we, as a library organization, can better meet the research and learning needs of STEM scholars across the entire research life cycle. This partnership building includes partnering with social science and humanities librarians as well as FSU's Office of Digital Research and Scholarship to provide comprehensive and interdisciplinary support in areas such as library instruction, digital pedagogy, and open educational resources.

While many of these approaches are structural, some are more symbolic and are representative of the overall evolution of the unit. For example, at the time of writing, a departmental name change from STEM Libraries to STEM Research and Learning Services is being considered in order to more accurately portray the services and support that the evolved organization provides. Such changes allow the organization to better tell the STEM Libraries' story so that it can further engage with STEM scholars.

Analysis and Conclusions

The FSU STEM Libraries' story is framed in the context of the Kotter model, but it is important to note that the changes discussed in this chapter did not happen in the same sequence as the Kotter model presents them. For example, much of the development of a vision of the STEM Libraries took place during the same time as what was described in the sense of urgency section. Much of this is because the changes envisioned at the RLS level were developed to meet emerging needs rather than responding to a crisis. A further note is to highlight that the chapter was written to capture the different perspectives that informed the design of the evolution. In other words, there was an interplay between the RLS divisional perspective, which highlights some of the bigger picture thinking, and the STEM Libraries perspective, which illuminates the thinking of the leadership of the STEM Libraries at FSU. It is hoped that sharing these two perspectives will give the reader better insights about the decision-making that happened at the respective levels of the organization.

It is too early to close the book on the evolution and provide a complete analysis. As far as evolutions go, this one is ongoing and will continue for a long time. That is the case because the organization has deliberately decided to employ an agile approach in its development.

Here are some of the key takeaways:

1. Communication is key. Finding as many outlets and opportunities as possible to communicate with the various stakeholders was essential in developing buy-in. That being said, communications have to be clearly articulated. Also, it is helpful to be clear whether the communication is merely providing information or is asking for opinions. Furthermore, there are many mediums and formats for communication, and utilizing them effectively is key to reaching different stakeholders.
2. Changes in organizations can be initiated by many factors. In this case, the changing leadership in the STEM Libraries provided the perfect context for the evolution of the team and the service model.
3. Aligning work with personal and professional interests creates higher levels of motivation for participants, making change easier to accomplish.
4. It is important to create an organizational structure and culture that is flexible enough to meet the evolving needs of scholars. It is even more important to express the need for flexibility to employee teams so that the group can achieve a shared vision for organizational change.
5. The work has just started and will be ongoing. As the STEM Libraries enter the grounding phase of organizational change, it is a continuing challenge to stay ahead of the changes and adjust the organization and staffing accordingly. Constant reevaluation and checking in is incumbent on us in order to motivate the entire team.

Notes

1. Rachel Besara et al., “STEM II Balanced Scorecard Initiative: Final Report,” September 18, 2017, STEM II BSCI (FSU), Open Science Framework, <https://osf.io/5npxh>.
2. At the recommendation of the entire STEM Libraries, this focus on user engagement and outreach was shifted toward the undergraduate population in STEM disciplines. Language for these goals has been modified from the original text in the publicly available Open Science Framework project page, <https://osf.io/5npxh>.

Bibliography

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