The Benefits of Hosting a Poster Competition in an Academic Library

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Students preparing for careers in the sciences benefit from learning to communicate scientific information. Poster competitions give students the ability to practice written and oral communications skills. Over the last five years the Harold B. Lee Library has hosted a life sciences undergraduate poster competition. Here we share our experience hosting a traditional in-person competition and a virtual competition adapted in response to the COVID-19 pandemic. We also discuss survey feedback we received from participating students. Our program illustrates how academic libraries can foster the development of scientific communication skills and promote information literacy through a student research poster competition.

Introduction

Academic libraries have been described as the heart of a university campus and could also be viewed as the mind and memory of their sponsoring institution. As champions of information literacy, libraries are well positioned to promote and teach scientific communication skills through various avenues. Hosting poster competitions is one way that libraries can effectively sustain their role as a learning environment focused on good scientific communication. Exercising its strength as a central and neutral place on campus, the Harold B. Lee Library at Brigham Young University has hosted a life sciences poster competition for undergraduate students since 2015. This competition has been an ongoing collaboration with the College of Life Sciences, which aims to engage undergraduates, faculty members, and the campus library community. This collaboration created opportunities to (1) provide a venue for life sciences undergraduate students to showcase and discuss their research with faculty members and other students, (2) encourage undergraduate students and their mentors to come to the library, and (3) promote the library as a place where scholarly discussions take place.

The library forged the collaboration with the College of Life Sciences and has maintained sole responsibility for judging the posters and associated in-person presentations. The first competition displayed fifteen posters and has since grown into an event with as many as fifty-eight posters. In 2020, the library did the "COVID-19 pivot" and quickly transitioned the competition into a virtual event because the pandemic shut down in-person campus events.

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The 2021 competition was designed as an entirely virtual event, implementing lessons learned from the previous year's virtual design.

Literature Review

Poster competitions have been a staple of academic conferences, especially in STEM fields, since the 1970s.[1] Often poster sessions are the first foray many undergraduate and graduate students make to engage with colleagues in their disciplines, thus increasing "self-confidence and …develop[ing] their own academic voice."[2] These forays have encouraged participants to explain their research to a broader, nonspecialist audience and foster communication of new research, all the while increasing their own understanding of the subject discussed in the poster.[3] Some academic institutions have implemented practice poster competitions with cash prizes that skillfully mimic the atmosphere of a bona fide scientific conference to ease the pressure of presenting for the first time.[4]

Physical poster presentations at conferences are standard fare; however, some conferences have experimented with different formats with moderate success. Robert E. Belford, Matthew Stoltzfus, and Justin B. Houseknecht reported that the 2014 online ConfChem conference featured a virtual poster session.[5] Halfway through the conference, the organizing committee extended an open invitation to attendees to submit an online poster on their current research and experience with flipped classrooms, the topic of the conference. Unfortunately, this pioneering effort resulted in only three submissions. In another variation, Edward P. Randviir et al. described the "world's first Twitter poster competition"[6] where delegates submitted their posters as pictures with an associated hashtag. The hope was that social media outlets would increase the amount, duration, and quality of the scientific discourse, which would persist well beyond the conference. Though this proof-of-concept experience was successfully carried out, not all the competition's primary goals were met, and such an effort has not been replicated since. It appears that meeting in-person is still the most accepted or comfortable format for poster sessions.

In recent years, poster sessions and competitions have become a viable pedagogical method in classrooms.[7] According to Maxine E. Bernreuter, "Poster presentations are consistent with adult education theory, help students to synthesize new knowledge, and relate theoretical knowledge to practice. In general, poster projects are viewed positively by students, encouraging them and others to appreciate their work."[8] Often, poster presentations can replace a class assignment such as an annotated bibliography,[9] term paper, or in-class oral presentation.[10]

Coupled with poster presentations is the opportunity for the presenter to speak with others who have come to read the poster and interact with its author.[11] Whether in the classroom or the conference hall, talking about one's poster to others strengthens the presenter's ability to understand their own work and requires good verbal communication skills. These minitalks are akin to Three Minute Thesis competitions, which are common on many campuses where "the stress is on audience: the content, delivery, and personal involvement of the speaker should all be geared towards recontextualizing their research so as to make it clear, interesting, and meaningful for their audience; oratory and communication skills are of prime importance."[12] Online or electronic poster sessions remove some of this face-to-face discussion and replace it with an offline dialog that may produce more in-depth questions but may also eliminate some of the serendipitous discovery from open verbal discussion.[13]

Though recognized as a center of learning with a central purpose to provide, store, and retrieve information, the library is also involved in scientific communication literacy such as sponsoring research poster competitions, a role that has not been extensively researched. However, a survey of 326 academic library respondents indicated that 43.1 percent said that their library "host[ed] undergraduate research symposia and poster sessions either on their own or in conjunction with other units on campus."[14] A few articles describe the efforts of other libraries to engage with the rest of the academy to facilitate scientific communication literacy. Michelle Reed and Merinda Kay Hensley describe how they engaged undergraduate students in their institution's Image of Research competitions.[15] This innovative, library-led competition coupled the research that undergraduates were doing at the university with scientific communication skills. Students submitted a single image representing their research or research process, along with some brief text explaining how the image related to their research. Brett Sutton described a case study where library school faculty from the University of Illinois Urbana-Champaign taught an undergraduate course on science literacy, including scientific communication, and ways of knowing via the scientific method.[16] Richard E. Lucier examined the library profession's effort to push against its traditional role of knowledge storage and retrieval and become more integral to the scholarly and scientific communication enterprise through knowledge management and expertise.[17] In a recent article, Peter Reuter and Andreas Brandtner noted that "the growing significance of support for research activities underlines the need for improving the academic qualifications of library staff that must draw on professional skills in direct contacts with researchers."[18] With an expected increase in qualifications for academic librarians comes an opportunity to support areas of scientific communication, such as sponsoring research poster competitions. Hence, science librarians at Brigham Young University's library partnered with the College of Life Sciences to provide opportunities for undergraduate students to learn and improve their scientific communication skills in an annual undergraduate research poster competition.

Poster Competition Description

The poster competition that we, the science librarians, have provided is a yearly collaboration between the university's main library and the College of Life Sciences. We recognize the value for students to practice creating scientific research posters and verbalizing their research findings in an engaging and professional manner. The four main objectives of the poster competition are as follows:

1. Provide undergraduate students with the opportunity to develop and refine their scientific communication skills.
2. Give student participants constructive feedback on their poster design and verbal communication skills.
3. Highlight and promote research that is being conducted by students with faculty mentors in the College of Life Sciences.
4. Establish the library as a hub of scholarly activity on campus for both students and faculty.

As part of this collaboration, the College of Life Sciences has promoted this event to students and faculty in the college and has provided partial funding for the prize awards. Promotional activities have included targeted emails to teaching faculty, advertisements in the college newsletters to staff and students, digital signage on monitors in prominent locations

in college and library buildings, and announcements in classes. The library has provided the venue for the event, registration and submission logistics, poster and presentation adjudication, poster design workshops, refreshments for the open house, and the remaining funding for prize awards.

Judging Criteria and Prize Awards

One of the first steps in the planning process for the poster competition was to determine the judging criteria and the prize awards. Initially, we created judging criteria only for the physical posters. These criteria were based on rubrics for other poster competitions that we located online. Judging criteria were divided into three general categories: organization, appearance, and content. Each category had five or six five-point Likert-style questions. As part of the poster judging, we also provided students with several concrete examples of their posters' strengths as well as areas that could be improved. The complete judging rubric for the poster design is available in appendix A. After hosting several poster competitions, we decided to include the oral presentations in the competition judging. At first, we simply provided feedback to student participants about their presentations using handwritten paper forms, commenting on their strengths and the areas that needed improvement. In later years, we included specific judging criteria for the oral presentations and judged them separately from the poster design portion of the competition using several five-point Likert-style questions (see appendix A). We transitioned from the paper judging forms to Google Forms with prepopulated, drop-down menus for poster titles to capture scores and feedback for both the poster design and oral presentation elements of the competition. Using Google Forms greatly streamlined the judging process and reduced the time needed to tally scores. It also eliminated the need to transcribe judging feedback on the strengths and areas that needed improvement for poster designs and oral presentations. During 2020 and 2021, the poster competition transitioned to an online event where we asked student participants to submit a three-minute video recording of their oral presentation along with an electronic version of their poster.

For the poster judging, the three authors of this article judged each of the submitted posters using the predetermined rubric. We calculated each poster's final score by averaging the scores from each judge. If two or more posters received the same score, we reevaluated these posters to make a final determination. We also adjusted individual judging scores, if necessary, when one score was out of line with the other two judges. We would also conduct what we referred to as a "gut check" of the final poster scores to ensure that the winning posters truly merited an award when compared to those just out of ranking. Poster judging took a substantial amount of time. Judging commenced as soon as the posters were hung and displayed, typically two weeks before the open house.

For the oral presentation judging, we enlisted the help of fifteen to twenty other library employees to provide feedback and to use the predetermined rubric to assign presentation scores. These volunteers did not need to have a specific background in the life sciences because student participants were prompted to create their posters and oral presentations with a general academic audience in mind. We provided each of these volunteers with an explanation of how to apply the rubric to the judging. All oral presentations were viewed and evaluated by three to four judges. We averaged the scores for each oral presentation to determine the preliminary rankings. Based on the high tendency for tied scores and the greater variability in judging, the three authors reevaluated the oral presentations that were ranked in the top

ten using the same rubric. Then, we averaged our scores to determine the final winners. We did not provide students with the raw scores for the posters and oral presentations, since we did not feel that this information would have been as valuable to them without the context of all the other participant scores. However, we did provide each student participant with feedback on the strengths and limitations for their posters and presentations. We proofread all judging feedback and made minor adjustments, if needed, to improve clarity and content before emailing the comments to student participants.

To incentivize student participation, we provided prize awards for the competition winners. Initially, we provided prize awards to the top three poster winners in the form of $100, $150, and $200 gift cards. We expanded the prize awards in subsequent competitions to include the top three oral presentations using the same dollar prize amounts. During the 2020 and 2021 competition, we tried to engage the audience with the inclusion of People's Choice awards for the top poster and oral presentation. Because of some logistical challenges of an online event, we transitioned the People's Choice awards to Peer Choice awards, where only competition participants were able to vote for their favorite poster and oral presentation (no self-votes).

Poster Competition Website and Registration

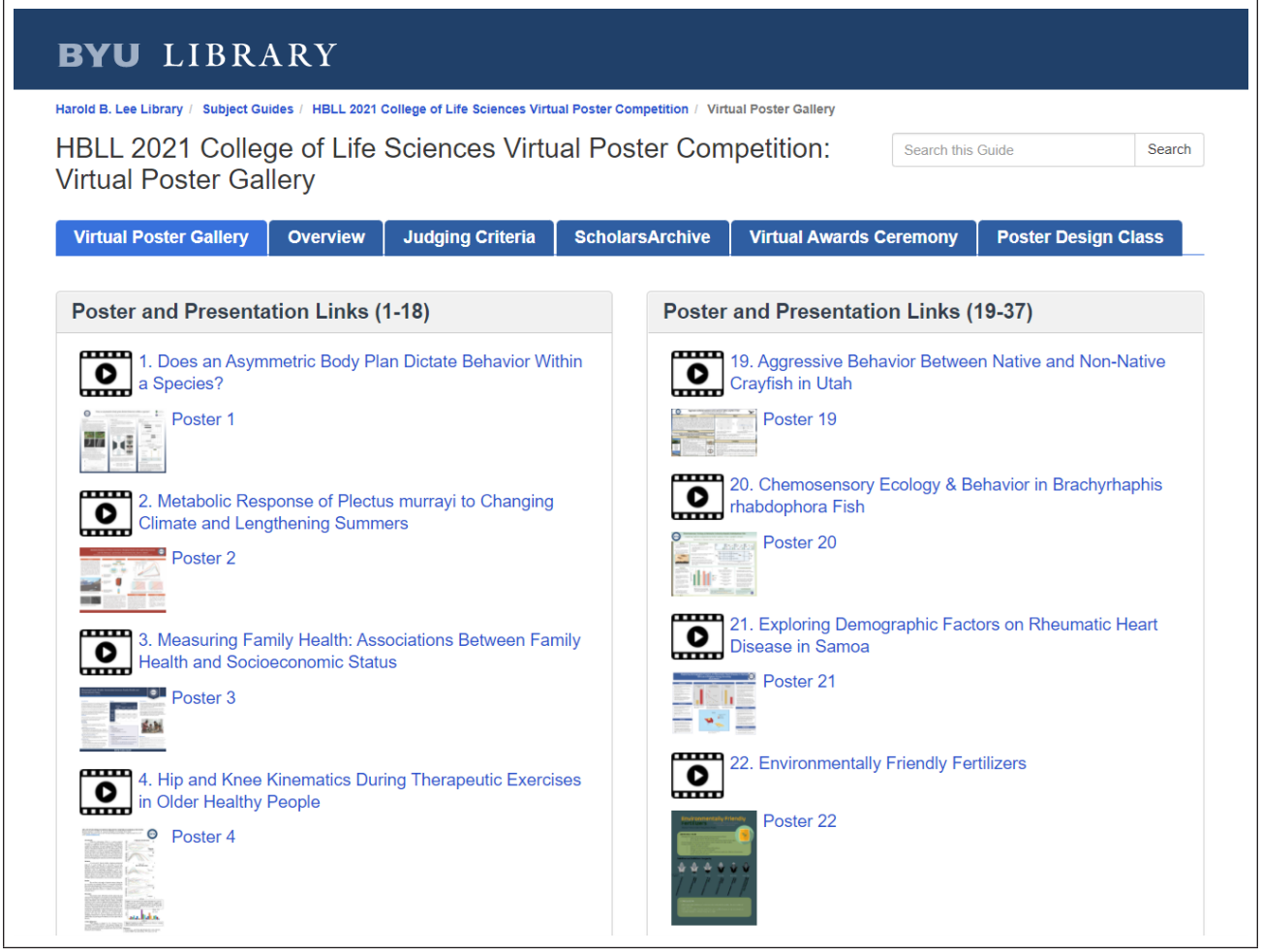
We used SpringShare's LibGuide platform to host the poster competition website.[19] On the website, we provided general information about the competition, including the prize awards, judging criteria, the poster design workshops, and the online registration. We also provided information about our institutional repository, ScholarsArchive,[20] and explained how student participants can upload their submitted posters to this open access repository. All uploaded posters from each of the competition years are available in a single collection in the institutional repository.[21] During the 2020 and 2021 competitions, we also included a virtual poster gallery on the competition website (figure 1) where digital copies of the posters and oral presentations were available for online viewing, along with a link to a recording of the virtual awards ceremony.

For the competition registration platform, we used Google Forms. This platform was easy to use and familiar to most student participants. As we have streamlined the registration process from year to year, we have refined the information that we require during the registration, particularly to help gather the necessary metadata for submissions that will be uploaded to our institutional repository. This metadata includes the poster title, three to five keywords, and the student's faculty mentor, year in school, and major. One of the most helpful changes with the online registration has been that we have received all the necessary license agreement approvals from students at the time of registration to upload their posters to the institutional repository. Since all student participants were required to submit a digital copy of their poster, this modification has greatly increased the percentage of posters that have been uploaded into the repository and, overall, has simplified the uploading process for both students and library staff.

Poster Displays and Open House

Each year we have between twenty-five and fifty-eight poster submissions. We wanted to be able to display them in a prominent location that could also serve as the venue for the in-person open house. We decided to hang the posters within the library in a long hallway

FIGURE 1
Virtual Poster Gallery on the Poster Competition Website



that received substantial foot traffic. This location was also wide enough to accommodate the visitors for the competition open house (figure 2). Each of the posters were attached to the wall using Velcro command strips and a cardboard pattern to ensure evenness of the poster placement. Posters were displayed for a period of three weeks. During the years we had in-person events, we provided light refreshments and invited students, faculty, and other library patrons to participate in a two-hour open house. Each of the student participants were required to stand by their posters to interact with open house guests and explain their research projects.

The oral presentation judging took place during the first hour of the open house. During the second hour, we quickly tabulated the oral presentation judging results so they, along with the poster judging awards, could be presented at the conclusion of the open house. One of the greatest benefits of the in-person open house was that students could practice explaining their research in a concise, easy-to-understand manner. A recurring positive comment that we heard from student participants was that they could talk to many people about their research and practice their scientific communication skills.

During 2020 and 2021, we transitioned the open house and display gallery to an online event because of the COVID-19 pandemic. All posters and three-minute video recordings were made available on a virtual display gallery on the competition website. In many regards, the

FIGURE 2
Undergraduate Student Participants Interact with Faculty and Other Students in the Poster Gallery Hallway During an Open House Preceding an Awards Ceremony

virtual display gallery made judging both the posters and the oral presentations much easier. Judges had a longer time to view the posters and presentations. The presentation judges were able to view the exact same video for each presentation, improving judging consistency. We were also able to promote the posters and presentations to a larger audience beyond our campus borders. However, we also missed much of the energy that comes with an in-person event. Moving forward, we intend to keep the best elements of both the in-person and virtual events, such as hanging the posters in a physical space in the library and hosting an in-person open house, as well as creating a virtual gallery for posters and video presentations.

Poster Design Workshops

As part of the competition, we hosted a series of workshops on effective poster design. These workshops covered basic design principles, tools, and tricks that students could use to create their posters. Originally, these workshops were held in person in the library, and we would average a handful of participants in each session. Because of the pandemic, in 2021 we transitioned these workshops to an online tutorial.[22] One of the benefits of the online tutorial was that we could reach a much wider audience, resulting in over 100 page views for the 2021 competition.

Student Survey 2021

After the 2021 competition, we sent a survey (appendix B) to all student participants in order to assess their perceptions of the program and to help us determine the elements of our virtual competition that we should incorporate into future in-person competitions. The digital survey included a mix of questions, such as Likert-scale choices (one to five), select-all-responses-that-apply questions, and open-ended questions. Participants were given a five-dollar reward for participating, which resulted in a seventy-three percent response rate (twenty-one responses out of thirty-seven participants). We obtained institutional review board approval so that we could share the results of this survey.

We found many of the responses informative and useful in helping us improve future competitions. For example, sixteen of the twenty-one respondents learned about the competition from faculty mentors (figure 3). Professors were the most effective advertising method by a considerable margin. This information is encouraging because it implies that many faculty see value in the competition and promote it to their students. Because of this feedback, we will increase our future promotional efforts toward life sciences faculty. This response has also encouraged us to seek feedback from some of the faculty mentors whose students participate each year. It will be helpful to learn what it is that faculty value about the competition.

Another result we found encouraging was the motivation that respondents indicated for participating in the competition. We assumed that prize money was a strong factor in motivating student participation, but we found that it was the second least-selected option (figure 4). Instead, far more respondents were interested in how the competition would help them improve their skills or prepare them for future presentations. We infer from these responses that students see value in the experience regardless of whether they win a

FIGURE 3
Professor Referrals Were the Most Effective Advertising Method

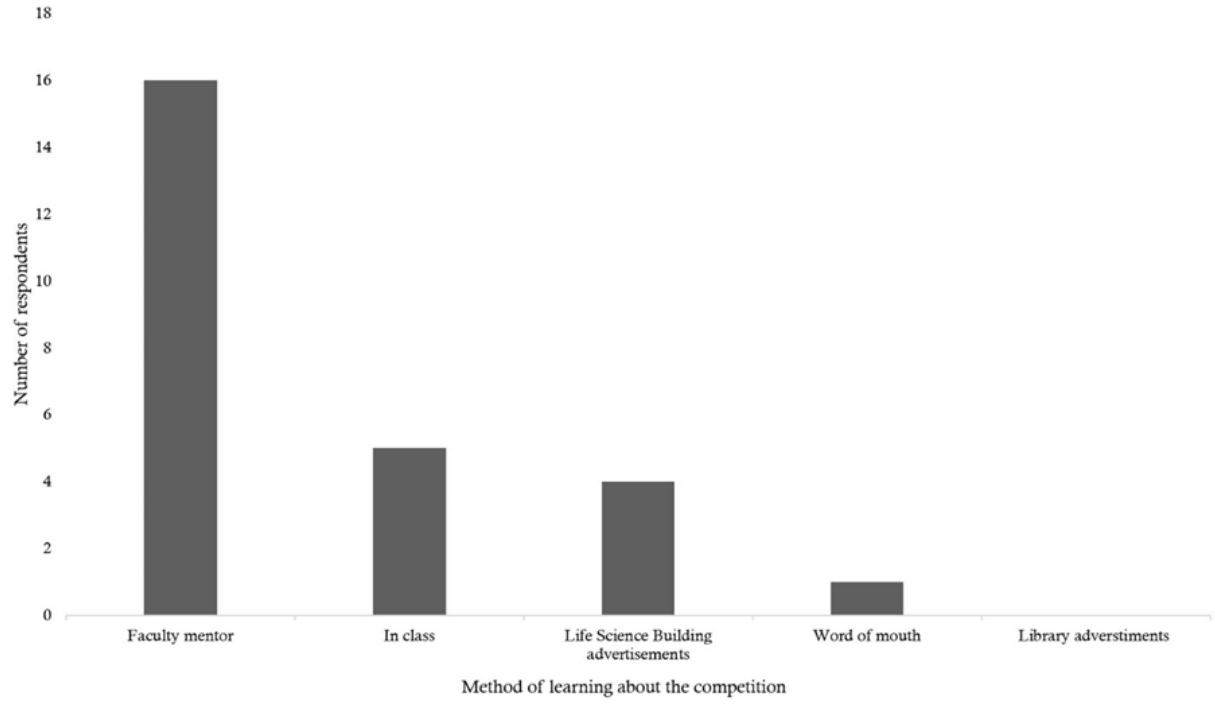
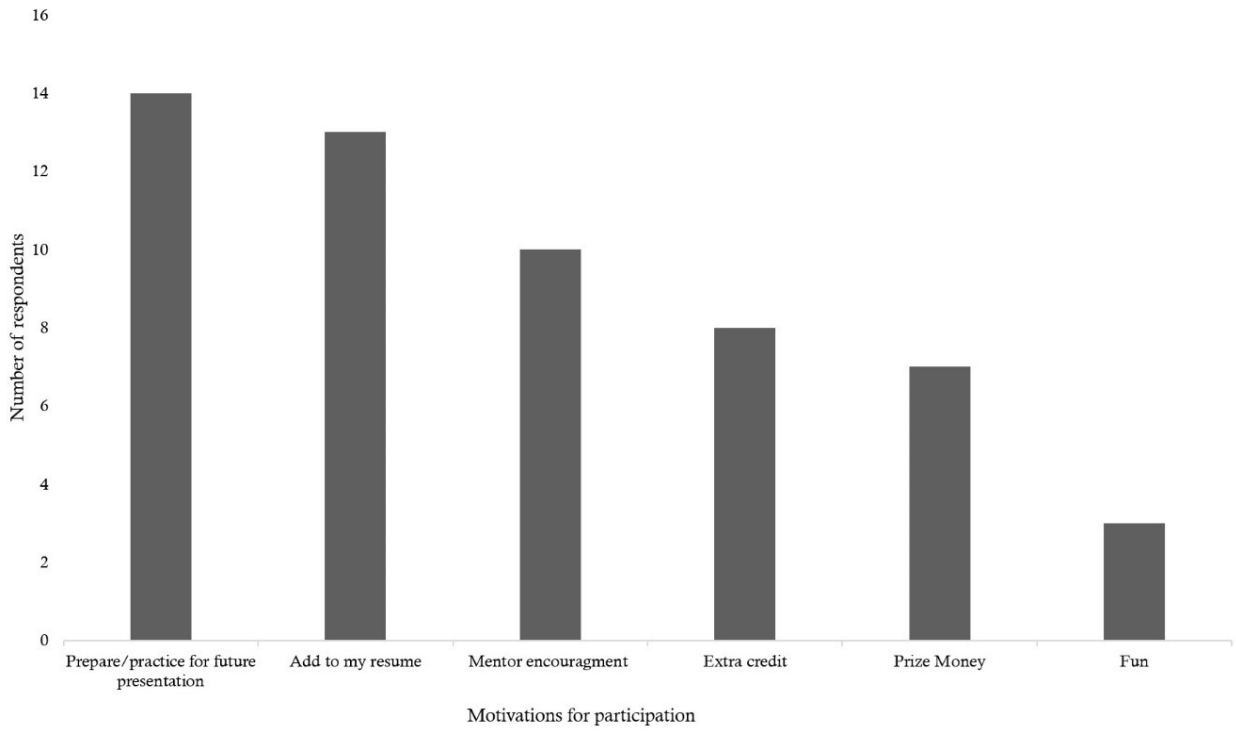


FIGURE 4
Responses Related to Self-Improvement Were the Highest Motivators for Participation



prize. While we plan to continue giving prize money in the future, we do not see a strong need to offer more or larger prizes.

Each year as judges, we spend a considerable amount of time writing constructive feedback on both the poster design and the oral presentation. We have felt like this feedback is a valuable part of the program, but we wanted to ascertain whether students considered it helpful. While not unanimous, ninety percent of students surveyed found the written feedback on their poster designs to be at least moderately valuable. The response for the oral presentation feedback was slightly lower (86%) but still a substantial majority. Seventy-one percent of those students rated the feedback very valuable for the poster design and 57 percent for the oral presentation. We found this encouraging enough to continue providing this service.

We know that several students have submitted posters that had been prepared for other venues, such as conferences specific to their field of study. We support these dual-submissions because much of the value in our competition involves the opportunity for students to orally communicate their research to a wide audience. The competition also exhibits to passersby the breadth of research being done by undergraduate students. We wanted to know how many students were creating posters specifically for our event and whether our judging rubric or design video influenced their design. Based on survey responses, we found that approximately two-thirds of participants created their posters specifically for our competition. Of the fifteen respondents who did, just over half used our rubric in their design. These numbers were somewhat lower than expected. It is possible that winning the competition was not a high priority for many students. It is also possible that the rubric was not in a prominent enough place or was not clear enough for students to follow. For future competitions, we will reevaluate our rubric for clarity and ensure that it is more prominently displayed on our competition website[23] for participants to access. Of those participants who submitted a poster that was originally

made for another event, two of seven made changes in response to our judging rubric. This number was closer to our expectations.

As described earlier, we created a video to share basic poster design principles and asked participants whether they viewed the video. Although just fewer than half of respondents watched the video, this number was a considerable improvement to the number of participants that attended our in-person design classes in previous years. Of the ten who viewed the video, nine found it helpful. In the future we intend to continue providing this online training and may supplement it with additional materials.

We saw some general themes emerge in student responses about the aspects of the competition that they found frustrating or difficult. There was some difficulty in uploading presentations, with more than one respondent expressing a desire to be able to go back and edit the submission or upload an updated version. This aspect about submissions is something that we can improve for future competitions. A concern that is less easy to address was that viewing posters and listening to presentations online was less enjoyable than in an open house. While it is useful to have online access to posters and presentations in addition to an open house, the virtual aspect cannot take the place of an in-person event. Several participants suggested that we hold an open house via Zoom with each presenter in their own breakout room. By allowing attendees to move freely through the room, we could have interactions between presenters and attendees. If we need to return to an online competition in the future, this Zoom event would be a positive addition and could precede the online awards presentation.

One other concern was that the poster judging focused too much on the design and not enough on the content in the text or the quality of the research. One of our primary goals with the competition has been to help students improve their skills in science communication; therefore, we have chosen to focus on poster design and oral communication skills. We feel strongly that judging research quality is outside the scope of our competition, so we may need to communicate our objectives more clearly on the competition website.

In addition to suggestions for improvement, students shared what they valued most about the competition. The most common response came from respondents who appreciated the opportunity to orally present their work, either in preparation for the future or because they did not have opportunities in other venues. Several also expressed appreciation for the feedback they received from the judges. The most striking response was from multiple participants who shared that in the process of creating their poster or developing their oral presentation, they gained a clearer understanding of their research. We see this result as a very beneficial outcome of the competition.

Conclusion

Our research contributes to the scholarly literature at the intersection of academic libraries and scientific communication specifically by providing a detailed library case study of an undergraduate research poster competition. As relatively little has been published in this area, this case study provides a detailed outline of how other libraries may consider implementing a poster competition to highlight student research and promote scientific communication skills. Libraries interested in hosting student poster competitions should carefully consider the following:

1. **Look for institutional partners to cohost the competition**. While we could have undertaken this event on our own, it has been much more successful as a partner-

ship with the College of Life Sciences. This partnership provides greater visibility to students as well as additional financial and logistical resources for the various stages of the event. Knowing this event is supported by their college, faculty mentors are also more likely to encourage student participation.

2. **Clearly articulate the main objectives of the competition and share them with participants and their faculty mentors**. Invariably, questions will arise about the objectives of the competition, including potential concerns over judging outcomes. Having clear objectives can help assuage these concerns. It is particularly helpful to have these objectives prominently posted on the competition website as well as included in registration information for participants.
3. **Create judging criteria that are mutually exclusive and easy to apply**. Development of the judging rubric is an iterative process and may take multiple modifications before finalization. It is useful to have some sample testing with the judging criteria to identify gaps or potential problems. We also found it helpful to share the judging rubric with other colleagues to get feedback on limitations or other areas needing improvement.
4. **Plan for additional time in the overall schedule to complete the various phases of the poster competition**. As with most activities of this size, we found that the poster competition required more time and effort than anticipated. This included preparing posters for display (whether digitally or in print), judging, and sending feedback to student participants. When developing a timeline for a poster competition, it is important to include additional time for unexpected delays.
5. **Develop contingency plans and be flexible when unexpected challenges arise.** While pandemic shutdowns won't always impact library activities, there are often unforeseen challenges for any public event. It is beneficial to anticipate as many of these challenges as possible and to create contingency plans in case things do not go as expected. Developing both virtual and in-person elements can broaden the outreach and impact of any poster competition, and could also buffer some of the impacts of unexpected challenges.

Future research should address teaching and research faculty perspectives on library-sponsored poster competitions. In our study, we gathered feedback from student participants regarding their experience and perspectives with the poster competition. While these perspectives are invaluable, it would also be insightful to see how their faculty mentors perceived the poster competition. We have received positive anecdotal feedback from several faculty mentors concerning the value of the poster competition for their students. Additionally, we observed that many faculty mentors regularly had student participants in the competition over successive years. This is highly encouraging as student participants reported that faculty mentor encouragement was the single most important factor in determining their participation in the competition. A more formal assessment of faculty mentor perspectives would offer the library a better understanding of those elements of the competition that are of greatest value to faculty and elucidate ways to partner with teaching faculty in providing meaningful opportunities for students to learn scientific communication skills.

The skills that students develop as they create and present a conference poster are valuable for those learning how to communicate in scientific professions. Posters remain a valuable component of scientific conferences, and they are an early access point for students to engage

with researchers in their fields. As a hub for research on campus, academic libraries are in a unique position to support students in building scientific communication skills through poster competitions. We have provided a venue at our academic library, both in-person and virtually, for students to develop their posters and presentations, which they are able to share with a large audience. In upcoming years, we will draw on both in-person and virtual experiences to create a hybrid model, incorporating the best parts of both versions of the competition.

Acknowledgements

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Appendix A. Judging Criteria for Life Science Poster Competition

POSTER DESIGN JUDGING CRITERIA

(Score 1 – low, 5 – high in each category)

Organization

1. Poster has clearly defined sections with labels, such as hypotheses, objectives, methods, results, and conclusions.
2. Each subheading has no more than one short paragraph. Bullet point paragraphs are acceptable.
3. Organization is logical with a clear flow of ideas from one heading to the next.
4. Graphics and other visuals are used to draw the reader to the most important messages of the poster and provide balance to the amount of text.
5. Posters adhere to the size standard (no more than 50 inches wide by 50 inches tall).

Appearance

1. Text font and size are appropriate for the size and format of the poster. Words are easy to read from an appropriate distance (3–5 feet).
2. Language used in each section is clear, concise, and easy to understand. Poster is free from undefined jargon.
3. Proper grammar, spelling, and punctuation are used.
4. Visuals are attractive and of high quality.
5. Poster is neat and visually appealing.

Content

1. Focus is on a well-defined problem.
2. There is a clear and concise statement of the immediate problem.
3. No unnecessary visuals are included (visuals do not detract from the main message of the poster).
4. Visuals contain sufficient information for concise and easy interpretation of crucial information.
5. The poster stands alone without any verbal explanation.
6. Conclusions are supported by the results.

OPEN HOUSE PRESENTATION JUDGING CRITERIA

(Score 1 – low, 5 – high in each category)

1. The length of the presentation was appropriate for the audience's level of knowledge (approximately 2 to 3 minutes).
2. The presentation style was engaging and professional (e.g., presenters were approachable, enthusiastic, etc.).
3. The presenters described their research at a general academic level (e.g., no undefined jargon, etc.).
4. The presenters explained the significance of their research (e.g., why their research is important and how it is contributing to their field of study, etc.).
5. The presenters engaged with the audience and answered questions clearly and thoughtfully.

THREE-MINUTE VIDEO JUDGING CRITERIA

(Score 1 – low, 5 – high in each category)

1. The length of the video presentation was between 2 ½ and 3 minutes (points will be deducted for videos outside of this time range).
2. The presentation style was engaging and professional (e.g., presenters were approachable, enthusiastic, etc.).
3. The presenters described their research at a general academic level (e.g., no undefined jargon, etc.).
4. The presenters explained the significance of their research (e.g., why their research is important and how it is contributing to their field of study, etc.).

Appendix B. Life Science Poster Competition Survey

Q1. How did you learn about the poster competition? Choose all that apply.

- □ Advertisements in the library
- □ Advertisements in the LSB
- □ From a faculty mentor/advisor
- □ In a class
- □ Word of mouth
- □ Other _____

Q2. What was your motivation for entering the competition? Choose all that apply.

- □ Prize Money
- □ Prepare/practice for future presentation(s)
- □ Extra credit
- □ Fun
- □ Mentor encouragement
- □ To add to my resume
- □ Other _____

Q3. How valuable did you find the written feedback from the judges

for your poster design?	Not at all valuable (1)–Extremely valuable (5)
for your oral presentation?	Not at all valuable (1)–Extremely valuable (5)

Q4. Select the poster design statement that best applies:

- □ I submitted a poster created for another presentation
- □ I created a new poster for this competition

Display This Question:
If Select the poster design statement that best applies: = I submitted a poster created for another presentation

Q4a. Did you make any modifications to your poster for this competition?

- □ Yes
- □ No

Display This Question:
If Did you make any modifications to your poster for this competition? = Yes

Q4b. Did the judging criteria influence your design changes?

- □ Yes
- □ No

Display This Question:
If Select the poster design statement that best applies: = I created a new poster for this competition
Q4c. Did the judging criteria influence your poster design?

- □ Yes
- □ No

Q5. How satisfied were you with the following online experiences:

	Extremely dissatisfied (1)	Somewhat dissatisfied (2)	Neither satisfied nor dissatisfied (3)	Somewhat satisfied (4)	Extremely satisfied (5)
Uploading your video presentation					
Uploading your poster file					
The poster competition website					
The awards presentation ceremony					

Q6. Did you view the online poster design video?

- □ Yes
- □ No

Display This Question:
If Did you view the online poster design video? = Yes

Q6a. How beneficial was the video in helping you design your poster?

- □ Very beneficial
- □ Moderately beneficial
- □ Not beneficial at all

Q7. What elements would you recommend be included in a future in-person competition? (select all that apply)

- □ Oral presentation judged during open house
- □ 3-minute video presentation judged in advance
- □ Making posters visible on the competition website
- □ Making video presentations visible on the competition website

Q8. What did you find most beneficial about participating in the poster competition?

Q9. What parts of the process did you find frustrating or difficult?

Q10. Please share any additional ideas for how to improve the competition.

Notes

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