# Instructors Share Techniques for Teaching with Technology: Faculty Connections and Spotlights

Strang, R.E



This article describes a collaborative project between instructional designers and faculty members in a California public university. It is based on the idea that faculty possess valuable applied knowledge of how to use technology tools to address instructional needs. The sharing of this knowledge via 'Faculty Spotlights' fosters technology adoption on campuses. Additionally, the process of co-creating spotlights helps instructional designers see how and why instructors apply technology to pedagogy. This understanding allows designers to collaborate with additional instructors more effectively. This paper describes processes for creating and promoting faculty spotlights, along with a description of early project impact and faculty feedback. It attempts to

*live its mission, which is to elevate learning from experience.* 

#### Introduction

Instructional designers help faculty navigate the overwhelming world of rapidly changing technology. Academic institutions license a variety of tools for faculty to use, while instructional design teams provide significant leadership in spreading awareness and adoption. Instructional designers (IDs) hold information sessions to introduce instructors to tools and offer ongoing support and training. They "reduce the burden and learning curve for faculty SMEs" (Pollard & Kumar, 2022, Roles and Responsibilities section). Faculty who learn to use tools can augment and eventually reinvent their teaching strategies, enhancing student learning (Wild, 2013; Dwyer et al., 1991).

Despite the potential benefits of technology-enhanced pedagogy, many faculty are concerned with negative consequences. Herckis and Smith (2018) found professors perceive the adoption of new technology to entail risks that threaten to diminish student satisfaction, make them look less competent, and take an unknown amount of time to learn and manage. As a result, even the best tools may be used by only a small percentage of faculty.

This article is an instructional designer's report on a project designed to promote faculty peer learning. Its value is in connecting research to practice, and in sharing knowledge learned from implementation. The project described, Faculty Connections, seeks to accomplish two goals. The first is to disseminate best practices in the application of technology to teaching, which encourages tool adoption. The vehicles for diffusion are Faculty Spotlights, case studies wherein instructors give firsthand accounts of how they've used a tool successfully. The second goal is to contribute to IDs' collaborations with faculty. Through viewing and co-creating spotlights, IDs learn from instructors' perspectives, growing their capacity to communicate and collaborate.

Research on innovation diffusion provides detailed insight into factors that promote the spread of new technologies. Perhaps the most influential summary of this literature is provided by Everett Rogers (2003). Rogers argues that in the persuasion stage, adoption depends crucially upon five perceptions of an innovation. Faculty Connections highlights the characteristic of 'compatibility,' which Rogers defines as "the degree to which an innovation is perceived as consistent with the existing values, past experiences, and needs of potential adopters" (Rogers, 2003, p. 254). When instructors view spotlights, they see peers describing how a tool is compatible with their needs and contexts. If this need and context are shared by the instructor viewing the spotlight, they are likely to develop positive feelings towards the tool, and potentially adopt it.

Rogers as well as other researchers, emphasize the importance of interpersonal communication. Arthars and Liu (2000) found in a study of faculty adoption of a learning

analytics platform that empathetic interpersonal communication was important for its diffusion. In particular, they find that when communication centers on a particular problem a faculty member has, the more likely it is that they will adopt the technology. Communication can be a persistent problem in designer-instructor collaboration due to the parties having different roles and expertise at work. As Chen and Carliner (2020) note in a literature review of designer-instructor relationships, one barrier to collaboration is unclear communication, in particular when one side uses unfamiliar technical language. By reviewing and co-creating spotlights, designers become more familiar with the culture of the faculty with whom they're collaborating. This added level of connection aids empathetic communication and promotes collaboration.

#### **Project Overview**

Faculty spotlights showcase an instructor explaining a strategy they've used and its impacts. These are some spotlights:

Faculty Connections Homepage

- 1. Exploring the impact of virtual reality
- 2. Evaluating learning during lecture: grading student notes
- 3. Making interactive videos with PlayPosit
- 4. Equitable grading strategies
- 5. Making lecture slides interactive with Poll Everywhere
- 6. Learning from student mistakes with Gradescope

In contrast to the spotlights above, stylistic choices we have decided not to pursue may be of interest. One of these directions is exemplified by <u>An Introduction to Poll Everywhere</u>, because its music and transitions elicit reactions of feeling like a marketing video and not an avenue to share an instructor's experience with the tool.

Spotlights contain interviews of faculty members and can be conducted in written, audio, or video formats. The interview questions are ordered intentionally to help faculty tell a 'story.' They also draw inspiration from innovation-adoption literature by highlighting characteristics of tools like compatibility and trialability. After the interview is edited, a layout is applied and it is developed into a webpage.

#### Figure 1

Example spotlight



Key:

- 1. Navigation menu: shortcut to view case studies, learn about the project, or contribute.
- 2. **Bio:** introduces the faculty member, their subject matter, and class size(s). This may help viewers find strategies appropriate to them.
- 3. **Interest form**: sends a request to speak with the faculty member or an instructional designer
- 4. Summary quote: states the strategy's big idea
- Videos: friendly, concise (~2 minutes) explanations of different aspects of the strategy
- 6. Key Questions and Highlights: summarizes each video

As seen in the key, several of the layout's design choices accommodate viewers' goals. The biggest influence here is the <u>Stanford Graduate School of Education</u> (n.d.). The summary quotes and bite-sized videos in spotlights enable viewers to quickly understand the practice and determine whether they are interested. There is also a call to action: a button that brings the viewer to an interest form. If instructors want to take the next step with support, they fill out the form and are contacted by an instructional designer, facilitating interpersonal communication.

### **Processes for Creation and Promotion**

#### Creation

The spotlight design process consists of ten steps.

- Determine specific tools, topics, or themes that designers will target. A more openended approach to creating spotlights can work too. Some guidelines for assisting instructors in choosing a practice to present:
- 2. Develop core interview questions and follow-ups that designers will ask instructors.
- 3. Develop processes for inviting instructors to contribute. Data from vendors can help determine who uses tools the most ('power-users'). Alternatively, ask instructors for referrals or create a list of faculty with whom designers have good relationships.
- 4. Now that much of the planning is complete, in the initial reach-out message, designers determine if a faculty member has any baseline interest in contributing to the project. Potential information to include in this message:
- 5. If initial interest is found, designers' goals now shift from determining baseline interest to making plans for the next steps. Designers and faculty decide on the format of spotlights (i.e. video, audio, or text). These modalities have different advantages and disadvantages:
- 6. Video spotlights: it is advised that instructors write a script. Designers subsequently give feedback and guidance, steering them towards clarity, concreteness, tangible results, and personal experiences. Some faculty members make it clear they're confident without a script, which usually requires the designer to play a more active role in the interview and editing stages.
- 7. Text-based spotlights: like with video-based spotlights, it's advised that instructors write draft responses, which prompt designers to provide feedback and guidance. The goals are to make the needs clear, and the explanation concise, specific, and concrete with examples and observations.
- 8. After the instructor's portion of the spotlight is filmed, recorded, or written, the team identifies additional assets to include. Examples include screenshots of the tool, supplemental videos, and student testimonials.
- 9. Now it's time to put everything together. Designers may collaborate with communications and web design specialists. They determine the visual layout of the spotlights and design goals, such as feelings they want to inspire in their audience and help them understand the gist of the content quickly.
- 10. Lastly, after a spotlight is on the web, the instructor is informed. Over time, the designer may choose to improve the spotlight in various ways. For example, they could add comments from additional instructors who use the tool.

#### Promotion

I recommend considering the distribution process in terms of at least two types of promotional channels: 1) the instructional design department's channels, and 2) academic departments' channels.

A good step is to promote within the colleges and departments of the faculty who co-create spotlights. Distributing spotlights through academic departments' channels allows designers to customize the content and message to fit that audience. Faculty from the same college might know of, or have heard of, each other and therefore may be more likely to read a peer's spotlight. Promoting within academic colleges also builds valuable bridges with communication specialists.

When looking for additional communication channels, consider the needs of groups of faculty. New instructors may have a need to add to their teaching repertoire because of relatively less teaching experience. Instructors teaching a large course for the first time probably want to learn about practices for that setting. Many faculty who are teaching online, even those who have prior experience, may feel the need because the modality is still relatively new and confusing.

#### Impact

The Faculty Connections initiative has a number of positive effects. From my perspective as an instruction designer, I will point to its effect on faculty and fellow designers.

#### **Effect on Faculty**

Spotlights have been viewed by faculty via an online professional development course about best practices for teaching online. In addition, instructional designers have shared spotlights with faculty directly after a consultation. For example, an instructional designer at my university has sent a link to a spotlight on Poll Everywhere to instructors who currently use iClickers, to give them alternative options.

To learn about how instructors react to spotlights, I have conducted five semi-structured interviews on Zoom (Rosala, 2019). In each interview, I give faculty a hyperlink to the project homepage, where they see spotlights for the first time. They select one they're interested in and explain why, then they review the spotlight and give feedback. To facilitate recruitment, I have reached out to faculty whom I have met before and helped develop their technical and pedagogical skills. The goal of these interviews is not to systematically assess the program, but to gain insight into how the program is working and to suggest potential modifications. The interviews have provided useful feedback from the target audience.

Observation 1: Interviews indicate that the faculty's choices of spotlights are linked with the notion of compatibility. Professors are interested in technologies that are consistent with their existing practices. Three out of five faculty are drawn to the spotlight on PlayPosit, a tool for making interactive videos, since they already used videos in their classes.

"I do a lot of video work myself... Making interactive videos and PlayPosit would be pretty cool for me to look at"

Observation 2: Faculty also choose spotlights on technologies they are already using because they want to see how others are utilizing it. Moreover, they are interested in making contact with the people they read about, supporting the notion that interpersonal communication continues past the persuasion phase of adoption.

"we've met people in other departments who are doing it (using virtual reality) but we're very disparate ... and (I am) interested in the way that he's using it... I would reach out to him and you know even set up a coffee or something like that because I just want to know what he's doing" Observation 3: Faculty choose spotlights about current "hot topics" within their professional circles. In this case, spotlights may satisfy needs like communicating with peers and social pressures. Equitable grading strategies were the topic mentioned most in this light.

"I've seen a lot of emails about this (Equitable Grading Strategies) recently... there is a big movement to switching over to a five point scale (an equitable grading strategy)"

#### **Effect on Instructional Designers**

For instructional designers, learning from faculty gives us general principles and innovative practices to pass along to additional instructors. For example, one instructor has contributed a spotlight on an uncommon and effective formative assessment strategy using Gradescope. She systematically grades her students' notes to understand their misconceptions during lectures and uses this information to make decisions like what to review as a class. This technique can be passed along directly to faculty and used as a concrete example of a larger pedagogical principle, data-driven teaching. Instructional designers can even leverage this technique when delivering professional development to faculty.

On a similar note, reading between the lines and understanding the underlying reasons why instructors choose to implement tools in certain ways helps designers see patterns. Knowing these patterns and priorities helps in communicating with instructors in general. An example comes from a spotlight on an instructor who uses the slideware application Poll Everywhere. This application lets her download her polls in the form of PowerPoint slides, which she then inserts into her lecture. Her method fits seamlessly into her class, which is a useful principle for IDs to know when talking with instructors about any new technology tool.

#### **Additional Effects**

Faculty Connections and many other initiatives remind ID departments to center faculty perspectives. Instructional designers can learn from faculty perspectives (McDonald et al., 2022). Faculty at my university frequently say their favorite aspects of workshops are faculty-led discussions and knowledge sharing. These reminders can inspire additional projects, and have a cascading effect. For example, my department is currently leading the transition to a new learning management system, and we have recently created a similar video project: early adopters of the LMS create videos on what they like about the new LMS, in an effort to reduce the anxiety of later adopters. The point is not to say that Faculty Connections caused these projects to develop. Rather, I use them as examples that remind us to collaborate with the audiences we seek to impact.

Producing spotlights can also contribute to some degree to the availability of tools on campuses. Spotlights can be used to drive faculty awareness and adoption of tools. Additionally, knowing tools' use cases provides instructional design departments with information that can be used in a number of ways, such as evaluating which to keep under contract.

Finally, making a spotlight can benefit the instructors who make them. First, they have been a source of pride for instructors, especially because a lot of pedagogy simply goes unnoticed by anyone but them and their students. Second, in my experience, they have used this project in their tenure applications, as an example of their contributions to the campus as a whole.

#### **Next Steps**

**Include Contextual Information:** Faculty want to determine similarities and differences between their context and that of the spotlights to establish whether compatibility exists. For example, two aspects of teaching - modality (online vs on-campus, asynchronous, etc) and class size - are markers of compatibility that several faculty asked about in interviews. This makes sense because these factors play a part in determining the challenges and opportunities of a given class. For example, large online classes entail challenges such as evaluating open-ended assessments. Therefore, one next step is to add information about modality and class size into spotlights. However, whether or not to display faculty's departments is an open question because different disciplines may see that as a sign of incompatibility, and thus ignore the strategy.

**Create Connections Between Spotlights (Two Strategies):** Another step is to explore the creation of spotlight groups centered around common themes and needs. Faculty input is a valuable source for ideating these groups. Separately, another possibility is to include a new section called 'Suggested Spotlights.' This section could preview other potentially relevant spotlights based on one an instructor is interested in or currently reading. This may help broaden the range of spotlights that faculty view.

**Facilitate Communication (Two Strategies):** Spotlights can help start conversations between designers and instructors. The interest form at the top of each one is a good start, but according to interviews, some faculty don't know where it will go. Therefore, the next step is to add explanatory text about communication opportunities at the top of spotlights. On a different note, a group called 'Instructional Designer's Corner' could be created, which contains spotlights the ID team creates, introducing best practices from our field. The roles and range of expertise of instructional designers are unknown to many faculty (e.g. Pollard & Kumar, 2022). Making our expertise more explicit may facilitate communication.

**Incorporate Additional Diffusion Strategies:** Factors from diffusion research from multiple authors should be explored and evaluated in the context of this project. Allowing 'trialability' and enabling people to trial a tool could be explored next. This could take multiple forms, such as experiencing the tool from the perspective of a student, or designers setting the tool up for a faculty member inside their course to use in a low-stakes scenario.

## Conclusion

This article shares a project wherein faculty share their most effective techniques for teaching with technology. Research on innovation diffusion and allied areas suggests the

value of its approach to not only the adoption of best practices with tools but also in enhancing communication within the linked communities of instructional designers and faculty. This is an important lever for improving the effectiveness of these parties working together.

This project is most successful when instructional designers play an active role. In each step of creating spotlights, designers should take a co-leadership role as creators and guides. For instance, they can come up with creative ways to enhance spotlights, guide faculty, and coordinate with others to distribute the end results to wider audiences. Instructional designers are heavily encouraged to set the direction of collaboration in this project and leverage a range of their skills.

While the program continues to evolve, a range of faculty have indicated through feedback that it plays a useful role. Faculty with varying levels of exposure to a given technology find value, as do those at later developmental stages in the adoption process. Faculty with less experience using technology can search for tools that meet their needs. Faculty with more experience can expand their understanding of a tool by seeing how peers use it, and build their professional networks by contacting each other.

Faculty Connections takes advantage of distinct kinds of knowledge from researchers, designers, instructors, communications specialists, and strategists. There is considerable untapped potential for growing this project by adding the expertise of different individuals, roles, and industries. You can help by contributing links to projects from various fields to <u>Google Drive: Examples of Spotlight Projects</u>.

# References

- Arthars, N., & Liu., D. Y.-T. (2020). How and why faculty adopt learning analytics. In D. Ifenthaler & D. Gibson (Eds.), Adoption of Data Analytics in Higher Education Learning and Teaching (pp. 201-220). Springer International Publishing. <u>https://doi.org/10.1007/BF02766777</u>
- Chen, Y., & Carliner, S. (2021). A special SME: An integrative literature review of the relationship between instructional designers and faculty in the design of online courses for higher education. *Performance Improvement Quarterly, 33*(4), 471-495. https://doi.org/10.1002/pig.21339
- Dwyer, D. C., Ringstaff, C., & Sandholtz, J. H. (1991). Changes in teachers' beliefs and practices in technology-rich classrooms. *Educational Leadership*, 48(8), 45-52.
- Herckis, L. & Smith, J. (2018). Understanding and overcoming institutional roadblocks to the adoption and use of technology-enhanced learning resources in higher education.
  Report submitted to the Carnegie Corporation of New York. April, 2018.
  <a href="https://www.cmu.edu/simon/projects/flagship-projects/barriers-to-tel.html">https://www.cmu.edu/simon/projects/flagship-projects/barriers-to-tel.html</a>
- McDonald, J. K., Elsayed-Ali, S., Bowman, K., & Rogers, A. (2022). Considering what faculty value when working with instructional designers and instructional design teams. *The*

Journal of Applied Instructional Design, 11(3). https://dx.doi.org/10.51869/113/mebr1

- Pollard, R. & Kumar, S. (2022). Instructional Designers in Higher Education: Roles, Challenges, and Supports. T*he Journal of Applied Instructional Design, 11*(1). <u>https://dx.doi.org/10.51869/111/rp</u>
- Rogers, E. M. (2003). Diffusion of innovations (5th ed.). Free Press.
- Rosala, M. (2019, September 13). *The 3 types of user interviews: Structured, semi-structured, and unstructured* (video). Nielsen Norman Group. Retrieved March 23, 2023, from <a href="https://www.nngroup.com/videos/3-types-user-interviews/">https://www.nngroup.com/videos/3-types-user-interviews/</a>
- Stanford Graduate School of Education. (n.d.). *Journeys online: An evolving collection of digital learnings inspired by GSE instructors.* Retrieved Nov 30, 2022, from <a href="https://teachingresources.stanford.edu/">https://teachingresources.stanford.edu/</a>
- Thompson, M., Falck, E., Slama, R., & Reich, J. (2020). The Practice based teacher education engagement ladder: A developmental model of adoption, adaptation, and redesign. *EdArXiv*. <u>https://doi.org/10.35542/osf.io/entjs</u>
- Venkatesh, V., & Davis, F. D. (2000). Theoretical extension of the technology acceptance model: Four longitudinal field studies. *Management Science*, 46(2), 186–204. <u>https://doi.org/10.1287/mnsc.46.2.186.11926</u>
- Wild, J. (2013). *OER engagement study: promoting OER reuse among academics* (Author's Original). Retrieved from <u>https://ora.ox.ac.uk/objects/uuid:eca4f8cd-edf5-4b38-a9b0-4dd2d4e59750</u>