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WHERE DO DOWNLOADS GO?

Designing Library Instruction Activities to Serve Multiple Learning Objectives

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INTRODUCTION

The list of learning objectives for any library instruction session, especially for first-year students, can be rather long, and any amount of classroom time is inevitably too short to cover everything that students need. While finding time to cover information literacy concepts may be a challenge, many times what students need first is more fundamental technology instruction. Before they can consider authorship or information value, they need help understanding how to access the full text of an article, or even how to navigate the library's website. These foundational digital literacy skills are often the keys to research success but are easy to miss when designing lesson objectives and outcomes.

This case study presents how the Tech Academy, a technology oriented mini-course geared towards first-years students at Penn State University, used purposeful assignment design to efficiently cover the foundational technology skills needed for student's academic success. This design approach can also be applied and adapted to library instruction opportunities, including one-shots. This process can help ensure that students, no matter their library or technology backgrounds, develop the fundamental information navigation skills that will serve as the basis for more advanced information literacy learning. Also included in this document are sample ways that librarians can leverage existing instruction design tools to make more engaging, and more comprehensive, activities, with the similar end goal of achieving a basic comfort level and confidence with both digital and information literacy skills.

LITERATURE REVIEW

For some, it may be surprising that current college students have a need for basic technology instruction. Beginning in the 2000s, it was assumed that with the rise "digital natives," innate technology skills meant that computer classes and digital literacy endeavors would become obsolete and unnecessary. However, as librarians and other higher education professionals have experienced, there is a growing realization that these students need just as much technology instruction, or perhaps even more, than previous cohorts. Students' proficiency with mobile devices and social media does not appear to translate to the academic technologies utilized in the classroom. Moreover, their varied educational experiences, and the ever-present effects of the digital divide, mean that digital literacy is still an important part of student success. Buzzetto-Hollywood et al. and Judd[1] are solid examples of this reconsideration of the innate technology skills of college students.

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With true "digital natives" being few and far between, there is still the question of how and where the remaining students will gain these skills. Unsurprisingly, libraries are often on the front lines of this concern, offering ad hoc support through reference interactions or workshops. Having observed the need, librarians throughout the world have found a natural alignment between digital literacy and information literacy. Currently, a set definition for digital literacy is still in development, and the framework for instruction varies among institutions.[2] Though the authors differ on the actual skills qualify as "digital literacy," these articles do illustrate how libraries are poised to take the lead in addressing issues related to the digital divide. They are already enacting programs to ensure that students have the skills they need to be successful.

BACKGROUND: TECH ACADEMY

Definitions of digital literacy can vary and can encompass many practical and theoretical skills, but the Tech Academy program chose to purposefully focus its curriculum on the basic and foundational skills students would need to be successful in the academic environment. In addition, an emphasis was placed on making students aware of the free and loanable technological devices and software available to them as university students. A more comprehensive discussion of the Tech Academy, and the role of librarians within it can be found in Biddle's 2021 practice report.[3]

The essential design of Tech Academy was based on previous research that assessed students' comfort and familiarity with common technological tasks.[4] It was first offered as an in-person supplement to a summer start program in 2017, for first-year students getting an early introduction to college life. Key to the curriculum of the in-person version was student engagement with the technology tools presented, and personal interactions with the librarian facilitator to ensure that students were reaching the objectives identified in each of the 6 weekly sessions.

This in-person model worked well in years prior to COVID but, as with many things, the pandemic necessitated a change in format and content. University administrators recognized that students beginning the summer start program in 2020, would need to attend remotely and would require additional support acclimating to the new education environment. An in-person interaction would not be feasible, so the mode of implementation would need to be adjusted. The content would need to be adapted, but the focus on foundational technological skills would need to be maintained and even enhanced.

ONLINE TECH ACADEMY ASSIGNMENT DESIGN

The new iteration of the Tech Academy was designed with the understanding that it would be 100% online and asynchronous. The first step in the course design was to identify the skills students would need to be successful, especially if they were new to the online learning environment. The initial Working Group was made up of a few instructional designers and librarians, including the creator of the original Tech Academy. They used their experience with students, and their knowledge of the university's instructional strategies, to build a list of technologies and resources students would need for their coursework. The librarians were also able to share their experiences with helping students navigate technologies through reference interactions. Later, an additional larger group comprised of teaching faculty, administrators, and additional librarians and instructional designers assisted with advice on program rollout and promoting buy-in as the Tech Academy moved from one campus to a university-wide initiative.

The group chose to focus on the basic academic technologies that students may not be as familiar with like the learning management system or the Office 365 suite. When applicable, they also included basic digital literacy skills, like email etiquette and sending attachments, saving files and sharing them using cloud storage, or even copyright and privacy issues. Just as important as narrowing down the technologies included, was considering the format and delivery of the Tech Academy content. The Working Group chose to create the Tech Academy as a mini-course within the university's learning management system, Canvas. This allowed flexibility related to the types of activities and assignment structures, but also allowed students to become comfortable with the LMS, a tool that would be increasingly important in the remote learning environment of COVID-19.

Once the content and structure were decided, backward design was used to identify the best ways to structure assignments and instructional content to achieve these digital literacy goals. To ensure student engagement, the content had to be very strategic and efficient. A balance was needed between the amount of content delivered, the difficulty of assignments, and the time spent on the overall mini-course. Assignments were designed to build upon each other or to introduce multiple skills at once.

One important consideration with the design of the Tech Academy was the awareness of students' varying comfort and familiarity with technology, and the assumptions often made when explaining steps in a process. For each technology resource or skill, the instructions for each task were written out in a step-by-step fashion either through words and screenshots, or through video screen capture, or often both. This scaffolded approach ensured that students at various levels of proficiency would all be able to achieve the same goal and gave students the opportunity to pick their own instructional level based on their previous experience.

APPLICATIONS FOR LIBRARY INSTRUCTION

The step-by-step nature of the Tech Academy can also work well when applied to library instruction. When attempting to fit all the desired learning objectives into a single one-shot instruction session, it can be easy to skip steps that seem second nature to experienced users. These steps can be critical for success and comfort with library resources, but students may find them confusing or even miss them entirely. Trouble spots may be tools librarians use every day, like link resolvers or interlibrary loan forms. These tools often take students from one application to another, either opening in another browser window, or requiring a separate log in. This travel between applications may be problematic for students without a librarian's guidance; they may think they have followed the wrong path if they are taken outside the library's main catalog or discovery system. Imler and Eichelberger found that when students are on their own, any buttons that do not look like a button, or links that do not look like links often will not be clicked by students. Also, that processes that take them through multiple web interfaces will lose a percentage of students at every click.[5]

Following an assignment design approach like the one used in Tech Academy can help librarians recognize these critical basic steps when structuring an assignment or activity for an instruction session. In addition to reviewing the course's overall research assignment and the librarian's objectives, a final consideration can be if there are any additional digital literacy concepts (or skills) that could deepen the opportunity for learning. This could include a review to see if there are any skills inherent in the learning objectives that should be scaffolded or enhanced to accommodate learners from different backgrounds. Or, it could be an awareness of any basic technology skills (like emailing a document, sending a file, or right clicking a link), that students may not be comfortable with, but could benefit from just simple information and explanation. For example, when analyzing whether students understand the distinction between an abstract and the full-text of an article, Imler and Eichelberger found that students may not be equating the term PDF, or the PDF symbol with the full-text of the article, and so are not aware of the extra steps needed to read the full article.[6] For an issue like this, the traditional activities of an instruction session may only require an additional two or three steps to cover these and other digital literacy skills. Or maybe just a simple knowledge check-in with the students is needed to see if they know what the PDF symbol means, if they know to click on it access the full text, and finally how to find the file in their device's downloads folder.

This strategy also applies to the scaffolding or expanding of basic information literacy skills. When directing a student to use a database to search for articles, perhaps include a short conversation of what a database is, and where the articles and abstracts come from. Or, when asking students to evaluate a website or journal, check to see if they know how to find the "about" or "contact us" page for more information. Such strategies do not have to be limited to foundational or basic information literacy skills. A library session for upper-level students introducing literature reviews could include reviewing scholars' Google Scholar profiles or using Web of Science's citation data in a discussion of cited reference searching. Also, in those upper-level courses where students are creating original research, they could be encouraged to work through the process of submitting a final article to a journal (or the university's digital repository). This would allow for a discussion of metadata, copyright (open access), and the peer-review process.

No matter the level of information literacy or digital literacy skills integrated into the assignment, it is important to be purposeful in designing the instructions and the ultimate deliverable. One insight gleaned from the Tech Academy is that most successful assignments required students to interact with the technology presented. Instead of simply reading about, or listening to, a description of database features, they need to have practice using them. To help students explore new tools or concepts, it is also important to provide them with multiple instruction formats: live demonstrations or a video may be paired with step-by-step instructions (with screenshots) to allow for multiple learning styles, and to alleviate any low frustration thresholds. Hybrid learning opportunities, like flipped classroom modules, or asynchronous tutorials can provide opportunities for multiple learning modalities and more in-depth engagement with tools. Within learning management systems (like Canvas) or other tutorial platforms (like LibWizard or Google Forms), assignments can easily embed video instructions with text directions. The ability to design multiple question types allows students to engage with technology or library resources in multiple ways. An assignment could ask them to practice downloading an article's PDF, and then uploading it through the tutorial, or maybe evening asking them to email, as an attachment, the PDF of an article that meets certain assignment criteria.

CONCLUSION

Both digital and information literacy skills are dangerously lacking in our students but are increasingly important as they navigate our information-heavy world. "Digital Natives" is a fallacy that has been a detriment to students exploring, understanding, and leveraging the technology tools and resources available to them both in their everyday lives, and in the classroom. In addition, the digital divide has left many students at a disadvantage when it comes to utilizing library resources. The lack of foundational knowledge in these two important areas may have a strong effect on their success and retention. Though many in higher education overlook this gap, the library is uniquely placed to counteract this assumption of knowledge, and help students achieve a more level playing field.

Interactions with students at the reference desk or in one-shot instruction sessions can give us valuable insight into their information literacy and digital literacy needs. We may subconsciously adapt to their information needs when we discuss navigating library resources, or the larger information literacy process. But, instead of approaching students on an ad hoc basis, it may be more valuable, and efficient, to approach both information literacy and digital literacy in a more mindful and intentional manner. The impetus of the Tech Academy was an acknowledgement that the technology questions frequently asked at the reference desk were part of a larger issue. This allowed librarians' work to grow to become a more systematic consideration of the skills students were lacking and a desire to find an effective and efficient way to fulfill this information need. Key to the success of Tech Academy, and its ongoing sustainability, is an awareness of instructional design and the value added by assignments that tackle multiple learning objectives at once. Both conclusions can be beneficial to the world of library instruction, especially in the one-shot environment.

NOTES

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