Expanding the Writing Center: A Theoretical and Practical Toolkit for Starting an Online Writing Lab

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Abstract

As the disciplinary focus on learner agency and autonomy increases, a space for online writing labs (OWLs) is reemerging. OWL services represent an opportunity for writing centers to expand their reach both on and off campus, assisting student writers where they are at and in a way that allows them to take increased agency over their compositional processes and products. In addition, while US-based OWLs have a long history and many useful resources, they cannot speak to the needs of students writing in the English as a foreign language (EFL) context and for different academic purposes than their peers studying at U.S. colleges and universities. Despite this difference, there has been little scholarship that has examined OWL development best practices. This article, hence, uses the author's experiences as an administrator at one of the world's oldest and largest OWLs, the Purdue OWL, to provide writing center practitioners in EFL contexts with a theoretical and practical toolkit for starting up OWL services. This includes issues of fitting the OWL service into the scope of the writing center's mission and considering the degrees of responsiveness and interactivity that the writing center can meaningfully provide. Also addressed are issues of content development as they have been informed by the fields of user experience design (UXD), L2 writing, and computers and composition. Recommendations for future research and scholarship are also provided.

Introduction

Online writing labs, or OWLs, provide writing centers with a unique opportunity to extend the reach of the writing center in many ways. These include providing writing support to students outside of regular hours of operation, providing an alternative space for students to engage with writing center services, and more (Brown, 2000; Miraglia & Norris, 2000). OWLs are web-based services of writing centers that may host instructional materials for writers to use as self-reference, pedagogical materials for teachers to use in their classes, and possibly training materials for writing centers tutors. Some OWLs may also offer email- or skype-based tutorials to students at the hosting institution. Around the turn of the century, OWLs were a target of much research, as evidenced by the emergence of several edited volumes (e.g., Hobson, 1998;

Inman & Sewell, 2000) and journal articles (e.g., Harris & Pemberton, 1995; Healy, 1995). These early examinations focused on the processes of and theoretical rationale for setting up an OWL (e.g., Beebe & Boneville, 2000); training writing center tutors for OWL work (Breuch & Racine, 2000); as well as the particular challenges and opportunities for synchronous (Thurber, 2000) and asynchronous (Castner, 2000) tutorials. OWLs have received less scholarly attention in recent years, but explorations of OWLs in the EFL context have begun to appear and have examined how they can be used to scaffold writing instruction in Chinese universities (Gu & Ding, 2002), the possible routes of expansion of OWLs in the EFL context (Tan, 2011), and the uses and attitudes towards OWLs in the EFL context (Paiz, 2017). However, there has been little work done examining the OWL creation process—from start-up to launch—that may provide writing center administrators in the EFL context with a platform from which to advocate for resources to launch their own OWLs. This article seeks to bridge this gap by synthesizing existing literature with the author's experiences running one of the world's largest, oldest OWLs (the Purdue OWL) to provide an actionable framework for expanding OWLs in the EFL context.

How OWLs Can Support L2 Writers and Writing

This section will discuss some of the ways that OWLs may support L2 writers and scaffold L2 writing by examining existing literature from the fields of Writing Center Theory, L2 writing, and TESOL/Applied Linguistics. This examination will summarize the findings of studies that have examined OWLs and that have focused on the following areas: error feedback, tutor/peer interactions, and learner agency/self-directed learning.

OWLs and error feedback. The methods for and possible impacts of OWL services on error correction has been reported on in the Writing Centers literature. Rilling (2005) discussed how the mission statement of the OWL at her institution created tension with the ESL students who used the service. The source of this conflict was a mismatch between the center's focus on higher order concerns and students' attention to producing grammatically accurate texts (Rilling, 2005, p. 362). To help address this issue, the staff was trained to partially mark lower-order errors on students' texts, using direct and indirect commenting strategies to identify patterns of error. One possible benefit of this approach was that it facilitated students assuming increased ownership over their composition processes and of their texts (Rilling, 2005, p. 363).

Severino and Prim (2015) explored how OWL services could enable student development of accurate word choice. The authors identified a variety of word choice error types that appeared in a small sample of Chinese ESL writers' texts. These errors included translation, contextual, synaform, and register issues, among others (Severino & Prim, 2015, pp. 121-122). Based on an analysis of over 200 errors across the sample, the most common word choice errors were due to contextual issues in writing (37%), translation errors (18%), and synaform errors (14%) (Severino & Prim, 2015, p. 126). Word choice errors were also found to be triggers for the tutors to provide feedback designed to remediate the issue, with word choice errors accounting for 11% of total tutor comments in the sample (Severino & Prim, 2015, p. 135). Asynchronous writing tutorials, therefore, may present an opportunity for writing center tutors to engage with student texts in a way that can aid ESL students as they gain proficiency in making effective word choices. Student development may be facilitated, in part, by the nature of the in-text

comments and tutors' abilities to directly link to additional resources that may help student-writers in making more informed and accurate word choices in the future. In turn, asynchronous tutorials can contribute to the acquisition of academic literacy through pointing to exemplar texts that the student may then read or listen to while explicitly focusing on the linguistic decisions being made.

Tutor/peer interactions. The findings of Stroble (2015) suggested that students may be distrustful of online feedback on model texts as aids to improving their academic writing. Miraglia and Norris (2000) addressed additional challenges faced when moving the in-lab tutorial to cyberspace. Specifically, they argued that the development of effective best practices for online tutoring is also necessary. Seeking to address possible best practices, Breuch and Rancine (2000) outlined a tutor training program that sought to establish the tutor as an online peer reviewer. To do so, they advanced a tripartite view of the online tutorial that trains tutors to see the text-only space as an area of opportunity to model writing center views of good writing; to create purposeful commentary structures that orient the student-writer to the in-text feedback and provide a summary of possible next steps; and, finally, to view the role of the tutor as that of coach or guide (Breuch and Rancine, 2000, p. 249-254). Moreover, Healy (1995) discussed the need for additional training for tutors and online writing lab administrators about the role of the online writing lab and its place in the writing center's constellation of services. Rilling (2005) additionally recommended training tutors to use commenting strategies that increase opportunities for interactivity between the student-writer and writing center services and agents. To achieve this, tutors should use a structured response pattern that highlights areas of opportunity in the draft under review and that provides encouragement to continue drafting. Finally, they should then offer additional support to the student on future drafts, either through in-lab visits or further online feedback (Rilling, 2005, p. 371).

Supporting learner agency. Facilitating increased learner agency has become an important issue in ELT in recent years (see Huang & Benson, 2013; Mercer, 2011; van Lier, 2008). The need to scaffold language learners as they strive for increased agency in their learning has been tied to outcomes related to overall linguistic proficiency and communicative competence gains, as well as identity-related matters (Oxford, 2016). The limited OWL-related scholarship has yet to examine the possible impacts that OWL services may have on facilitating increased student-writer agency over their composition processes. However, McLoughlin and Lee (2010) reviewed the impacts of utilizing web 2.0 technologies on learner agency, and their findings may have some relevance. They found that the use of these technologies could lead to increased learner agency by promoting self-regulated and self-directed learning. They pointed out that for these technologies to be successful in supporting learners, teachers had to first appropriately and critically incorporate them into regular class activities (McLoughlin & Lee, 2010, p. 33); and, second they had to make time for students to learn and to become comfortable using the technology (McLoughlin & Lee, 2010, p. 33). The same can be said for OWL services. Once student-writers are properly prepared for how best to make use of the service, it can become a critical tool in helping them take agency over their learning processes by providing a site for both self-regulated and self-directed learning. However, as Paiz (2017) pointed out, OWL resources must often be scaffolded by the teacher to make these possibilities more salient to the student learner. That is, merely directing students to OWLs is insufficient to impact learner agency.

This review of previous OWL-related studies highlights the various ways that OWL services can support L2 writers and writing. This examination of the literature has focused on OWLs being used to support L2 English writers. This emphasis is, in no small part, because of the proliferation of OWLs that discuss writing in English at Western universities. OWL services that discuss other languages have not been much reported on in the literature. From the above review, and this notable gap in services, the justification for starting an OWL service in non-inner circle (Kachru & Nelson, 2006) institutions begins to take shape.

A Justification for Starting an OWL Service

Beyond the reasons listed above, online components of writing labs can also aid in reaching out to student and novice writers at a time and place where traditional writing center services may be unavailable. Meaningfully executed online components may also help anxious student-writers to begin to overcome affective barriers that may inhibit a willingness to engage with the physical writing center. Finally, by carefully crafting OWL resources, a writing center can also reach out to students of a variety of writing and language proficiencies in contextually appropriate ways.

Additionally, OWL services can push the university, the center, and their various services beyond the borders of the campus, the city, or even the nation. Online services can carry out essential identity and engagement work for both bodies, serving as an important portal and first encounter between the public and the institution. Turning to one of the oldest and longest continually operational OWLs, the Purdue Online Writing Lab (owl.english.purdue.edu) provides a good example. According to the administrative staff of the Purdue OWL, there is no shortage of anecdotes about people knowing nothing of Purdue as a world-class research university, but knowing that the Purdue OWL existed and was there for them in their time of need (Conard-Salvo, personal communication, March 4, 2012). OWL services provide the university, especially the publicly funded one, with a significant and measurable touchstone with the wider population. OWLs can help to highlight for governmental funding and accountability offices that at least a portion of their resources are being used in a way that benefits the general population and not just the students, faculty, staff, and administration of the university. For example, during the 2015-2016 fiscal year, the Purdue OWL served up over three-hundred million page views to users on six continents (Denny, Conard-Salvo, & Gerding, 2016, p. 2).

Starting an OWL

Adding an online component to a writing center—something beyond the expected hours and services, or "About Us" Web site—invokes several concerns that should to be kept in mind during the start-up phase. The start-up phase consists of outlining the rationale for implementing an online writing lab, positioning the OWL within the center's current portfolio of services, identifying available and needed resources, identifying hosting and content management solutions, identifying sources of talent/content, along with a few other significant concerns related to financing. During the early start-up phase, the work is primarily conceptual and preparatory. That is, writing center staff must prepare for conversations with a variety of potential stakeholders across the institution that may help or hinder attempts at bringing an

OWL online. The various backgrounds and motivations of these stakeholders mean that the writing center administration will need to be ready to advocate for needed resources in an academic budget climate that is being increasingly defined by cost centers and a zero-sum nature. The following sections discuss theoretical and practical considerations that can help organize preparation for these conversations.

Theoretical Considerations

The first theoretical consideration is seeking alignment between the desire for an OWL, or OWL-like service, and considering where the OWL project would fit in the overall mission of a writing center. Or, where in the writing center's public mission statement is there a platform from which to argue for an OWL's existence? The following is an example that comes from the Purdue Writing Lab's mission statement:

The Purdue University Writing Lab and Purdue Online Writing Lab (OWL) assist clients in their development as writers—no matter what their skill level—with on-campus consultations, online participation, and community engagement. The Purdue Writing Lab serves the Purdue-West Lafayette campus and coordinates with local literacy initiatives, while the Purdue OWL offers global support *(emphasis mine) through online reference materials and services. (Purdue Writing Lab, 2016, para. 3)*

The above quote is the entirety of Purdue Writing Lab's mission statement in its current form. It was arrived at after many hours of deliberation, drafting, and commenting by writing center administrators and graduate coordinators. In this mission statement the OWL component is called out specifically as fulfilling a mission critical function—global engagement. Before this mission statement was adopted, however, the writing lab operated largely under a modified version of the mission statement of the Purdue English Department—facilitating and contributing to learning, discovery, and engagement at the University.

It was around these three pillars—learning, discovery, and engagement—that the rationale for an OWL was grounded before its launch in 1994. This argument was crafted by linking the Purdue OWL to outcomes in each of these areas by offering instructional resources that could be used for self-guided learning, by becoming a site of scholarly inquiry, and by offering free resources to the community.

Writing center administrators were then able to argue that an OWL service could help to facilitate student learning and hopefully contribute to improved student writing on campus. When the online services were first launched, the Purdue Writing Lab began by making already successful writing center handouts and materials available to students 24/7 if they had either email or internet access. From there, they began crafting resources, such as *PowerPoint* decks and annotated example essays that teachers could use in their classes as they taught their students about academic and professional writing.

The Purdue OWL was then tied to the departmental mission of discovery by highlighting the fact that the OWL could be a potential site of research and scholarly inquiry. Indeed, some studies have been carried out on a variety of OWLs seeking to assess their efficacy, their

design, their usability, their accessibility, and their role in the modern writing center. This work has appeared in a variety of scholarly venues, including journals such as the *Asian EFL Journal*, the *Journal of Second Language Writing*, and *Computers and Composition* (e.g., Harris & Pemberton, 2005; Paiz, 2017; Rilling, 2005; Tan, 2011).

Finally, and this is particularly important for the Purdue OWL, the administrators argued that the Purdue OWL service would enable the writing center to contribute to the departmental and university mission of engagement. Purdue University was founded in 1869 after the passing of the Morrill Land-Grant Act of the United States Congress (Morrill Act of 1862). This act provided public land for state universities. This came with the stipulations that they must engage with their local, state, and national communities. That is, they were expected to not be cloisters of intellectuals and academics. Rather, they were supposed to provide a service to the world in which they were situated. This engagement piece has become an important part of the argument for the Purdue OWL's continued existence, given the service's national and international impact.

Second, there exists a common thread across writing centers theory for collaborative learning through peer tutoring. Early theorists like Bruffee (1984), Brooks, (1991), and Lunsford (1991) to varying degrees advocated for some form of collaborative learning. Largely, it has been realized through the one-to-one peer tutorial. This model of tutoring helps to shift the focus away from a received view of learning about writing to one that is highly personalizable to the needs of the student-writer. Online writing labs can help to extend the learner-centered space in many ways.

First, OWLs can help extend the learner-centered space through a careful consideration of the local sociocultural and educational contexts throughout the content development process. Examining the kinds of writing that students are bringing to tutorials can lead to invaluable insights into the kinds of web-based resources students might find useful. In a massive overhaul of L2 writing resources, the Purdue OWL began by considering the acculturational needs of international students beginning their college careers at American universities. This work led to the development of instructional resources that served as quick primers to the academic environment and writing-related meta-language used in many North American classrooms (Cimasko, Paiz, & Gherwash, 2013; Kwon, 2014).

Another way to extend the learner-centered space is through utilizing user experience design, or UxD. UxD is a design philosophy that comes from the fields of human factors and ergonomics, and that focuses on machine/human interactions and interfaces (Pratt & Nunes, 2012, p. 14). Simply put, it is about creating an encounter between user and tool that is purposefully designed in such a way that it minimizes frustration and cognitive load while maximizing usefulness and accessibility.

To the uninitiated, UxD can be a scary proposition because it adds to start-up costs. Not only are there infrastructure and content development needs, but now there is the imperative to think about the users—the actual human beings using the service. Investing time into UxD, however, is an important start-up consideration in order to ensure the OWL service is effective at delivering instructional content and support. Clearly, there is a substantial problem if one

designs and implements a digital solution that is wholly unusable. For instance, it would be woefully poor design if the user had to click on seven links just to find the search bar *and then* read through five pages of size nine font to find the entry on how to properly cite government documents in MLA (Modern Language Association Style Sheet).

UxD issues do not end with traditional, text-based resources or asynchronous tutorials; they also impact video resources and synchronous tutorials. For example, when the Purdue OWL first launched its vidcast lecture series, there were few guidelines for developers about the format or length of the videos. This lack of direction meant that they were often rather long. The "Personal Statements" vidcast provides an example of what happens when there are no UxD directives to guide content development (Pinkert & Paiz, 2012). This vidcast is over twelve minutes long, far longer than the average *YouTube* video. Channel metrics, made available through the *YouTube* platform, showed that users typically stopped watching the videos after the two-minute-thirty-second mark. When the vidcast lectures first launched, they were often just voiced-over *PowerPoint* decks. Feedback from Purdue OWL users revealed that they found the videos boring and sometimes the voice-over was hard to hear, or they used difficult lexical tokens. This again highlights the need to take into account the needs and web consumption patterns of the targeted users.

Based on this information, the Purdue OWL staff created design guidelines that kept videos to three minutes or less. Also, using open-source video creation and editing solutions, the vidcasts began to incorporate more dynamic elements through the use of screen capture, which allows the viewer to see what was being done during the drafting, design, and revision stages of writing. They could see the act of moving paragraphs around during revision, or where to click to properly format a references list. Also, the inclusion of closed-captioning made the videos accessible to the hearing impaired and had the added benefit of making the videos more useful for second language writers.

Finally, there is the distinct possibility that online offerings from the writing center can serve as tools to encourage learner agency. This may be done by using OWL material in class, with additional scaffolds to show students how these resources can be used to help them with their writing. This can be delivered as part of a larger information literacy session either as part of classroom instruction or as a library workshop. Once students are made aware of the tool, and how to use it, they can then be encouraged to turn to this tool to further personalize their learning. As McLoughlin and Lee (2010) pointed out in their study of online educational technologies, many software solutions can be used to increase learner agency by teaching students how to make use of these materials to effectively guide their learning in ways that a.) match their interests, b.) fit their needs, and c.) extend classroom learning.

Practical Considerations

When it comes to practical considerations, the first question that needs to be addressed is, "What kind of OWL fits the needs and mission of the writing center?" A useful tool for addressing this question is Harris and Pemberton's taxonomy of OWLs. Their taxonomy is organized around the axes of interaction and time-displacement (see figure 1, below). For Harris and Pemberton (1995), *interactivity* referred to the degree of interaction between the

user and the service, while *time-displacement* related to the lag between the request for service and the fulfillment of that request (Harris & Pemberton, 1995, p. 146-147). The original taxonomy included examples of four kinds of network-based services: emails, synchronous chat, automated file retrieval (ARF) systems, and HTTP services. For this paper, the taxonomy has been revised and expanded to include alternative technologies that were either non-existent at the time, or under-utilized for providing writing center services.
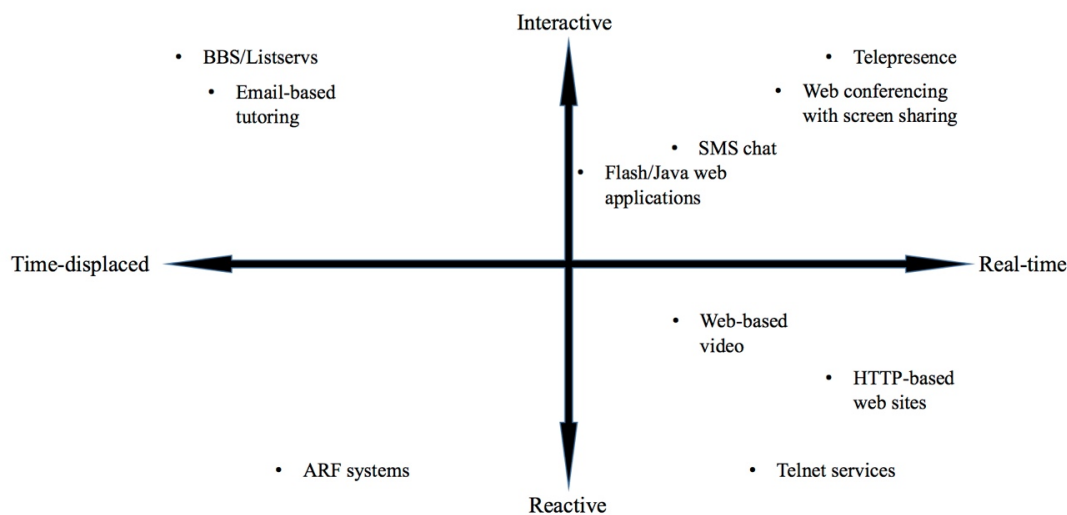
Figure 1. Updated taxonomy of OWL services (based on Harris & Pemberton, 1995, p. 147).

This taxonomy can begin to organize one's thinking about the investments in technology, equipment, labor, and training that may be needed to start an OWL service. For example, choosing an HTTP-based solution may require relatively little skill and training thanks to web-design and hosting solutions like *Wix* and *WordPress*. However, creating a more interactive experience using Flash or Java-based web application will require staff that have a more specialized set of skills.

The second consideration is related to funding. The material that is found on an OWL may be free to the public, but it is far from free to create, host, and manage. Therefore, writing center administrators must be prepared to explore a variety of possible funding streams. This means asking questions like the following:

- Will the OWL service fall under the writing center's budget?

- What current line items can/will be decreased to allow for an allotment to OWL services?

- Is there a way to secure an additional budgetary dispensation from the center's organizational unit on campus (department/school/college-level)?

- Are there external partners that the writing center can collaborate with to ensure additional funds while still maintaining control over the content?

Seeking collaborative partners means that the funding needs for the OWL service may be spread across many cost centers on campus. Perhaps, through a cooperative effort between an array of departments (e.g., the English Department, the Department of Foreign Languages, and the IT department) the cost of hosting and managing the OWL can be spread across these cost centers, thereby decreasing the burden each center must take on. This approach requires agreement from the other cost centers. Moreover, given how fiercely budgets are guarded, it may be an interesting conversation, one where a highly-placed ally—a sympathetic Dean of Student Success, for instance—may make or break the effort.

Finally, grants represent another possible funding avenue. When it comes to online learning tools, specifically open-access ones, there are many governmental, private-sector, or university-level grants that may be available. For example, the Purdue OWL is funded largely through a university reinvestment grant. The Excelsior OWL at Excelsior College in New York State has been financed through a mix of private- and public-sector grants (Lesczinski, 2015). And, there was once a project to bring online an interactive OWL for American high schoolers that was funded by a grant through the Bill and Melinda Gates Foundation (Bergmann, 2011, p.1). Outside of the U.S., it is possible that government-level organizations like the Ministry of Education (MoE) in China, the Ministry of Education, Culture, Sports, Science, and Technology (MEXT) in Japan, or the Ministry of Science and Higher Education (Nauka) in Poland may occasionally have funding opportunities available.

The next practical consideration is that of hosting and maintaining the backend—the servers and network infrastructure that will ensure that the OWL service is accessible to users. The backend also includes the content management system that drives the storage and delivery of the content that is made available through the OWL service. The following section will explore each of these matters in greater detail.

Regarding servers, one ought to consider whether or not their writing center can, and wants to, invest in a private server, or if renting space on a third-party server will be sufficient. Both of these come with a set of trade-offs. Having a dedicated server that is bought and controlled by the writing center can rapidly turn into an expensive budget item because of additional space, personnel, and utility requirements. Additionally, the campus IT department will need to grant the machine access to the campus internet. Obtaining this access may be far from simple because there may be the need to explain larger and larger bandwidth draws as the site becomes more heavily trafficked. There are also additional network security concerns that may complicate obtaining access from the school's IT department; network administrators are reluctant to allow a possible vulnerability onto their networks. However, a dedicated server is the best way to ensure that the center maintains complete control of the system. The Purdue OWL used to live on a computer in the writing lab's back offices. The Purdue Writing Lab had complete control of the server, but there was little in the way of technical support. This lack of support meant that if the system broke, it was up to a graduate student capped at working 10 hours a week to find a way to fix it.

Alternatively, having the university host the OWL service may lead to significant cost savings. However, the options and services that can be offered may be limited by the university IT department's capabilities and willingness to implement various solutions. For example, the OWL service could end up on a shared server; and if it is a high load, high traffic server, this could lead to access issues for the end user. Also, access to the server itself will likely be non-existent, and there will not be the autonomy to decide what technologies are running the backend, as the IT department may have restrictions in place. For example, part of the reason why there are not more interactive tools on the Purdue OWL, like self-grading quizzes, is because the IT department will not allow for the implementation of HTML 6 or Ruby on Rails (C. Spronk, personal communication, 2014). One could choose to go with a website hosting company for a monthly fee. However, read the fine print carefully, paying particular attention to who maintains control and copyright of the content. The upside to commercial sites is that they often have incredible uptimes, meaning uninterrupted access for the end user.

Content Management Systems, or CMSs, are the next practical consideration, and they are an important part of implementing an OWL. The first decision is whether to use a proprietary, open-source, or commercially available CMS. The Purdue OWL is run on a proprietary CMS that was coded in-house, called *Archimedes*. It is occasionally a temperamental system—seeming to sometimes misplace resources just for fun. Also, since the advanced technical capabilities of graduate students in the Purdue English Department are currently on the decline, it is becoming harder and harder to find staff that can maintain and upgrade the *Archimedes* system. This lack of departmental technical skill is because few students have entered the graduate programs in recent years that know how to code in C, Java, Python, etc.

The upside to a proprietary CMS, however, is that the writing center could maintain complete control over the system, its capabilities, and its future disposition. For example, with the *Archimedes* system, the Purdue OWL staff can rework the backend architecture to be more efficient and to create a more user-friendly experience. Likewise, functionalities can be added to the system over time, such as advanced metric tracking, automated message response, and WYSIWYG(what you see is what you get principle)editing software . That is, the format inputted into the editor is how it will appear on the web page. These changes can be made to the system as they are needed and at the discretion of writing center administrators. However, the one constraint here is, again, whether or not the personnel at the writing center will have the technical skill to carry out these tasks.

Alternatively, an open-source CMS, like *Drupal*, may be an attractive choice. Often, open-source CMSs are highly customizable, with community-created add-on modules available to better meet the needs of a given context. However, some open-source CMSs have a steep learning curve and little in the way of dedicated technical support; meaning that if there is a system issue, writing center staff may have to spend hours searching through community support forums finding a solution that may not work for the center's instantiation of the CMS.

Commercially available CMSs are another option, such as IBM's *WebSphere* software. Commercial CMSs may require an annual licensing fee and have limited customizability. However, these limitations come with the tradeoff of dedicated customer support to help

troubleshoot and fix issues as they arise. However, if the commercial CMS is missing a desired feature, it may not be as easily added as it is with a proprietary or open-source solution.

Once the decision has been made to launch an OWL service and the practical considerations are taken care of, the next step is to start populating the service with resources that will be useful to the student-writers who may make use of the service. These resources may include instructional material on genre issues, self-reference material on citation and research, information literacy resources on how to effectively use databases, and even information about, and space for, online tutoring. As online tutoring best practices have been discussed elsewhere (see Rillings, 2005; Severino & Prim, 2015), the following section will discuss matters of content development, as little work has been done in this area. Content development is an important consideration as new OWL services should not merely mirror the content of larger, more widely known OWLs (Tan, 2011).

Content Development

In regards to content development, it is important to keep in mind that people often interact with websites differently than they do with printed texts (Noyes & Garland, 2008). Brevity is vital when it comes to web-based instructional resources. A shoestring usability study conducted by a professional writing seminar at Purdue University found that users would often give up on using a text-based resource if they had to scroll for too long to locate the desired information (Salvo, et al., 2014, pp. 17). Based on these findings, Purdue OWL staff decided to limit the length of text-based resources to around 1,000-1,500 words per displayed page. This limitation means that there may be the need to break up more complex resources across many cross-linked pages, which must be balanced with an intuitive information architecture that facilitates ease of navigation. It also means creating an experience that facilitates returning to previously found resources should the need arise. During a massive redesign of the Purdue OWL, this led to the decision to include a "breadcrumb" trail at the top of the page that would allow users to easily navigate to earlier accessed sections of the site (Salvo, Brizee, Driscoll, & Sousa, 2006, pp. 14-50).

When it comes to video content, Purdue OWL *YouTube* analytics showed that people tended to stop watching around the 2:30-second mark. Therefore, it is best to have a short, well-paced video that explains a facet of a topic in some detail. So, a series of videos that fully explores an issue in writing could be considered a best practice. A focus group of content developers for the Purdue OWL indicated that shorter videos were also more likely to be used by classroom teachers, as they are easier to slot into lesson plans or to assign them for homework.

The teaching of writing, like any specialized area of academic inquiry, has its specialized vocabulary that writing professionals have internalized over years of study and practice. Moreover, for novice content developers, the temptation to use the shorthand of jargon is very real. However, some OWL and professional writing studies have suggested that there is the need to reduce jargon to only the essentials because students-writers, particularly L2 student-writers, often find this jargon to be inaccessible (see Paiz, 2017). However, we cannot deny the importance of a common lexis when it comes to talking about writing, and the writing center can help students to gain competence with talking about writing. There is, therefore, a need to

scaffold whatever jargon content developers choose to deploy with explanations and examples that are at a level appropriate to the average, targeted user of the writing center's OWL services.

Preliminary results from a currently in-progress OWL usability and accessibility project show that novice writers often require more than just one or two examples to fully understand the topic that a resource is attempting to discuss (Paiz, 2016). For example, the Purdue OWL offers only one example of how to cite a given source type in its very popular MLA and APA resources, which discuss the style guides of the Modern Language Association and the American Psychological Association, respectively. The participants in the study, freshman L2 writers at a Sino-American joint venture university, often found it difficult to fully comprehend how to properly cite something like a chapter in an edited book based on the single example that the OWL resource provided. In the first round of data collection, only 54% of participants were able to properly cite a chapter in an edited book on a task that provided them the bibliographic information and the relevant Purdue OWL MLA resource (Paiz, 2016). There are also early indications, from the same study, that OWL content developers should not shy away from negative examples. Negative examples that are annotated to explain why they are incorrect are often compelling alternatives for novice, L2 writers.

Another important rule-of-thumb when it comes to developing content for an OWL service is to fully utilize the multimodal nature of the web. Figure 2 shows a screen capture of the Purdue OWL's resource on hedging and medium certainty. This image is deployed alongside a prose explanation of hedging and can increase the efficacy of the resource for the user.
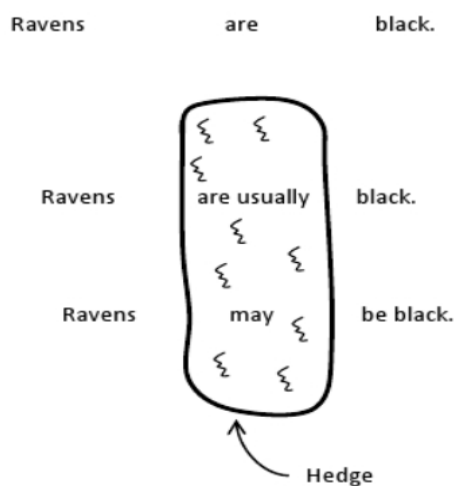
Figure 2. "Medium Certainty" resource from the Purdue OWL showing the use of informational graphics to reinforce the content of a resource.

This is achieved, in part, by relying on a graphic that reinforces the notion of the hedge as a protective barrier. In this graphic (figure 2), the hedges are outlined by a rough pencil sketch of a physical hedge (a small bush). This helps to reinforce the idea of the hedge as a barrier between a writer and overstating their claims, protecting them from unfriendly readings and a potential loss of credibility. The Excelsior OWL at Excelsior College provides another example of how to take advantage of the web's multimedia capabilities. Figure 3 shows a screenshot of their resource on argumentative essays. This resource, like many on the Excelsior OWL, makes use of stock photos to reinforce the general theme of the resource itself.

Figure 3. Excelsior OWL's "Argumentative Essay" resource showing the use of stock photos to reinforce a resource's main theme.

Dynamic content, such as vidcast lectures, introduce new challenges. To facilitate uptake of the instructional content, it is best to avoid talking heads or voice-from-nowhere narrated *PowerPoint* decks. Where possible, it is recommended to use screen capture technology to show what is happening instead of just talking about it with bullet points. Doing this can have the added benefit of teaching novice writers how to set various features in a word processing suite like tabs, proper indents, and even grammar checker parameters. By layering in these lessons, on content and technological literacy, the resource can further scaffold learner agency as they incorporate it into their personalized learning. With all content development, one must keep in mind the notions of usability, accessibility, and UxD. Doing so means, of course, testing. Now, when some hear the word testing, they think of something potentially expensive and time-consuming. However, usability testing can be done on a shoestring budget. That is, it can be done for little or no money.

Usability seeks to answer the question of whether or not a user can make use of a tool in a timely and efficient manner with a minimum of hassle and a short learning curve. With the best designed sites, one can, in relatively few clicks, find the material for which they are looking. For example, within three or four clicks, one can go to *Amazon* and find a book—Inman and Sewell's *Taking Flight with OWLs*, for example—enter their billing and shipping information,

complete the transaction, and return to something more productive, like running the writing center or spending time with a loved one. Usability testing is the way we check to see if a tool can meet the users' needs in an efficient manner. In its simplest form it involves giving the user the tool and a few find/execution tasks, watching them complete it, and asking them for their impressions.

Accessibility, on the other hand, seeks to answer whether or not users of differing physical, cognitive, and linguistic abilities can use a resource. For example, can a user with poor or no vision effectively use a screen reader, or other assistive technology, with the site? Or will they spend ten minutes listening to the various links in the navigation pane? Likewise, if you are targeting L2 writers, is the resource written at an appropriate lexile level? Or will they be looking every other word up in the dictionary? Accessibility testing is a little more in-depth than usability testing and may require that the writing center staff seek partners both inside and outside of the university. For a baseline reading, one can try using assistive technologies themselves to see if the site causes any issues. For example, use the screen reader *JAWS*, Microsoft's *Job Access With Speech* program, to test run a few pages of the site to see what kind of experience it creates.

User-experience Design, or UxD, is centered around maximizing the efficacy and pleasure of the human-computer interaction. This is done through purposeful visual design, a logical information architecture, and a meaningful interaction design. To execute UxD-informed design, one must turn to their potential users. One way that this can be done is by using wireframes of different elements of the website and asking users to place them on a canvas in ways that make sense to them, and that would provide them with ease of use. UxD sounds scary and complicated, but investing in UxD early on will create a usable and accessible site post-launch. Additionally, while UxD may add to start-up costs, it is a worthwhile investment. It often costs more to fix a broken resource than it does to design it properly in the first place.

Conclusion

Online writing labs (OWLs) present potent opportunities for writing centers to extend their services in a way that can support student learning at times when students most need the assistance, which is usually outside of business hours and away from the academic centers of the university. In this paper, I have also strived to provide the reader with a theoretical framework to allow them to advocate for the resources needed to start OWLs. Central to this theoretical framework has been the need to be locally responsive, speaking directly to the needs of the educational context and not just importing what has worked from more established OWLs. By doing so, those that want to start OWL services at their institution can work to tie that desire to the stated mission of their organization and to extend the learning space in ways that will be linguistically, culturally, and educationally relevant to students. Additionally, OWLs can be a tool to support student success by helping them to take increased agency over their learning. This increased agency can be achieved by designing OWL services that help students identify the areas in which they need additional support and to locate the resources that best fit their needs.

The practical concerns related to starting an OWL have also been explored in this paper utilizing an approach that combines recent research and my personal experiences as a former administrator at the Purdue OWL. This practical toolkit presented one tool-for-thought to help identify the kinds of OWL services that one may wish to consider as they design an online writing lab. This tool-for-thought was created by updating and extending Harris and Pemberton's (1995) taxonomy of OWL serivces. This paper has also presented a number of issues related to UxD and content development that potential OWL designers should consider when seeking to more efficiently use their time and resources. Content development is a primary concern as students will most often interface with the educational resources provided on the OWL. Therefore, they must meet students educational needs in ways that are linguistically accessible and culturally appropriate. Additionally, these materials must be presented on the web in a way that encourages students to actually use them. This means that useful resources should not be buried at the bottom of a long list of links—the more a person has to click to search for a resource, the less likely they are to ever actually find them and use them.

In conclusion, I would like to say that I firmly believe that more OWLs should be encouraged to hatch and take flight. This is because established OWLs like the Purdue OWL or the Excelsior OWL cannot be everything to every user. Local OWLs will be uniquely situated to meet the needs of novice writers in their national/regional context by discussing the common genre and rhetorical expectations in that context and by utilizing examples that resonate with their users. Additionally, local OWLs can facilitate global language learning by including resources on L1 writing in languages such as Polish, German, Thai, Chinese, etc. This kind of resource could be used to provide support in their respective SL/FL classrooms both inside of that country and abroad, further increasing the profile of both the Center and the university that hosts it. Finally, OWLs housed at institutions outside of Anglophone counties may also be better positioned to speak to, and to create value around, multilingual and translingual writing practices, thereby advocating for varieties of English beyond inner circle ones (e.g., American English, Australian English, British English, etc.).

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