

Warning! This Program Contains Graphic Content: Facilitating Understanding of Library Terms through Visual Rhetoric

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Introduction

This paper describes in detail a project that builds on recently-published research about students' difficulty understanding the terms used by librarians and professors in classroom instruction and in course materials. Grand Valley State University librarian Gayle Schaub and assistant professor of graphic design Vinicius Lima teamed up to create an informational campaign to promote the terminology of information literacy, and make it visible, appealing, and easily accessible to students and faculty. The campaign, designed by senior-level graphic arts students, dispenses with presuppositions of what college students may or may not know and attempts to meet them where they are, at whatever level of understanding they may be. It is bold, eye-catching, and instructive without being pedantic.

The collaborative process between librarian, art professor, and art students was a learning experience for all involved. The art students benefited from an exploration of library terminology they would not likely have otherwise undertaken, in a high-impact, real-world learning experience. The librarian achieved a level of comfort giving teaching and giving constructive feedback to students accustomed to working with faculty in a discipline very different from her own. The art professor gained a better understanding of the design and collaboration skills necessary for collaboration, and determination of the pedagogical fit of such a cross-disciplinary project within the GVSU graphic design curriculum.

Project Background and Rationale

In order to succeed in any discipline, college students must understand that discipline's fundamental theories, concepts, practices, and its language or terminology. This holds true for information literacy. While there may be some debate on whether or not information literacy is a discipline, it does use a specific terminology, or language, that students must understand in order to be truly effective users of information within their field of study. The difference between information literacy terminology and the terminology of a student's chosen discipline is that information literacy terms are an integrated part of the larger, comprehensive body of language used in higher education. They aren't contained neatly in one discipline; students see them in course materials, library instruction sessions, course syllabi, and hear them in conversations with faculty.

Professors and librarians cannot assume that students have encountered this information literacy language somewhere along the way, that they are familiar, confident users of terms like *scholarly*, *peer-review*, and even *database*. Recent literature demonstrates that students are largely unfamiliar and uncomfortable with college-level

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research.¹ A lack of understanding of the language may have something to do with that. Students don't come to college equipped with the basic vocabulary of libraries and research, just as they don't show up knowing the terminology of business, nursing, sociology, or English literature. They must be taught. Unless the people using the language included in syllabi, assignments, and classroom instruction make a concerted effort to define that language and check for understanding, they risk impeding deep learning rather than promoting it.

In 2015, co-author Schaub and colleagues surveyed a statistically representative sample of their university's approximately 25,000 student body. The survey, detailed in a forthcoming ACRL publication, included fourteen terms commonly used by librarians and faculty.² A significant number of student respondents—approximately 50% or more—failed to correctly identify seven of the fourteen terms.³ The results of the survey confirmed the study authors' suspicions that students may not understand the terms used in library instruction and any assumption on the part of library or other faculty that students have familiarity with this language—or that of higher education in general—should be reconsidered.

FIGURE 1
Surveyed Terms from Most to Least Understood

	Total Responses	Correct Responses	Percent Correct
Citation	768	669	87.11%
Bibliography	771	668	86.64%
Keyword	767	650	84.75%
Full Text	763	629	82.44%
Abstract	770	610	79.22%
Database	764	554	72.51%
Peer Review	769	477	62.03%
Journal	765	416	54.38%
Catalog	767	402	52.41%
Open Access	764	393	51.44%
Subject Heading	767	390	50.85%
Scholarly	766	315	41.12%
Source	763	286	37.48%
Stacks	764	170	22.25%

In that study, Schaub and colleagues were several ways to communicate with the wider university campus the language students need to better understand library instruction, reference consultations, and their course materials:

- Presenting findings in faculty workshops
- Designing professional development programs for library faculty and staff
- Creating a glossary of research and syllabus language in print and digital form for inclusion in course packets.⁴

The current project, proceeds from where the previous study concluded, using results of the survey to create a visual glossary to teach or reinforce the meaning of the seven least understood terms, *abstract*, *catalog*, *database*, *journal*, *peer review*, *scholarly*, and *subject heading*.

A glossary provides a permanent record of the information, offering reinforcement of the terms in a manageable and easily accessible format. Librarians and other faculty or staff can work to define terms when appro-

priate, as clearly and as often as possible, but it isn't reasonable or practical to expect that they can or will do so during each and every interaction, nor is it possible to know which terms students do understand, or to what extent. Moreover, relying on spoken information to relay new or unfamiliar content to students can result in extraneous cognitive load. Cognitive load, the demands placed on memory when students are trying to learn new material⁵ can be strained when “working memory resources are consumed by hard-to-understand, or poorly designed instructions, rather than by what needs to be learnt.”⁶ Cognitive load theory defines spoken information as *transient* information. Because of its lack of permanence, spoken information “of sufficient length and complexity requires learners to store and process information, if no additional permanent record of that information is available. Hence, spoken information can create extraneous cognitive load.”⁷ A written record, while offering the permanent record of information, must be manageable to be useful. Additional written information of too great length or detail can be challenging to process as well, but if “broken down into manageable proportions or supported by external offloads,”⁸ learners can ignore potentially extraneous information while processing what they need at the moment and return to it at another time.

The relationship between color and word recall has also been shown in the literature to aid both recall and retention of vocabulary. Numerous studies over the past forty-plus years provide solid evidence that pictures relay meaning more quickly than words,⁹ and there is significant research to show how color, when combined with written text, improves recall.¹⁰

The most useful glossary, it seems, would be one that “chunked” the information¹¹ and encouraged a relationship between word and color. Schaub approached Assistant Professor of Graphic Design Lima with the idea for a collaboration with his students to design an informational “campaign,” an attractive, permanent glossary of terms, using color, images, and text that would allow learners a way to process needed information at a time and place that worked for them.

The Collaboration: Planning the Project

In spring, 2016, Schaub pitched the idea to Lima for his students to design a visual glossary, containing images or icons along with text to define and illustrate the meanings of terms from her previous study, in print and digital format for use in and outside of the Library. The glossary could also be embedded in students' course management sites. Rather than a black and white list of terms that, while theoretically useful, was unlikely to get much use by students or faculty, Schaub envisioned something that combined information with art. Colorful images designed *by* students *for* students could disseminate necessary information in an attractive package.

Both authors viewed the project as a great opportunity to develop a high-impact educational practice for the students. It would allow Lima to assess whether or not the art & design curriculum did, in fact, provide effective, adequate preparation. Lima also thought this would be way to teach students *how* to collaborate. Traditional design schools work at honing the student's formal skills but don't always provide the kinds of real-world experiences that take students through the entire design process, start to finish, involving them in the collaborative experience. This project would necessitate that the students develop professional skills as well as technical ones—negotiating with a client, responding to professionals other than their instructor—and perform in a variety of roles; e.g., production assistant or art director.

Lima chose to present the project as a semester-long class assignment to the students in his ART 410: Graphic Design 5 course. Graphic Design 5 is a senior-level course and the second advanced course in the university's graphic design curriculum.¹² After being introduced to myriad topics in the discipline from print to web, students in this course are presented with complex layout problems. In the graphic arts curriculum, within each of the courses leading up to ART 410, projects are stand-alone. For instance, students design a poster, a website,

or packaging for a given product, but not until ART 410 do students create a concept, a collection of items that must interact with meaning and convey a message through different media. They learn how to communicate in a variety of form factors and environments while maintaining a consistency of idea, values and identity. Group projects are the basis of this course. At this point in the curriculum, when formal training is almost complete, students are more confident to offer ideas, discuss, and collaborate.

“Learn the Terms:” Creating a Campaign

The project began in the fall semester of 2016. It was introduced in October to the class of fourteen students, who met twice weekly, and lasted five weeks. Waiting until class members were acquainted with each other allowed them time to develop a sense of group identity. Students formed groups of four or five. It was expected from each student that at least six hours outside of the class meetings should be devoted to the course. Thus, each student would plan on spending a total of 55 hours on the assignment.

In the project brief, provided in the Appendix, students were asked to read Schaub’s study while considering the context of their campus community, and develop an informational campaign around it. For the first time in their experience in the curriculum, they were not being told exactly what they should be doing, nor were production requirements explicitly laid out for them. The class met as a group to discuss the article prior to meeting Schaub for the first time. At this meeting, the ideas presented for the campaign were somewhat predictable. It seemed the students were approaching the project as any other they had done before. Posters were mentioned, but no one had a specific idea of the design direction these or any other pieces would take.

In this meeting, Schaub suggested that the groups design pieces defining only seven of the fourteen survey terms, those being the terms that caused the most confusion in the original study: *scholarly*, *database*, *peer-review*, *journal*, *subject heading*, *catalog*, and *abstract*. Schaub provided definitions of each term and discussed them with each group. The detailed definitions were more than what Schaub anticipated to be included in the creations, but necessary to assure a shared understanding of the terminology and to supply the student designers with a clear and consistent message.

FIGURE 2
Student Ideation Activity



In the first meeting with Schaub, the students learned more about her research and she presented to them her inspiration and ideas for the information campaign. All parties brought up ideas for pictograms and icons at this time. At this point, ideas remained nebulous and not well integrated, so for the next class meeting, Lima led a multi-part ideation activity.

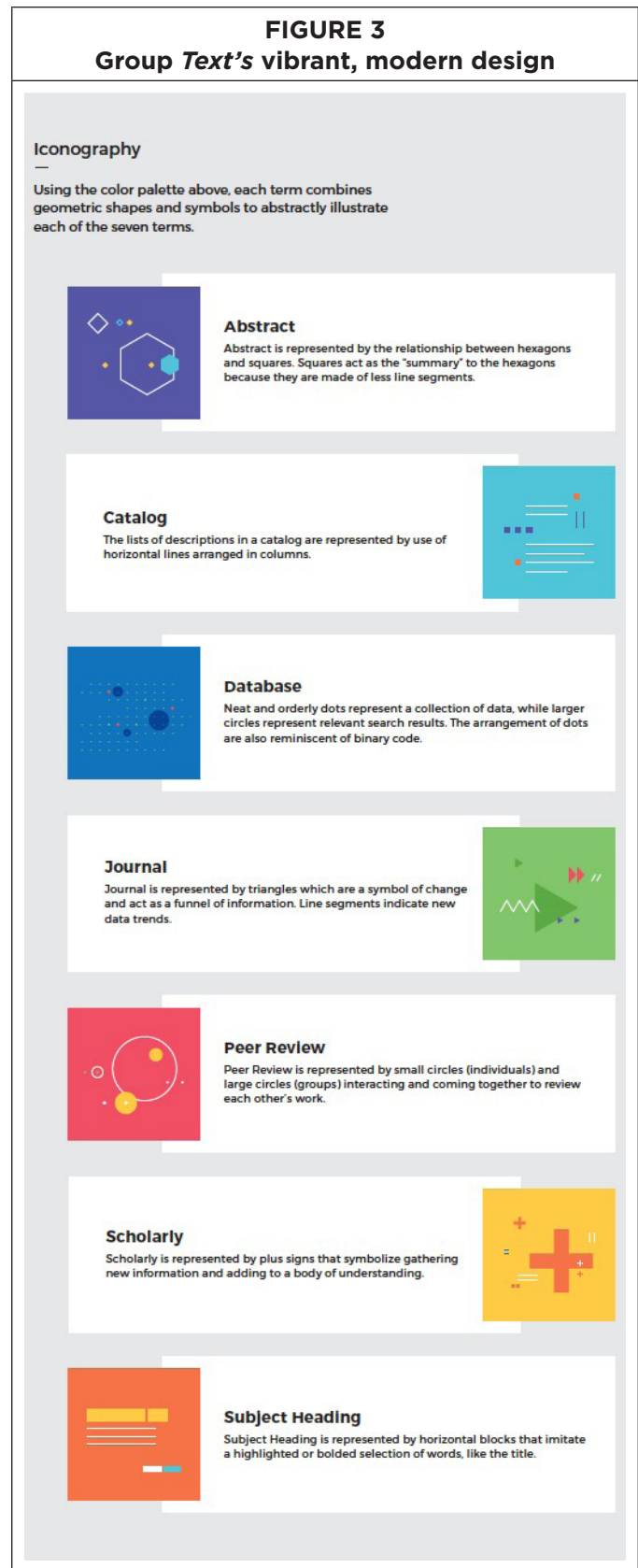
In the activity, teams defined a problem statement based on the data presented in Schaub's article, and generated ideas for its solution. They then categorized their ideas, identified patterns, and prioritized solutions, selecting those which were likely become the starting point for prototype development. The groups received guidance on how to prepare for the next meeting with Schaub, but did not receive a uniform list or agenda.

During the second meeting with Schaub, student groups proposed a common set of prototype touchpoints, or points of contact, physical and digital, incorporating the original ideas. Schaub, along with a user experience librarian, programming librarian, and web librarian evaluated and selected the final prototypes, which were organized into four categories:

- *printed material* (touchpoints to be affixed to a wall or distributed in flyer/handout format)
- *digital material* (screen-based touchpoints to be easily accessible via course management software or library website)
- *giveaways* (touchpoints that would disseminate the information during campus events or at library service desk)
- *other* (prototypes that had potential to become highly effective for the campaign goals but would not fit neatly into the previous categories)

With the basic parameters for the proposals defined, each group determined what visual composition elements would be used in their creations. The results were three distinct proposals, referred to here as *Text*, *Symbols*, and *Icons*, explained in the following paragraphs.

FIGURE 3
Group *Text's* vibrant, modern design



The Three Design Proposals

The first group, *Text*, emphasized the written information and pair it with abstract compositions reflecting the meaning of each term. The compositions consisted of basic geometric shapes and lines and used a vibrant color palette, adding a layer of modernity to attract the target audience (Figure 3). The typographic decisions also revealed an attempt to make approachable content not often seen as such. These students did not produce any touchpoints from the *other* category, but included digital images for embedding on the library's website.



Text's proposal relied heavily on the slogan, "Learn the Terms," asking learners to *learn*, but not *memorize* the words. It instead offered definitions in an inviting and accessible design. This was the only group to forfeit color on a handout containing all terms, a small and seemingly unimportant choice until one considers the ability of university students to reproduce items in color. Most students don't own a color printer and might choose to not print a color handout because of cost and/or print a low-quality b/w version. It was a subtle but significant way to make information as accessible as possible and their refusal to compromise quality, and showed the group's design thinking.

Symbols' five-person team's strategy was twofold: use the definitions paired with symbols, and show students the relevance of the information by incorporating data from

Schaub's research into the materials. The compositions were mainly typographical and the symbols were reminiscent of elements' symbols in the periodic table. Given that the proposal was mostly typographic, the group chose to pair two typefaces for more complexity in the composition. *Symbol* also developed a slogan for their touchpoints, "Things You Should Know by Now!" The tone of the text, however, seemed slightly authoritative, raising concerns among the team of selectors that students may feel intimidated by such a message; it may encourage a sense of inadequacy instead of empowerment. Yet, at the same time, this was only group that included a data visualization from the original survey, creating a kind of infographic, Schaub's original idea for the project. Showing data can be an effective strategy to convince skeptical minds they might need to understand library terminology to succeed. It could also be an eye opener and encourage some students to seek assistance at the library helpdesk. Despite the more strict tone, there was merit in the proposal, from a practical standpoint.

The third group, *Icons*, also consisting of five students, proposed an icon system developed to reflect the meaning of each of the terms. The icons were designed using flat design. "Flat" digital design is a style "characterized by a really minimalistic look, focused on removing all extra elements and effects...creating a very simple and clean look that seems visually flat on the screen, by using white space, bright colors, and simple lines as layout elements."¹³ Each icon was enclosed in a circle, in direct contrast to the rectilinear interiors of the university's main library building. The features of each of the icons, such as the rounded corners and thicker lines, made them friendly, and the bright, complex color palette aimed to help students differentiate



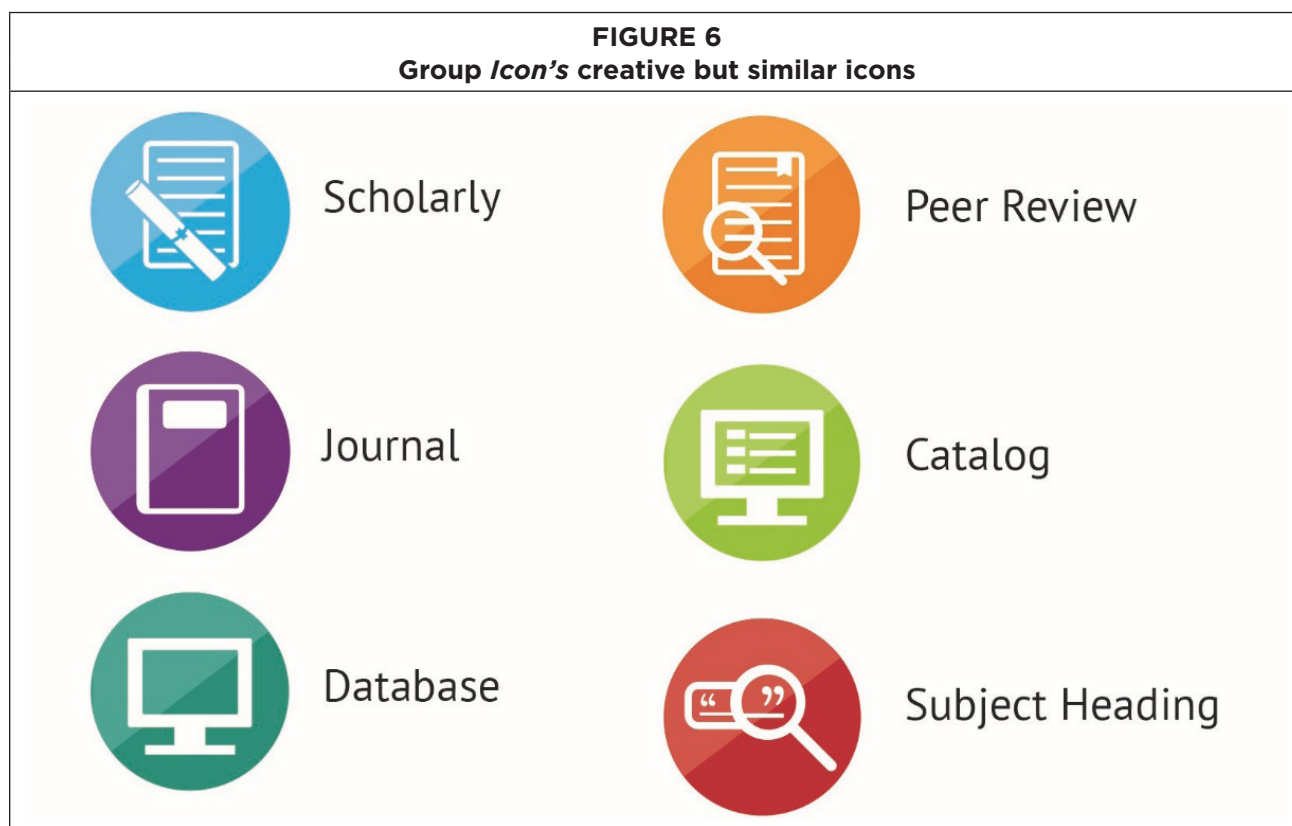
one term from another and associate a particular color with its corresponding term. The imagery was well explored; the journal icon evoked the idea or memory of a physical journal. Some icons, though, were a bit too similar (database and catalog). For a campaign to succeed in getting students to associate an image with a word, such similarity could pose a challenge (Figure 6).

The groups worked on their designs with direction from Lima and input from Schaub. Schaub visited the class at different points in the semester to discuss various aspects of each proposed campaign. She met with each group to discuss the terms and their meanings, the practicality of different touchpoint ideas, and the look of the items. The assignment was never framed as a competition, yet it wasn't realistic or pedagogically sound to produce three sets of touchpoints. With the goal being to encourage an association between term and color/image, offering a variety of images and designs would be confusing and would defeat the project's purpose. It became clear to the authors that only one group's designs could define the campaign, and therefore, only one proposal would be implemented. The library evaluating team was unanimous in its preference for the campaign designed by *Text*, whose abstract compositions

inspired by the terms' meanings was exciting, innovative, and most importantly, showed a profound understanding of the seven words and concepts. Though plans are underway to produce the touchpoints designed by *Text*, all three groups' proposals will be featured in a spring 2017 exhibition in the library.

Assessment: The Project

At the end of the semester, students were asked to submit feedback about the project and the collaboration experience. Group members expressed concerns about group size and distribution of workload, issues that could be addressed in a possible second iteration of the campaign. Students responded that they enjoyed having a "client," a realistic project to work on during this class. These comments affirmed Lima's decision to prepare students for real-world design through semester-long projects that require his students to tackle all aspects of design, from ideation to formal proposal. Based on the success of this pilot project, Lima and Schaub plan to continue, adding to the glossary in future semesters and, through the exhibit, intend to share their experience with other faculty to hopefully inspire other cross-disciplinary collaborations that offer students high-impact preparation for life after graduation.



Evaluation: The Campaign

In determining the usefulness of this project in IL, it may be more productive to consider evaluation over assessment. Assessment is challenging for a number of reasons. The 2015 survey measured a representative sample of a specific student body at a specific point in time. They can be taken as a broad measure, though a new survey could not replicate that particular survey or sample. Tracking students' responses to a new survey in relation to their interaction with the campaign touchpoints would be difficult, if not impossible. Instead, regular, on-going evaluation of the campaign's influence may be achieved through observation and conversations with students, librarians, and other faculty. Monitoring the library's discovery tool may also indicate students' increased usage of limiters, such as *scholarly* and *peer-reviewed* literature. While the authors could not prove such an increase to be a direct result of the campaign, it could be part of an overall pattern in students' information seeking behavior, possibly indicating increased familiarity with terminology. Evaluative feedback has its limitations, but is more suited to a project whose aim is essentially to engage and inform.

Conclusion

In the ACRL Framework for Information Literacy for Higher Education, one of the six frames is built around the idea that research is inquiry, an iterative process in which we ask questions, interpret information, draw conclusions and ask new questions.¹⁴ We organize information, building on what we learn in order to make meaning. The "Speaking Librarian" project is an example of the iterative process in action. It builds on the research showing us that students don't understand the words we use. In this collaboration, the questioning, the interpretation, and the organization was done *by* graphic arts students *for* all students. The ART 410 students were never explicitly told they were employing the concept of "research as inquiry," though they definitely engaged in the

knowledge practices and clearly exhibited the dispositions of information literate students as they proceeded through the various steps of the creative process.

The multi-media glossary they designed will hopefully go a long way to help students learn the language they need outside of instruction and consultation, so that librarians can spend the time needed to encourage in students a deeper understanding of why we do research, how information is disseminated, and how to recognize good information from bad. As information outlets and formats proliferate and fake news becomes indistinguishable from real, librarians must encourage critical thinking. This project provides a vital reallocation of time and a unique, engaging teaching resource that promotes the understanding and retention of a basic yet necessary vocabulary.

Notes

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3. Ibid.
4. Ibid.
5. Singh, Anne-Marie, Marcus, Nadine, and Ayres, Paul. "The Transient Information Effect: Investigating the Impact of Segmentation on Spoken and Written Text." *Cognitive Psychology*, 26, no. 6 (2012): 848–853, 848.
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10. Conrad, R. "Form and Color as Short-term Memory Codes in Preschool Children." *Psychonomic Science*, 27, no. 4 (1972): 225–226.
11. Carter, Terri, Hardy, C. A., and Hardy, James C. "Latin Vocabulary Acquisition: An Experiment Using Information-processing Techniques of Chunking and Imagery." *Journal of Instructional Psychology*, 28, no. 4 (2001): 225–228.
12. Emphasis courses in the GVSU Department of Art and Design are organized sequentially in the following order: Introduction, Intermediate I, Intermediate II, Advanced I, Advanced II, Senior Project. The first two are taken in the student's sophomore year, the next two in their junior year and the last two in their senior year. ART410 is the first senior-level course in the Graphic Design curriculum.
13. Pratas, Antonio. *Creating Flat Design Websites*: Olton Birmingham, GB: Packt Publishing, 2014, 5.
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Appendix

ART:410:001

FALL 2016

PROJECT 3

PROJECT BRIEF

3

Speaking Librarian

INTRODUCTION

"The design thinking process is best thought of as a system of overlapping spaces rather than a sequence of orderly steps. There are three spaces to keep in mind: inspiration, ideation, and implementation. Inspiration is the problem or opportunity that motivates the search for solutions. Ideation is the process of generating, developing, and testing ideas. Implementation is the path that leads from the project stage into people's lives" Read more at <https://www.ideo.com/about/#e3GDkBdsYim5MPZs.99>.

THE BRIEF

Gayle Schaub, Patricia Bravender, Cara Cadena and Cristopher Kierkus are faculty members at gvsu. This past March, they published the results of their research on students' understanding of information literacy terms. The article, called "The Language of Information Literacy: Do Students Understand?" analyzes students' understanding of fourteen commonly used information literacy terms.

They would like to address this issue and, for that, they reached out to the Graphic Design Program at gvsu. They are looking for someone to collaborate with (*you!*) to create meaningful pieces "they can use in the Library that are visual and not the same old handouts or videos they are used to creating and seeing".

TOUCHPOINTS

- You must design an information campaign that targets students at gvsu directly to inform them of the meaning of the terms mentioned in the article.
- The exact solution to be possibly implemented will be defined by you. Ideas such as pictograms, signage, and the like have been brought up in preliminary discussions, but feel free to bring other possibilities to the discussion. Actually, we expect you will.

PROCESS

- Read thoroughly the article provided to you and understand the intent and findings of your client's research. Take notes. Summarize the article and its keypoints.
- You should become an expert in information literacy. If you don't know the meaning of all terms, make sure you do your personal research to get acquainted with them in the early stages of the product. You cannot propose a solution without a thorough understanding of its subject.

- We will meet Gayle at the Library on October 4th, 2016, 9:00 am. Come ready for the meeting with questions to ask her. Lots of them. Communicating with your client is part of the graphic design process.
- You should spend some time in the library to observe students and their studying habits. Observe high and low traffic areas. Bring a camera and a notepad. Take photographs that could be helpful for your proposal.
- Also, consult with your friends and collect their thoughts on this issue. It might be eye-opening.
- This time you will be the designer but remember that you once are also the target audience for this. Think back to the time when you started writing scholarly articles and what were your difficulties. This might bring a level of empathy to the problem that could lead to a stronger, more effective solution.
- We will be discussing as a class about the produced touchpoints and the problem at large. You should engage in this discussion at all times.
- Once this development stage is completed, you will be working in groups of 4/5 students. This should allow for three prototypes to be produced by the class.

PRESENTATION

You must present your findings to the class at the specified due date. Gayle will be present at this event and will provide you with some feedback. Make this presentation an engaging piece. Be friendly and informative at the same time. Include your background research. Practice what you will be mentioning beforehand. Come ready to take notes and receive feedback from an actual client.

One of the final results will be implemented at the library. This is very exciting! Your project will be seen by over 20,000 students and other members of the gvsu community. Challenge yourself to excel at this project at all times. Some changes may be requested of your client in order to do so and you are expected to work alongside Gayle on this to implement this solution.