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Kayla Birt Flegal DePauw University, kaylabirt@depauw.edu

Alexandra Chamberlain DePauw University

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Visual Thinking Strategies and the Framework in the Undergraduate Classroom:

Research as Inquiry and Scholarship as Conversation through the Lens of a University's Art Collection

Kayla Birt Flegal and Alexandra Chamberlain

Introduction

The following case study details a collaboration between the DePauw University Libraries and the DePauw University Galleries and Collection at the Richard E. Peeler Art Center (Galleries at Peeler). Together, a representative from each of these



contributing partners (Kayla Birt Flegal, Access and Outreach Services Librarian, with Rank of Assistant Professor from the DePauw Libraries, and Alexandra Chamberlain, at the time of this research was, Assistant Director and Curator of Exhibitions and Education from the Galleries at Peeler) sought to assess student confidence in scholarly discourse through the use of the combined pedagogical theories of Visual Thinking Strategies (VTS) and The Association of College and Research Libraries (ACRL) Framework for Information Literacy for Higher Education (herein Framework) in the classroom learning environment for the course Academic Excellence Seminar (UNIV135). Together, these theories provide a shared foundation for instructional design and assessment. The VTS sessions provided a setting for students to explore Research as Inquiry and Scholarship as Conversation, two frames outlined in ACRL's Framework. Pre- and post-VTS session surveys gave the authors feedback directly from the students, while observations based on VTS and the Framework rubrics during the VTS sessions provided data as well.

Through this partnership, the DePauw University Libraries and the Galleries at Peeler were able to support their individual missions, as well as the mission of the university, giving evidence to the necessity of both academic endeavors and to the success of students across disciplines.

The Setting DePauw

DePauw University is an undergraduate liberal arts university located in Green-castle, Indiana, comprised of approximately 2,200 FTE students. The institution values encouraging its students to strive to examine topics through various, if not seemingly disparate, lenses. In its 2017 revised mission statement, DePauw University states that it "develops leaders the world needs through an uncommon commitment to the liberal arts." More specifically, the University points out that through its role as a liberal arts institution, its "diverse and inclusive learning and living experience, distinctive in its rigorous intellectual engagement and its global and experiential learning opportunities, leads to a life of meaning and means. DePauw prepares graduates who support and create positive change in their communities and the world." Because of its size and its goals in providing a distinctive liberal arts education to explore and engage a diverse curriculum, the DePauw University Libraries and Galleries at Peeler are uniquely situated to be the collaborators for cross-disciplinary campus partnerships.

DePauw University Libraries

As many libraries have already noted, the DePauw University Libraries is seeing a decline in check-outs of physical research materials and an increase in digital resource use. This increase in digital resources and their use does not necessarily

mean there is an increase in students' use of research reference services (offered readily) nor does it indicate an increase in student research confidence. What librarians have anecdotally noted, and faculty have reported, is a frequent disconnect between students' understanding of what research requires and what the students are capable of accomplishing. Libraries and librarians are situated to address students' research needs beyond access to resources, and this includes the students' conception of and confidence in research.

The DePauw University Libraries serves as the academic "center" of the university—much like the fitness center is for the body, the library is an interdisciplinary center for the mind. This is exemplified by the libraries' central location in an academic quad as well as its dedication to being a student-centered space. The libraries' mission is to support the academic curriculum and co-curriculum of the university, as well as the research interests of faculty and students. The mission of the DePauw University Libraries indeed leaves out the importance of the holistic understanding of research the greater library community recognizes (for example, ACRL's *Framework for Information Literacy*). With this in mind, Birt Flegal realized an opportunity to promote the spoken and unspoken mission(s) of the library while encouraging students to find their research voices.

Galleries at Peeler

Similar to the DePauw University Libraries, the Galleries at Peeler also support the academic curriculum and co-curriculum but are often assumed to only support that of the fine arts. In this misunderstanding, the authors saw an advantageous partnership: to bridge two entities that are able to work interdisciplinarily by nature to promote student learning.

Like the DePauw University Libraries, the Galleries at Peeler often experience a disconnect in regard to campus utilization of its resources. The Galleries at Peeler is the university museum for DePauw. Housed in The Richard E. Peeler Art Center, it is the educational mission of the galleries and collections to inspire and engage diverse audiences through its collections, exhibitions, and public programming, and to stimulate the spirit of inquiry through a variety of learning styles. The team at Peeler is dedicated to providing educational programming that enhances the cultural life of the immediate community by contributing to the enrichment of students, faculty members, and the general public. While it quickly became the strength of the gallery staff to connect exhibits and collections across disciplines and throughout the community, they often found the existence of the galleries themselves fell under the radar, specifically in useability for faculty and staff for the benefit of their students. On a campus of over 2,700 individuals, prior to the 2016–2017 academic year, the Galleries at Peeler typically only saw between 1,000 and 2,000 visitors per semester. In a step toward fulfilling and acting on the teaching aspect of its mission, in spring 2016, the

Galleries at Peeler created a new position among the gallery staff: assistant curator of exhibitions and education (promoted to assistant director and curator of exhibitions and education in fall 2018). This position was tasked with two roles primarily: (1) develop more educational opportunities in which the collection and exhibitions on display could be utilized throughout campus and community, and (2) work toward establishing a better relationship with the audience of the Galleries at Peeler, thus raising visitation statistics. It is worth noting here that within three years of the creation of this position, visitorship with the Galleries at Peeler increased by almost 60 percent.³

The Galleries at Peeler hosts approximately ten exhibitions per year in about 10,000 square feet of space. These primarily consist of traveling exhibits, student shows, faculty shows, artist solo/group shows, and exhibitions curated from the university's permanent art collection. The staff maintain a programming focus to be as interdisciplinary as possible in order to reach across campus disciplines. Housing the university collection of approximately 3,700 objects, the Galleries at Peeler offers teaching and research opportunities through exhibitions and collections objects alike.

Looking ahead, the gallery program is in a strong position to develop deeper, more meaningful relationships with campus and community. Leveraging the vastly improved collection for exhibitions and undergraduate research, teaching, and learning, as well as campus and curricular partnerships, as evidenced by this partnership with the DePauw University Libraries and UNIV 135 course, the Galleries at Peeler are, at long last, poised to do great things with the very tools and treasures at its disposal.

UNIV135

The course description for UNIV135 states, "This course is designed to support students in their development as learners through readings, reflective writing, and class discussion. Topics covered include active reading, taking good notes, preparing for exams, and time management. Students will be encouraged to explore their strengths as scholars, to address their weaknesses and to become more engaged in the learning process." Students self-identify for the course, and the course is often recommended to struggling students by their academic advisors. Struggling, in this case, can mean emotionally or academically as an undergraduate student to the extent that it is affecting their academic performance. Students can be referred to the UNIV135 course as incoming first-years or can self-select the course as a sophomore or junior; seniors are not allowed to take the course. The course also tends to attract international students as a course that will aid in acclimating to the US collegiate learning environment. In fall 2018, the course was composed of three upperclassmen (sophomores and juniors) and eleven first-years; four students identified as international students.

A unit of the course covers research strategies, which typically involves meeting with a librarian to discuss research and access to resources. But it was recognized there was something impeding students from engaging in research with confidence. Students did not seem to acknowledge that research begins with inquiry and scholarship is an ongoing conversation, of which they are a part. Instead, students felt that the research process was an insurmountable task and often mentioned anecdotally being overwhelmed by the assignment. This caused the students to procrastinate their research assignments and complete them in more of a "crisis mode," completing the bare minimum requirements and turning in "something" rather than producing work of which they were able to be proud. While knowing what resources are available is important, for this course in particular, it was deemed a priority to instead focus on how undergraduates see themselves as valid researchers who can complete assignments with confidence.

Instructional Model

The Framework

ACRL's *Framework* is a basis of assessment and professional goals for instruction librarians at the university level. Built around six conceptual frames, the *Framework* outlines learning practices and learner dispositions to establish expectations and outcomes for each frame. For the basis of this research, the authors have focused on two frames: Research as Inquiry and Scholarship as Conversation. Research as Inquiry posits that research is a repetitive process that requires students to continually ask questions of increasing complexity. Scholarship as Conversation supports the importance of sustained scholarly discourse.

The *Framework* posits the flexibility of the interconnected core concepts in relation to the rigidity of standards. The core concepts, or frames, give practitioners areas of information literacy competency with varying degrees of aptitude. This allows librarians to create scalable lessons according to the needs of the students. Research as Inquiry builds upon asking increasingly complex questions to refine their research topic and scope while considering information from multiple sources to synthesize into a cohesive argument. For the UNIV135 students, this meant approaching research as merely asking questions. As practice, Birt Flegal had the students write down a basic list of questions regarding a topic for a research project they had to complete. Students brainstormed for ten minutes. Following this, students paired up and partner A had one minute to introduce their topic to partner B; then partner B had three minutes to ask questions about partner A's topic. Then they switched roles. This afforded students to hear other questions they might not have thought of when contemplating their topic.

Scholarship as Conversation encourages learners to seek out voices from various areas and have the agency to respond to these voices. Students mentioned

they did not have the authority to speak to topics they were assigned for research projects in various courses. When pressed, students merely said they were not knowledgeable enough in the topic, or sometimes they were not even vaguely interested, so they did not have anything to contribute. The lack of confidence in this area was directly addressed by the students in UNIV135 through the sessions with Chamberlain using the pedagogical theory Visual Thinking Strategies, asking simple questions to establish authority.

Visual Thinking Strategies

Visual Thinking Strategies (VTS) is a research-based teaching method focused on a teacher-facilitated discussion surrounding carefully selected images for a student-centered discussion discovery process to take place. "VTS uses art to teach visual literacy, thinking, and communication skills—listening and expressing oneself. Growth is stimulated by several things:

- Looking at art of increasing complexity
- Answering developmentally based questions
- Participating in peer group discussions, carefully facilitated by teachers."⁴
 In its original form, VTS asks three questions during a session with students/visitors in which all feedback and conversation happens out loud and in dialogue
 - 1. What's going on in this picture?
 - 2. What do you see that makes you say that?
 - 3. What more can we find?

with each other:

For the purposes of this case study, the authors slightly tweaked the format of the traditional VTS to assist in the observational need of the authors and further the classroom-based nature of UNIV 135. Students in each session were encouraged first to write their personal answers to the VTS prompts above without discussion with one another. After allowing the students some time to reflect and write, the authors then facilitated a discussion following the traditional VTS format. The authors found that allowing those students who do not initially speak in front of their peers the opportunity to collect their thoughts prior to others speaking allowed for more conversation to take place among the entire group instead of quieter individuals simply nodding in agreement with the loudest voice in the room.

Additionally, the written component provided the authors with an increased understanding of students' reactions to the sessions, outside of body language observed throughout the process. For example, many of the written responses received at the second session voiced the applicability and use of close looking and increased attention to detail throughout other academic courses. Students throughout these sessions were also willing and understanding in listening to others' personal reactions to the works on display, and rather than focusing on the negatives in their opinions being different, showed excitement in seeing

how someone else was interpreting the same information they were given. The authors realize that these findings could only come about through the utilization of both written responses and traditional VTS methods as well as a constant observation of participants' body language throughout the session.

Case Study

Preparation

The authors worked together in the past utilizing a VTS exercise in the spring 2018 iteration of UNIV 135. Realizing its potential, the authors met before the start of fall 2018 to design another VTS visit for the upcoming class. Together they designed a two-stage process to quantify how VTS can help support student confidence, building in the research process.

In choosing works for the two sessions of VTS for the UNIV 135 fall 2018 course, Chamberlain made a short list of works from the collection that provided some built-in narrative structure for any onlookers—i.e., no works of abstraction were considered. Together, the authors decided on a photo by Robert Doisneau for the first session and a photo by Sonja Hinrichsen for the second session.



FIGURE 3.1. Sonja Hinrichsen, *Big Circle (from "Snow Drawings")*, 2009, 2009.11.1.5, DePauw University Permanent Art Collection, with permission from the artist.

While both chosen works used photography as their medium, each presented a wholly different narrative to unpack and explore for the students. Doisneau's black and white *Le Petit Balcon*, 1953, depicts a bar scene with several individuals gazing toward but not directly at the photographer. Hinrichsen's *Big Circle (from "Snow Drawings")*, 2009, presents a drastically different scene (figure 3.1).

In full, contrasting color, Hinrichsen shows viewers a landscape, covered in snow, but disturbed by the presence of someone, or something, creating a meditative path of concentric circles out from the photographer.

To track student responses and classroom discussion during the VTS sessions, a rubric was created. The authors looked at various rubrics that had already been created according to the two frames from the *Framework* as well as VTS. The rubric for this project included areas of assessment for the in-class discussion of the artwork. The rubric was adapted from Smita Avasthi's "Student Learning Outcomes with Rubrics for Performance Indicators for Community College Students" and the VTS rubric outlined by Yenawine. The rubric for this case study includes assessment of observations and basic interpretation, multiple interpretations and probing questions, open-ended questions, investigative inquiry, and conversational inquiry. The rubric gives the instructors a way to record the students' comments and interactions with each other in academic discourse.

The authors also conducted a student self-assessment at the beginning and end of the semester to evaluate students' perceived confidence in participating in academic discourse, adapted from a 2008 Carnegie Mellon University Assessment Task Force survey. The survey includes Likert-scale questions regarding

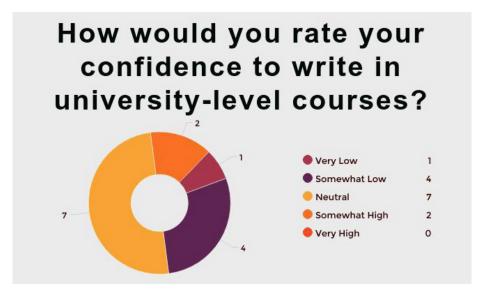


FIGURE 3.2. Student responses from question 1 of the pre-survey given at the beginning of the semester, fall 2018.

confidence in the areas of university-level writing, course participation, research, and comfort in visiting museums. The authors also gathered information on intended major(s) and first language(s). Together, Birt Flegal and Chamberlain hypothesized the self-assessments would show an increase in confidence over the course of the semester. The following figures show the responses in the pre-survey given to the UNIV 135 students at the beginning of the semester.

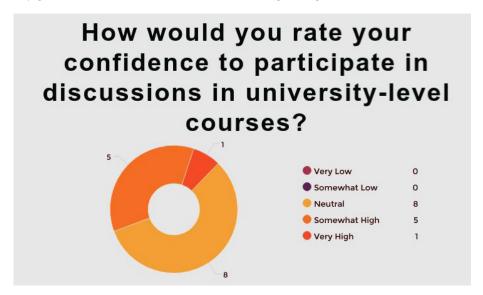


FIGURE 3.3. Student responses from question 2 of the pre-survey given at the beginning of the semester, fall 2018.

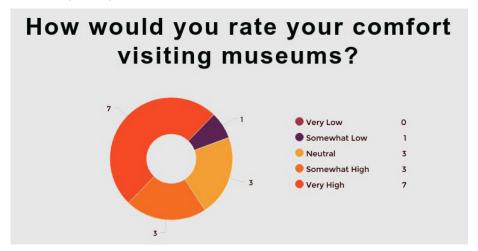


FIGURE 3.4. Student responses from question 3 of the pre-survey given at the beginning of the semester, fall 2018.

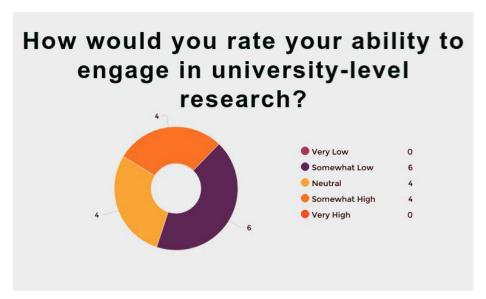


FIGURE 3.5. Student responses from question 4 of the pre-survey given at the beginning of the semester, fall 2018.

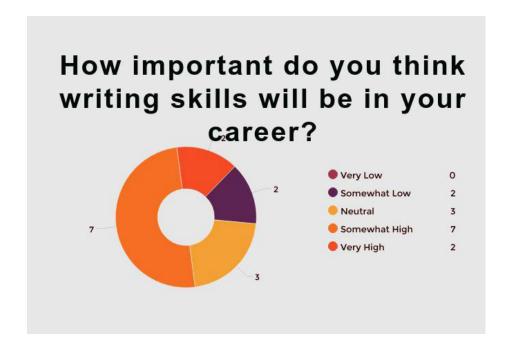


FIGURE 3.6. Student responses from question 5 of the pre-survey given at the beginning of the semester, fall 2018.

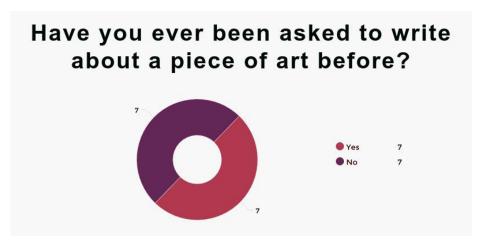


FIGURE 3.7. Student responses from question 6 of the pre-survey given at the beginning of the semester, fall 2018.

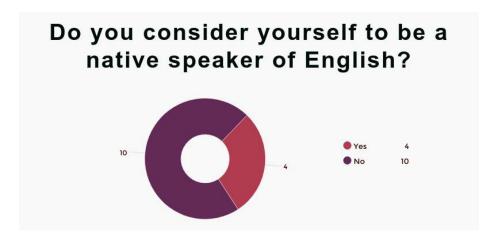


FIGURE 3.8. Student responses from question 7 of the pre-survey given at the beginning of the semester, fall 2018.

Session 1, Sept. 9, 2018

For the first session, Birt Flegal introduced Chamberlain with a short explanation of the interdisciplinary opportunities with fine arts and the Galleries at Peeler. Chamberlain transported Robert Doisneau's *Le Petit Balcon* to the classroom for the students to encounter. The work in question was placed flat on a table. Because of the small room and lack of viewing space, the students were encouraged to come up to the table for closer viewing.

After a few minutes of simply gazing at the work, worksheets were distributed to each student with the following VTS questions:

- What's going on in this work?
- What do you see that makes you say that?
- What more can we find/what other questions do you have?

During this time, they were encouraged to remain quiet and simply write down their thoughts in regard to the work and questions in front of them. VTS intentionally does not require much direction, other than the three questions above. In this way, students can take inspiration from the artwork as unobstructed as possible. The next phase was for students to share their observations. Chamberlain led the discussion while Birt Flegal took notes and made observations on student responses and participation using the rubric.

Throughout the session, students were exhibiting reticence when asked the three VTS questions. When students did speak, there was a lack of probing questions. Students made observations and occasional interpretations of the observations but spoke with a distinct lack of confidence, often including a qualifier to their comments ("...but maybe not." "I'm probably wrong..." etc.). Three students of the thirteen who were present offered no comments at all during the session.

The authors gathered the students' written responses at the conclusion of the first session in order to review and anecdotally assess. The written responses to the three posed questions revealed a depth of thought and engagement that was not present in the verbal discussion. Multiple students noted the direction of the audience's attention, the predominance of white males, and the varying representations of gendered behavior in the picture. It is of note that the two students who did not speak at all during the verbal session wrote multiple responses for each of the questions posed on the written portion of the VTS session. The authors were able to conclude from the written responses that the students did, indeed, engage with the artwork but seemed to struggle with engaging with their peers' comments and questions in discussion.

Preparation for Session 2

Prior to the second VTS session, which would take place at the end of the semester, the students in UNIV135 were given an introduction to the library and its resources. While many of the students likely already visited the library and/or had a class that met with a librarian, it was important to make sure all the students had similar introductions to the library spaces and services available. During this session, Birt Flegal, in librarian mode, introduced concepts related to the *Framework* that would also help the students in other courses that included a research component. For one of the activities, the students were given a worksheet with three large boxes in which they were to brainstorm broad, general/generic, and specific terms related to their research projects. In this exercise, Birt

Flegal encouraged the students to be creative, to visualize their topics, and write down words that described what they were seeing. Some students were more receptive to the process than others, and that was evident in their responses on the worksheet. The results from this exercise somewhat coincided with the results from the first VTS session. Some students were active in the discussion while others remained silent; but the written responses revealed engagement with the activity and, beyond that, a growing sophistication and comfort in the students' research vocabulary (asking more open-ended questions, beginning preliminary outlines, etc.).

The authors had hoped that because the students were subsequently introduced to research and VTS the class would increase in involvement and participation in the discussion portion during the second VTS session that would take place at the end of November 2018.

Session 2, November 29, 2018

Next, during the second VTS session, the UNIV135 students visited the Peeler gallery storage area (instead of the VTS session happening in the UNIV135 classroom) for Chamberlain to lead the class in a discussion on the second photograph: Sonja Hinrichsen's *Big Circle (from Snow Drawings)* (figure 3.1 previously). This second session followed much in the same manner as the first; however, this time, being in a different setting, the work in question was presented on an easel at eye level for the students to gaze upon. Initially, the authors saw a definitive difference in this session compared to the first. Students who did not participate in the first session started participating in the second. Following a few moments in which students were encouraged to silently look at the work and write their answers/thoughts to the VTS questions posed on a sheet in front of them, Chamberlain led the class in a traditional VTS session with the following questions:

- 1. What's going on in this work?
- 2. What do you see that makes you say that?
- 3. What more can we find/what other questions do you have?

In the same manner as the first session, Birt Flegal made observation notes, both concerning spoken word and body language from the students, while Chamberlain spoke with the class. From Birt Flegal's notes and the recollections of the authors, there is evidence that more students engaged with the artwork, but there were more expressions of confusion by the piece than with the Doisneau photograph previously. Hinrichsen's piece is more abstract and there are no human forms present. The creativity of possible interpretations was somewhat lacking, but the discussion did reveal a greater maturity of thought and process. Students' creativity in interpreting the piece seemed hampered, but there was an increase in the students' conversations with each other about their respective comments and observations according to the rubric Birt Flegal used to track student discussion.

The written responses from the second VTS session reflected the discussion more accurately than the written responses from the first VTS session. This time, the students wrote what they shared verbally, potentially revealing greater confidence in their thought process, confidence that allowed them to share openly in class. As a better way to assess student engagement and confidence, the authors also added a component to the end of the session by asking the students to write on their worksheets a possible research question inspired by the work of art. The students were prompted to think about their majors or interests to help inspire their research questions. Elicited responses varied from basic questions on the location of the photograph to extremely reflective questions regarding weather patterns, communication theories, confirmation bias, and even a question involving a physics equation regarding human destruction noting that "in physics, everything is created in a vacuum," and "This image conveys effort, the effort of (possible) deforestation, (possible) crop production, as well as the concentric path traveled by the person. The effort humans put into attempting to mend what they have broken. What is the path of human destruction?"

Remainder of the Semester

Assessment of Impact

For the second session, the students' written responses more closely reflected the class discussion. The authors also noted that all students present (two were absent) spoke during the second session, and each student presented their observations and cited evidence from the photograph to support their comments. This increase in engagement and sophistication of discussion cannot be directly related only to VTS activities as each student participated in other courses and experiences throughout the semester that influenced their research confidence; yet their collective growth could indicate success in the activity. During the second VTS session in November, the authors were able to observe the students listening and responding to each other as fellow researchers—having a research conversation that reflects the knowledge practices and dispositions of ACRL's *Framework* frame, Scholarship as Conversation.

During the first session with the Doisneau photograph, the students were repeatedly encouraged to contribute to the conversation, and the written responses from the first session were notably shorter as compared to the written responses from the second session. The rubric and notes from the second session reveal that the students were more forthcoming and open to sharing their observations and interpretations. Students also started building off each other's comments and ideas in a way they did not display during the first session, even with a more abstract photograph. The amount of thoughtful written text on the worksheets from the first session in September compared to the second session

in November is notable and should be recognized as evidence of the ability of VTS to increase the students' research confidence.

Students were given a post-VTS survey at the conclusion of the fall 2018 semester, the same survey that was given at the beginning of the semester before the first VTS session. Students self-reported an increase in their confidence to write, discuss, and research at the university level. The following figures show the responses in the post-survey given to the UNIV 135 students at the end of the semester.

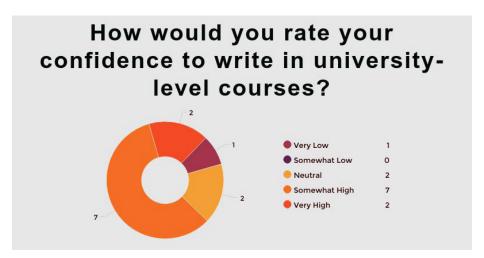


FIGURE 3.9. Student responses from question 1 of the post-survey given at the end of the semester, fall 2018.

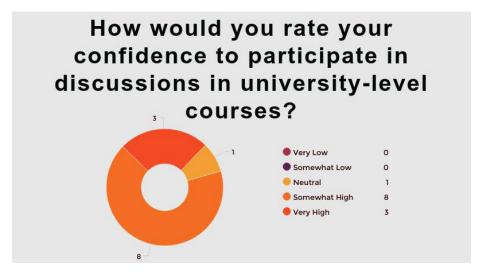


FIGURE 3.10. Student responses from question 2 of the post-survey given at the end of the semester, fall 2018.

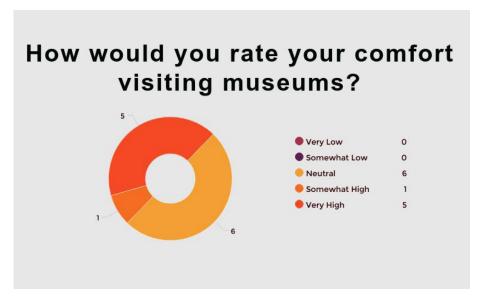


FIGURE 3.11. Student responses from question 3 of the post-survey given at the end of the semester, fall 2018.

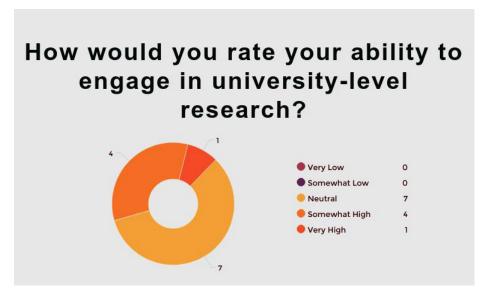


FIGURE 3.12. Student responses from question 4 of the post-survey given at the end of the semester, fall 2018.

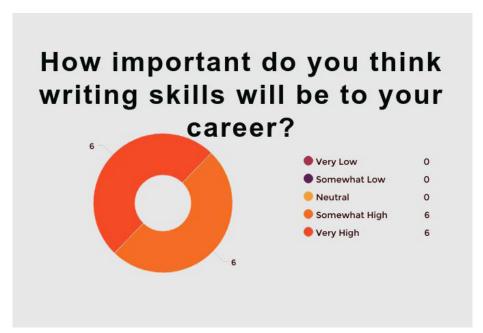


FIGURE 3.13. Student responses from question 5 of the post-survey given at the end of the semester, fall 2018.

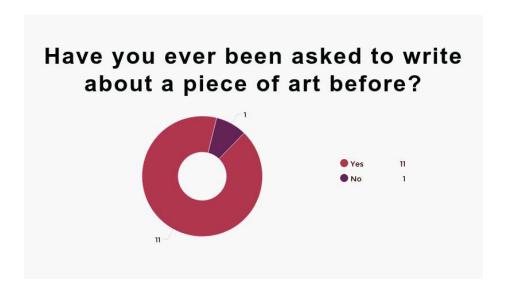


FIGURE 3.14. Student responses from question 6 of the post-survey given at the end of the semester, fall 2018.

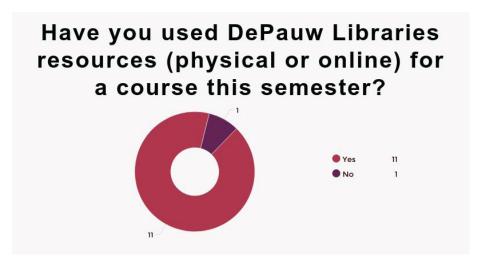


FIGURE 3.15. Student responses from question 7 of the post-survey given at the end of the semester, fall 2018.

Next Steps

Moving forward, the authors plan to continue in these research endeavors, albeit at different universities. Together, they plan to widen their pool of feedback and student responses in order to build upon the knowledge gained from this first iteration. In learning from this first experience, the authors plan to implement a few new strategies in future semesters:

- Establish a more transparent lens for the students around the connection between VTS sessions, the research process, and how the methodology of a VTS practice can work together well for the benefit of the researcher.
- Inclusion of a Research section in the UNIV 135 final portfolio reflection.
 This portfolio requires the student to reflect on their semester and what
 areas of scholarship they improved upon and on which they still need to
 work. Current sections include Time Management, Note-taking, Environment, etc. The Research section would ask students to write about their
 research process and encourage the students to look at how they used, or
 could use, VTS to help with the research process.
- Formalize a method of assessment of students' written responses during the VTS sessions. This way, the authors can gather more accurate data to support their research.
- Since the fall 2018 iteration, the authors have included a free-response question on the pre- and post-surveys regarding the research process. The authors noted there was not much data being collected from the students that indicated a change in the students' research processes.

Out of this, the authors hope to encourage DePauw University, and others like it, to continue to actively utilize their campus resources as spaces for curricular-based collaboration. Academic museums and libraries serve a similar purpose: to provide access and interpretation to their collections. Our respective collections are often perceived as passive, but it is through this type of collaboration that we are recognized as active assets to the overall university goals concerning student success. Together, academic museums and libraries share a vested interest in appealing to both students and universities by establishing themselves as spaces that actively support students' participation and contribution to scholarly discourse.

Endnotes

- "Mission and Vision," DePauw University, 2017, retrieved January 19, 2020 from https://www.depauw. edu/about/mission-and-vision/.
- 2. "Mission and Vision," DePauw University.
- The authors would like to make a note that due to university financial restructuring that took place at the conclusion of the spring 2019 semester, the role of assistant director and curator of exhibitions and education no longer exists at the Richard E. Peeler Art Center at DePauw University.
- 4. Philip Yenawine, Visual Thinking Strategies: Using Art to Deepen Learning across School Disciplines (Cambridge, MA: Harvard Education Press, 2014).

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