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Playing as Argument Architects

Bridging a Learning Gap in the Research Process

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This article reports on the design process and initial results of a project to create a board game, Argument Architect, that bridges the gap between librarians' and students' understanding of research and rhetoric. Some students perceive research as a step-by-step, linear process; in contrast, however, most librarians view it as an iterative, dynamic activity. In order to use Argument Architect as a springboard to a classroom conversation, we designed it to avoid the competitive/destructive nature of most board games in favor of a cooperative/constructive schema that fostered a flowing, playful, and reflective dialog between students and librarians about the "messy" nature of research. We also kept in mind our practical needs, as instruction librarians, for a game with flexibility, scalability, portability, and intuitive play that we could efficiently deploy multiple times in composition classes with different class lengths and assignments. We share details and images of the game in multiple stages of development, student and instructor reactions, and future plans.

Introduction

The average student, especially the average first-year student, has difficulty conceptualizing the research process. This underlying issue is one that publications, conferences, workshops, and conversations on undergraduate curricular research always seem to come back to, in one way or another. Librarians and instructors watch many students approach the standard research paper as a checklist: choosing a thesis, writing the required page length through a mix of their own untested thoughts and Google search results, and then listing the required number of agreeable sources that reiterate their prewritten points. The impulse is often to see this approach as a result of disinterest or laziness, but we believe that, rather than just refusing to follow the "right" way, these students are in fact unaware of the steps of the research process. Because they are focused on creating and turning in an end product, they cut a straight path between topic and paper, ignoring the research process' intermediate goals of learning how to navigate databases, identify information needs within a topic, and evaluate sources for credibility.

Our project, Argument Architect, was designed to directly confront these common confusions by breaking

the initial steps of the research process down into easy-to-understand blocks. It engages students in experimenting with how an idea can lead to exploration of sources and how exploring sources can, in turn, lead to a more complex idea. Rather than tell students how research "should" work, we provide students with a gamified lesson which lets them logically test different arrangements of research steps and products to ultimately create a model of how these blocks work best together. Through this testing, students encounter dead-end scenarios and difficult questions in a low-risk environment, rather than while finishing a final project - and immediately after the game, students are able to ask for advice on dealing with the conflicts they encountered. Our hope is that this game will give students the agency to explore and visualize how to begin a research project and help to bridge the gap between how librarians, instructors, and students think about research assignments.

Literature Review

Argument Architect is a tile in a mosaic of game-based learning and gamification currently being constructed throughout multiple fields of academic instruction. Gamification can be broadly defined as "the use of game design elements in non-game contexts" (Deterding, Dixon, Khaled, & Nacke, 2011, p. 9), and hundreds of journal articles now report on gaming endeavors in higher education pedagogy. Many instructors who experiment with games hope that pumping fun into the classroom routine will increase student engagement (Alsaweir, 2018). However, in addition to the motivation factor, some faculty also find that using gaming as an educational philosophy can increase student learning through gaming's ability to provide instantaneous feedback on performance, foster teamwork skills, and boost recall of course content (Kim, Burton, Kibong, & Lockee, 2018).

Many library teachers are rolling the dice on gamification, experimenting with ways to leverage its benefits in the classroom. For example, McMunn-Tetangco (2017) provides a manual on how librarians can apply game principles to instruction. In terms of specific games, Margino (2013) notes that libraries have created scavenger hunts, discovery tours, quiz games, and gamified orientations as well as electronic games to enliven library instruction. Fewer libraries, however, have experimented with board games developed in house. In one of the only current examples of tabletop designs, Tekulve, Cowden, and Myers (2015) created a board game called *The Game of Research* (based on *The Game of Life*) at the University of Tennessee Libraries. They note that, although it is not currently used in their freshman composition program, the game has proven successful in college and high school settings.

In addition to exploring specific implementations, libraries have also embraced the overall philosophy of gamified learning. The American Library Association's Center for the Future of Libraries envisions an enhanced role for games in libraries in the twenty-first century, noting that libraries are "ideal for the type of learning and discovery promoted by games" (ALA, 2019). This exploration of gamified learning is happening along multiple paths throughout librarianship. One author, for example, suggests "adventure games," like the Legend of Zelda series, as potential models for guiding students through the puzzles and battles of finding and evaluating information (Smale, 2011). Another suggests that we should also consider the value of unstructured play, wherein "students are allowed the freedom within fairly loose sets of restrictions to interact with the materials and the information they represent," as an alternative gamified experience that may provide deeper learning than a structured game normally can (Walsh, 2015, p.87).

As we can see, library games already covered in the literature are striving toward a variety of learning outcomes. In defining our own outcome, we anchored our new game within the Association of College and Research Libraries' *Framework for Information Literacy for Higher Education.* Argument Architect, as a board game with tangible pieces that represent the elements of an argumentative research paper, helps to give a concrete form to the "Research as Inquiry" frame. Students who develop a good understanding of this frame demonstrate the ability to "organize

information in meaningful ways," and we believe Argument Architect gives them the ability to experiment with that skill.

Our Instructional Environment

Because organizing information into sound arguments is one of the most crucial research tasks that first-year writing students face, the testing ground for Argument Architect was the First Year Writing Program. As one university, geographically dispersed, Penn State University supplies coursework for two-year, four-year, and graduate programs to its students through a network of over twenty campuses. While the same course may exist at many campuses, the individual instruction methods and content differ from class to class and campus to campus. We piloted our game as part of the foundational writing course, English 15: Rhetoric and Composition, specifically at the Penn State Berks and Abington campuses.

Although we anticipated trying out an argument-building game in several different types of courses, the rhetorical needs of English 15 students figured heavily into our thinking as we went to the drawing board. As noted on the Penn State Program in Writing and Rhetoric's website, one of the overarching goals of this class is to help students develop "a strategic sense of argument and design" (Penn State Program in Writing and Rhetoric, 2020).

In addition, prior to our roll-out of Argument Architect at Penn State Berks, campus librarians had recently completed an assessment of the information literacy skills of English 15 students, finding that students struggled with integrating sources into their papers (Chisholm & Spencer, 2019). In particular, students seemed to choose final thesis statements from their own thoughts and then find sources, credible or otherwise, that directly supported or reiterated their thesis, without concern for how they added value to the larger argument. In contrast, the librarians hoped that students would approach research by exploring reputable sources, identifying a broader issue to discuss, and developing a working thesis that creates an interesting discussion.

As librarians, we know that our research process, when followed, actually simplifies research and encourages interesting results; but students, joining the process as newcomers, struggle to see the value in the seemingly-more complex route. We know that students are motivated by deadlines, efficiency, and GPA-anxiety; but we wondered, could tabletop gaming serve as a simple, fun, grade-free bridge between these two styles of research? Might the levity and structure of a game allow librarians and instructors to talk non-judgmentally with students about their research approach while demonstrating the value of the formal research process?

Guiding Principles of Game Creation

Every good game, other than Calvinball, has rules for the players to follow - but there are also rules that govern the creation of the game, helping you to maintain focus on desired outcomes and to resist the urge to add counter-productive elements. As we decided what our game would need to accomplish and began to discuss what it would look like, we developed a short list of essential qualities we knew our game needed to have.

Intuitive

First, the game needed to be **intuitive** - easy to teach, and easy to play. It would need to be introduced, justified, demonstrated, played, and debriefed within just one 50-minute class session, so we needed a game that could essentially run itself with very little intervention. Explanations needed to be simple and brief, goals needed to be obvious and attainable, and game elements needed to be immediately recognizable - preferably analogous to a familiar idea, for ease of quick understanding and engagement. Because we wanted to help students realize that the quality, credibility, and relevancy of their sources makes an impact on the strength of their argument, we needed to frame the

game within a familiar idea that evoked the concept of support - and because we wanted them to see that there is value in learning from source information before deciding exactly what to write about, we also wanted to focus on growing from a solid foundation.

After several false starts, we chose the metaphor of building an argument as if it were a skyscraper, which allowed us to include all these elements. Students would start from a "foundation" topic, evaluate sources to choose quality "building materials" for an argument around that topic, and finalize the structure by developing a working thesis that communicates the argument they have "built". Over the past year and a half, we have found that students quickly grasp the metaphor and are able to dive straight into the game, which also allows them to experiment and have more concrete answers to questions such as "How would this be different if you'd started with a specific thesis, rather than a general topic?", "What kinds of sources or information would you like to use, but don't have in your source card pile?", or "Why do you think these sources are credible sources to learn from?".

Scalable and Flexible

Our next decision after framing was structure. We knew that we would potentially be playing this game with different students in different classes, with different instructors, in different rooms, on different campuses, and for different amounts of time each time we played, due to the nature of one-shot information literacy instruction. With that in mind, we needed to make sure the game would be **scalable and flexible** to a variety of different instructional environments.

As it stands, Argument Architect can be played in a rushed minimum of 30 minutes, with a short explanation and students playing only one round - or, it can be stretched to 90 minutes, with students playing several rounds, including bonus "scholarly sources only" rounds, and then engaging in a lengthy discussion relating the game to real-world research writing. So far, this approach has been successful on a small scale, with the game primarily existing within English 15 classes (non-honors first year English classes focused on developing fundamental writing skills, including research and citation). But Argument Architect has also been played in English 5 classes, which are intended for students who need extra assistance getting to the English 15 writing level, including ESL students. In future semesters, we hope to introduce the game to first-year classes that focus on learning how to write speeches and presentations, where it could help students grasp how learning about their topic through credible sources before they begin to write and adapting their plan as their knowledge and interests change are key to creating and communicating a strong argument.

To ensure Argument Architect remained scalable to different instructional environments, we developed a base version of the game, which is the one normally played. For advanced, honors, or other similar classes that require more challenge, we created a set of Wild Cards for each gameboard. These blank cards are designed to change the rules once players are comfortable building arguments from the sources. For instance, we can use a generic Wild Card to relate to common assignment guidelines, like "Scholarly Sources Only" or "Sources from The Last 5 Years Only." Or, we can tailor the Wild Card to the classes' assignment by creating a new rule like "Primary Sources Only," or "No More Than Two Articles from The Same Journal." For any level of class, however, we can create new source cards to reflect sources from their discipline or on a research topic that would be appropriate for their assignment, which can allow students to have a more practical, relatable experience with engaging with sample sources from their own discipline.

Beyond just adapting to different classes' needs, "scalable and flexible" also meant that the game needed to be physical, portable, compact, and easy to assemble. A digital game was beyond our expertise and neither of us can guarantee that we will always be in classrooms with enough working and compatible computers for students - but a physical game can be played in any room that has space for it. To maximize the possible useful spaces, we designed the game to be played horizontally, for rooms with flat table surfaces, but also incorporated magnets or sticky putty to

allow players to lean the board on a wall and attach pieces on the vertical surface. All the pieces and boards are flat and oversized, ensuring the game retains the novelty and feel of a board game and avoids the risk of being mistaken for a colorful worksheet.

Cooperative-Constructive

Finally, and most importantly, is the philosophy that powers the elements of our game. We chose early on in our design process to create what we called a **"cooperative-constructive"** game, rather than a "competitive-destructive" one. We wanted a game that would help students work together to accomplish a positive goal. To better explain this, consider some popular competitive-destructive games, like *Monopoly*, *Starcraft*, or chess, where the goal is to destroy your opponent by attacking them, tricking them, or preventing them from achieving goals. It is almost impossible to play these games without damaging another player. Of course, there is nothing inherently wrong with that - these games teach players to remember tactics, create strategy, and employ critical thinking on their own. But we worried that such a mix of competition, innate skill, and aggression in a research-instruction classroom could also carry a risk of resentment, alienation, and disengagement, especially in a class of first-year students just getting to know each other and adapt to college. We did not want any student to leave the class feeling that they "just couldn't win" at writing a research paper.

There are also games like *Ticket to Ride* or *Catan*, where players can choose to pursue their own interest slowly and alone, work together for a shared goal, or speed up their win by sabotaging other players. But we wanted a clearly positive experience that would be suitable for any classroom - since we, as one-shot instructors, need to be as equally prepared to find a class of 15-35 close friends as we are for a 25-person chorus of nervous or sullen silence.

Ultimately, we felt that a cooperative-constructive philosophy would not only support our skyscraper metaphor best but would also provide our target first-year classes with an opportunity to engage with college-level research in groups. We hoped it would help them experiment with strategies together, dispel confusions, and potentially form more comfortable bonds through a low-stakes, high-touch activity early in the semester. We began to tease out this philosophy by looking at games like *Castle Panic*, *Pandemic*, and *Forbidden Island* which encourage players to work together to achieve a goal or defeat a shared NP (non-player) enemy, and chose the elements we thought would work best together.

We decided to forgo a formal scoring system in favor of rewarding any team that completed an argument successfully with a rummage through our Library Prize-and-Candy box. We elected not to time teams, award specific points for specific elements, or track success as anything other than complete/incomplete. Initially, we wanted to avoid potentially drawing a divide between game-enthusiastic, competitive students and students who needed a little more time to think, but we also wanted to see how students interacted with the game before deciding what elements would be worth the most points. We wanted to make sure the skills at the core of the game were key and that students were focusing on building the best, not the fastest, arguments that they could - and that they were using their own judgement to decide what sources to include, not relying on a point-valued checklist to bypass the critical thought and focus on a maxed-out score tally. Most importantly, we wanted them to be able to reflect on the material with us afterward and be able to explain their choices and how they might (or might not) relate to writing a real argument paper - not just tell us that they picked that source because it gave them a Triple-Credible-Combo and they wanted to win.

Before we move on, a quick note - for more (and excellent) reading on the philosophy behind designing games, we strongly recommend *Making deep games: Designing games with meaning and purpose,* by D.C. Rusch (2017)**.** If you are interested in learning more about how we made the decisions outlined above, now may be a good time to pause and place a hold on the book that guided us.

Argument Architect: The Game Itself

The goal of Argument Architect is to construct a skyscraper out of tiles in order to simulate the process of rhetorical creation that students go through when developing an argument in an essay. We and our teaching faculty can guide the game-flow in various ways depending on what learning outcomes we hope to see in our up-and-coming student builders. Among other learning outcomes for the game, we expect that, during or after playing, students will be able to:

- Concretize the dynamic, iterative nature of research through a construction metaphor,
- Formulate thesis statements by looking at sources first (rather than writing a thesis first and only looking for sources that support that thesis), and
- Explain source selection criteria.

The Pieces

Argument Architect is a tile-laying game, an activity where players arrange pieces on a board, as is done in games like *Scrabble, Dominoes, Catan,* or *Qwirkle.* Figure 1 offers a sample image of the game board, pieces, and instructions, while Figure 2 shows an actual student-constructed Argument Architect tower in-process.

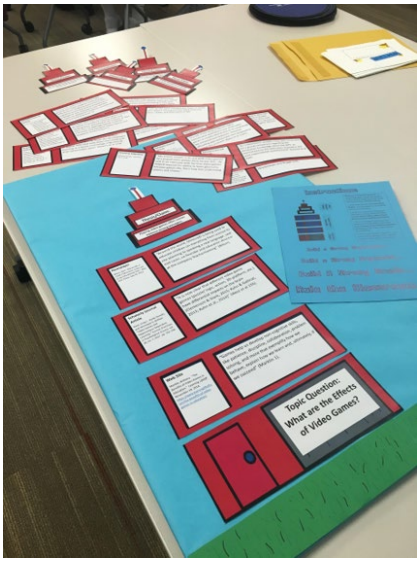

Figure 1

Sample Argument Architect game with board, pieces, and instructions.

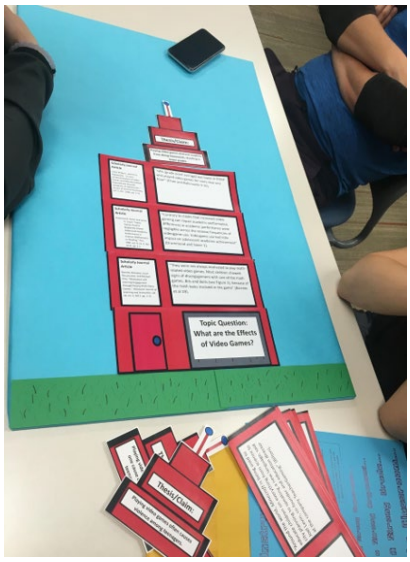

Figure 2

Argument-skyscraper designed by a team of students using a pre-written thesis.

Each team receives a game board that consists of a large blue panel with fake green grass at the bottom. Students lay or stick tiles on the board for horizontal or vertical play. Players can start building with some tiles, change their minds if they see that their construction is not going well, and try other tiles. Argument Architect includes three kinds of tiles:

- The **Research Question Tile** that forms the first floor of the skyscraper. In this iteration, we used the research question: "What are the effects of video games?"

- The **Source Tiles** that form floors, or levels, of the building. Each source tile represents an individual source. Each is labeled with an MLA citation of the source, a description of the type of source, and a quoted passage from the source. The source tiles include a mixture of popular and scholarly, as well as credible and non-credible, sources.
- The **Thesis Tiles** that serve to cap the building and the argument. In early versions of the game, we gave out prewritten thesis tiles – one such can be seen in use in Figure B. Some of the thesis tiles were supportable by the source tiles in the game, while others were intentionally unsupportable. In current versions, we give out blank thesis tiles and ask students to write in their own thesis statements. We are finding that students take more time to construct their arguments and engage in more critical thinking with the new approach.

The Game

When introducing Argument Architect at the beginning of the class session, we have found it helpful to stick to the following outline:

- We briefly stress the importance of argumentation throughout life.
- We give an overview of the game using one of the game boards. We note that all of the groups are working with the same research question and direct them to begin by placing that tile at the bottom of the board.
- Students are encouraged to build a skyscraper on top of the research question tile with at least three source tiles (floors) and one thesis tile (cap).
- We divide students into teams, or "crews," with ideally four and no more than six members per team.
- Each crew is given a game board and a packet that contains the tiles and instructions.
- Crews are encouraged to begin building and to raise their hands when finished so that a "building inspector" (a librarian or instructor) can check the strength of their skyscraper-arguments.
- During the building phase, we play an online construction-site soundtrack in the background to create an immersive (and fun) multimedia experience.

As each crew finishes and calls over a 'building inspector," a librarian or the instructor takes a few moments to evaluate the argument they have built and discuss information literacy and rhetorical concepts with them. However, we rarely take a wrecking ball to any of the team's buildings! Instead, if a team chooses a source that seems irrelevant or contradicts their thesis, we encourage players to think about how they would deal with a source with an opposing viewpoint in their paper. Would they leave the source out of their paper, address the opposing viewpoint in their paper by refuting it with other evidence, or reshape their thesis? The inspections, in keeping with the spirit of a cooperative-constructive game, do not seek to score the students, but rather to spark moments of critical thinking about research and rhetoric.

As an exercise in devising the blueprints for a sturdy paper, Argument Architect aims to help students anticipate how to overcome a variety of research and rhetorical challenges. For example, we deliberately include some source tiles with quotations that use very technical or complex language. If students use these tiles in their construction, we ask them if they understand the source, and if not, we ask what they would do in their research if they encountered a source they did not understand. In most cases, they respond that they could either decipher the source with further research or that they would skip over such a source in favor of another that was more simply written. Another source tile contains a secondhand quotation, in which the source quotes text originally quoted by another source. If students use this tile, we discuss the credibility issues with second- or third-hand information and recommend that in a real-world paper they backtrack to the original source and quote that source directly.

Optional Upgrades

After students successfully complete the first round, we vary the subsequent rounds depending on our desired outcomes, such as:

- *Introduction to Scholarly Sources:* To alert students to the different types of sources, we often challenge students in subsequent rounds to build an argument with only scholarly sources. During the inspections, we point out some of the characteristics of scholarly sources. While many of the first-year English classes at Penn State Berks and other Penn State campuses do allow popular sources, we explain to students that recognizing the type of source is important, as many of their future classes will require them to use mainly scholarly sources as their rhetorical building blocks.

- *Opposing Thesis Statements:* We ask students to build an argument with a thesis that is the opposite of the thesis they used in the first round. We do this to help them see that a good broad topic will lead to many different ideas and arguments, so that they feel less overwhelmed by choosing topics in the future.

- *Blank Source Tiles:* We offer students blank source tiles and challenge them to make up sources that might strengthen a skyscraper that they have already built. The goal of this round is to prompt students to think about what sources they might need to buttress the rhetorically weaker parts of their arguments. This round helps students see research as cyclical, in that they may find sources, write a draft, realize they need to find more sources to fill in gaps in their arguments, and return to searching.

- *Wild Round!:* For a final round, we sometimes encourage crews to "go wild" and see what they can do. The argument architects who have done this round in past classes have shown exceptional creativity, and the choices they make often inspire us to make changes to the main game itself. For example, one group recently got us thinking about adding an argument/counterargument element to the game when they, from their own discussions, constructed a massive two-sided argument that used nearly all of the available sources in order to explore two opposing claims together. Figure 3 offers a closer look at this tower.

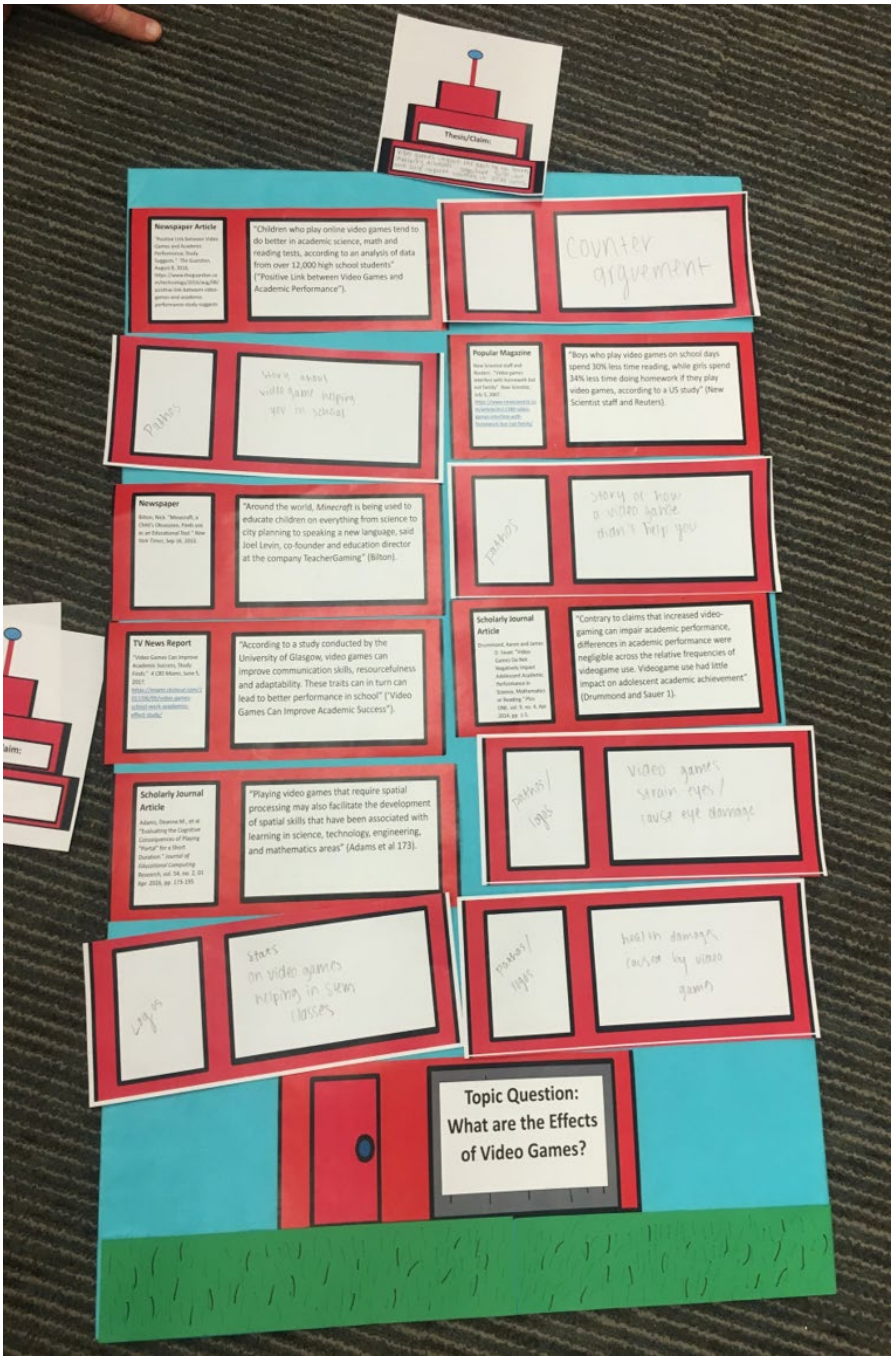

Figure 3
A "Wild Card" round's tower, showing two opposing arguments, a student-written thesis, and the written-in sources students wanted to find to finish supporting each side. Note that students classified "wanted" sources in terms of classical rhetorical elements learned in their English 15 class - an element we had not prompted or previously considered incorporating.

The Debrief

Regardless of the changes in design for individual game sessions, an absolutely necessary part of the game is the whole-class debriefing session that follows the final round. We pose metacognitive questions to the students like, "What steps did you take to build your argument?", to which many students respond that they started by looking over the sources. They note that starting with sources is easier than trying to formulate a thesis first when building arguments, because they do not have to strain later to force sources to hold up a thesis they find, too late, to be unsupportable. They learn to look for themes in the source pieces and choose a thesis statement accordingly. A few students answer that starting with a specific thesis seems easier. However, when we probe them further, we find that crews that start with a thesis statement often decided to change to a different thesis statement as they subsequently looked through their sources. The Q-and-A session thus springboards into a discussion about the dynamic, iterative nature of research - and any student who can articulate this foundational concept is a winner in Argument Architect.

Further Developments

To better understand the impact of the game and students' responses to it, we devised a brief, informal assessment sheet that students in the first class to play Argument Architect completed after their construction ended. Within the assessment, students expressed the logic of starting from sources, learning about a topic, developing a working thesis, and searching for more sources from there. When asked about the most important concepts that they had learned from the game, most students responded with statements like, "Find a claim that fits the evidence well, don't just look for any evidence to fit your claim," and, "Start with your sources, not your thesis statement."

It is essential to note that Argument Architect in its current form cannot replace a library instruction session on searching techniques, source evaluation, or other valuable information literacy concepts. The game focuses on organizing sources into a coherent argument rather than finding sources in library databases. To address this, we often include a second library session focused on searching for sources or one of the library's online searching tutorials, as well as required pre-session tutorials and quizzes embedded in the class' course management system that walk students through concepts like scholarly vs. popular. This past fall we also created a complementary activity, Evidence Excavator, that requires students to find and evaluate sources in a separate but similarly-themed class session.

In Fall 2019 some of our instructors made the most of these options by requesting Argument Architect sessions early in the semester, to give students a bird's eye view of the connection between source usage and argument building, and then requested sessions that focused on searching and using library resources later in the semester. This is the ideal use for Argument Architect - not as a stand-alone introduction to all-things-research, but as a practical exploration of concepts discussed more thoroughly in additional sessions.

Recommendations from What We Learned

For our colleagues who are working on their own games or interested in what can be taken away from this project, we have some recommendations from the lessons we learned. First, though, we would like to emphasize that, although Argument Architect is now playable for our students and meeting our learning goals, it is not "finished" - we are always looking for ideas on how to improve, expand, and streamline so that it can be as effective and engaging as possible.

Value Your Mistakes

The most important thing we learned from this process was the process itself. Neither of us are trained game designers, nor even the most knowledgeable of boardgame nerds - we love to play, think about, and discuss games, but we will not be listed as expert sources on game design any time soon. We began this project as information literacy instructors and taught ourselves some basic game design principles to get us started - particularly from *Making deep games: Designing games with meaning and purpose, by* D.C. Rusch, as mentioned previously. Our design process took us through many exciting brainstorming sessions and failed prototypes.

When we did scrap a game idea, though, we kept all of our initial brainstorming notes, drawings, and discussions intact in our shared folder. When we got stuck later in our design process, we often came back to these to look for the good parts among the scrap - game elements, important skills, or even visual design pieces that could help us get back on track. For others interested in creating a similar project, we would advise that you also **create a "trash" folder**. Rather than actually destroying "bad" ideas, recognize that something inspired them in the first place and hold onto them until you find the right situation for them.

Keep Your Goals in Mind

To ensure that our design and development process had to dive into the "trash" folder as little as possible, we spent time at each of our check-in meetings discussing the goals we wanted our game to achieve. **Framing our discussion around our goals** became a guide for us, pulling us back when we got too swept up into a "wouldn't it be fun if" direction that would ultimately detract from the learning experience. For instance, it helped us remember that, while making the students' argument-tower's strength-test be an attack by "Prof. Godzilla" would be funny and a great opportunity for cool clipart, it would work against our "cooperative-constructive" philosophy by painting instructors and their feedback as enemies to be overcome, rather than expert partners who could offer helpful advice.

Playtest, Playtest, Playtest!

Finally, the last recommendation that comes out of our experience with this project is one that we ourselves did not fully experience - **playtest your game**. Test the early stages on your colleagues, to identify if the information literacy goals you have set are being achieved and brainstorm ideas for how else to get to them. Try later stages on student workers, to see if the game is playable, intuitive, and fun. Bring your instructor-partner into the design process when it feels right to you - the game design process can be messy and our inclination is often to hide our mistakes, but your instructor may be excited about being a part of the "trash folder" portion of the process! The most important thing is that you test your project and with as many varied (and target) audiences as possible.

While we were not able to playtest with students, we did have the opportunity to playtest Argument Architect with a group of instructors all teaching different sections of our target class, English 15, and their input was invaluable to our design process. They were able to comment on how the skills practiced in the game could tie into the later curriculum, as well as on concepts and terminology they knew their students would stumble over. We are extremely grateful that they felt Argument Architect was worth making time for, and we know the game would not be as successful as it has been without them - and especially without Tara Beecham, the ever-patient, forgiving, and enthusiastic instructor for our Penn State Berks' English 15 classes.

Future (and Other) Directions

At a recent presentation at The Innovative Library Classroom (TILC) in June 2019, we solicited advice from attendees on where we should take this project next. They suggested that we expand to new audiences, create more pools of potential sources tailored for different classes, and add to the steps of the game to give students more opportunities for hands-on engagement with restructuring the research process. We are happy to report that we have taken much of this advice and are preparing a new version of Argument Architect for a class at another campus, Penn State Lehigh Valley. Where the original class focused on the need to explore a topic before formulating an argument, this second class encourages students to develop several broad, working theses and alter them in response to what they learn from their sources.

For this new English class, we will include new elements recently developed at Penn State Berks, such as removing the pre-written thesis statements and asking students to write their own as needed to reflect the sources they have chosen. The Penn State Lehigh Valley campus edition will also create a new pool of sources to explore food and nutrition, the shared topic for this English 15 class' final paper, so that students can experiment with building an argument while also brainstorming topics for their real assignment.

In addition to pursuing new instructional partnerships, we also intend to continue our efforts to assess Argument Architect, focusing on our established partnership at Penn State Berks to help us create an assessment tool we can then export to similar situations at other campuses. We hope to be able to show that Argument Architect has a measurable effect on how students perceive and conduct introductory research projects. Our ultimate goal is to produce a flexible, easy-to-learn, easy-to-play game that we can make available to our colleagues, both within Penn State and at other institutions. With that in mind, our future (and current) efforts are focused on implementing, assessing, and editing to create the most engaging, instructive, and adaptable version of Argument Architect possible.

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