Research Article

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Narrative World Building: Creative Applications for Gamification in Study Abroad

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Abstract

This study examined a cohort of 12 study abroad participants taking a course on video game topography and narrative in Salamanca, Spain, to determine how inhabiting and co-creating narrative worlds as part of the coursework might impact the experiences of the students inside and outside of the classroom as they engaged in mandated and optional cultural engagement activities, such as museum tours and excursions to historical sites. Students completed two gameful learning activities: 1) they co-created their own narrative game world in a group game proposal assignment drawing upon research from storytelling through game environments, and 2) they created independent digital journals of their experiences through the perspective of a gaming avatar chosen at the beginning of the course. Results from pre- and post-self-report surveys indicate that the game proposal assignment allowed students to develop stronger connections with one another while conducting research that gave them additional context for their cultural surroundings. However, those same students criticized participation in pre-defined environments or activities within the photo journal assignment that they perceived to lack authenticity. Future iterations of similar course designs should establish the course content and context as a foundation before enabling students to co-author the course's game narrative. Assessment of learning outcomes beyond self-reports is also recommended.

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Abstract in Spanish[1]

Este estudio examinó a una cohorte de 12 estudiantes de intercambio estudiando una clase de topografía y narrativa de videojuegos en Salamanca, España, para determinar como habitar en y cocrear estos mundos basados en la narrativa, parte del trabajo de la clase, podría impactar la experiencia de los estudiantes dentro y fuera de la clase mientras participan en actividades culturales mandatorias y opcionales como visitas a museos y excursiones a lugares históricos. Los estudiantes completaron dos actividades de aprendizaje lúdicas: 1) cocrearon y presentaron una propuesta sobre su propio juego basado en la narrativa, gracias a investigación sobre la narración de historias condicionada por el entorno y 2) crearon diarios digitales independientes documentando sus experiencias desde la perspectiva del avatar creado para el juego y elegido al principio de la clase. Resultados de encuestas tomadas antes y después indican que trabajar en una propuesta sobre sus propios videojuegos permitió a los estudiantes desarrollar conexiones más fuertes entre ellos mientras hacían investigación que les ofreció contexto adicional de su entorno cultural. Aunque esos mismos estudiantes criticaron la participación en entornos predefinidos o actividades de la tarea del diario sobre los que sintieron falta de autenticidad. Futuras iteraciones de cursos diseñados similarmente deberían establecer el contenido y contexto del curso como base antes de permitir a los estudiantes coescribir la narrativa de juego de la clase. Asesoramiento de los resultados de aprendizaje más allá de encuestas es recomendado.

Keywords:

Gamification, humanities, narrative world, pedagogy, study abroad

1. Introduction

> In every myth, there's a doorway, a portal, a river, a ladder, a mountain, a pathway. There is a threshold and, if you are the hero, your journey requires you to cross over: you start on one side, and the challenge is to reach the other. There are obstacles - gorges, rapids, bandits, hunger, temptations, cowardice, despair. There are also guides along the way, some wise, some not. How can you tell? It's tricky. As ancient maps portend: "Here be dragons'" (Davidson, 2017, p. 1)

These opening lines to Cathy N. Davidson's *The New Education* provide the creative basis for her argument that universities reform their pedagogy to

[1] The abstract was translated to Spanish by Maria C. Tobarra Meruelo, a student at Embry-Riddle Aeronautical University.

focus on interdisciplinary, project-based learning that does more than simply throw new technology at students or train them on more skills that are certain to become obsolete before their careers are half-finished. The problem that she finds in current educational models is the same problem that James Paul Gee found in *What Video Games Have to Teach Us About Learning and Literacy* in 2003, namely that acquisition of knowledge is prioritized over problem-solving and engagement with ideas, despite their greater impact on learning outcomes. Further, Gee (2003) argues that many parents and educators fail to properly comprehend the learning that occurs when children play video games because they are stymied by "the problem of content," wherein "knowledge (now usually gained in school) is content in the sense of information related to intellectual domains or academic disciplines like physics, history, art, or literature" (p. 22). This is a misconception; most academic disciplines consist of "a lived and historically changing set of distinctive social practices [in which] 'content' is generated, debated, and transformed via distinctive ways of thinking, talking, valuing, acting, and, often, writing and reading" (p. 22). Nonetheless, many parents and educators continue to view gaming as a distraction from the work that is needed to truly learn, especially for university students who are expected to have matured from play to work. Brian Sutton-Smith (1997) challenges this conception of play, asking "why play is seen largely as what children do but not what adults do; why children play but adults only recreate; why play is said to be important for children's growth but is merely a diversion for adults" (p. 7).

1.1. Experiential Learning in Higher Education

Higher education has already bought into the notion that hands-on learning and experiential education are important whether they take place in a classroom laboratory, through simulation experiences, or in the internships or undergraduate research experiences valued by professional organizations. Frontczak (1998) recounts numerous studies on the growing popularity of experiential learning in business marketing courses from the 1990s, describing the term and its corresponding methodology as a "trend" (p. 25). The National Research Council's Committee on Undergraduate Science Education (1999) emphasized laboratory experiences as a crucial part of education in science, mathematics, engineering, and technology courses, encouraging universities to create and support "innovative courses" "for richer, more genuine educational experiences," while also structuring programs "to allow as many undergraduate students as possible to engage in original, supervised research under the

tutelage of a faculty or senior graduate student mentor" (p. 4). This desire for hands-on learning extends to professional employers. Gault et al. (2018) found that managers surveyed "were willing to pay slightly more for graduates with relevant off-campus work experience not undertaken for credit than for experience gained in formal for-credit internships" (p. 152). His theory for the slight difference is the possibility that "internships are slightly less authentic than traditional work experience" from the managers' perspective (Gault et al, 2018, p. 152). From the classroom to the boardroom, the move towards learning in more authentic and relevant environments through practical engagement with content has proven desirable when developing critical thinking skills and enhanced performance on the job.

Despite evidence showing the value of experiential learning, play-based learning has yet to receive the same attention as other forms of experiential education, even though it has the potential to positively impact students' learning experiences and outcomes. Gameful learning, in particular, could prepare students in a safe environment for the type of critical decision making and independent thinking required for internships or work experiences in their fields. Learning through play does not stop when a child reaches adulthood, but can continue throughout their academic, professional, and social/personal lives.

1.2. Gameful Learning in the Classroom

Jane McGonigal (2011) identifies "four defining traits" shared by games: "a goal, rules, a feedback system, and voluntary participation" (p. 21). These commonly understood traits have led to a focus in gameful learning on two fundamental concepts: flexibility and autonomy. However, while flexibility and autonomy are important considerations in designing courses to better, and more gamefully, engage students, other principles are also important. Sutton-Smith, for example, reminds us of the importance of ambiguity, arguing that play exists in a liminal space, while Gee emphasizes the importance of context: learning must be experiential and tied to real world situations. The added layer of authenticity and relevancy these require can be facilitated by storytelling or story creation in the classroom.

Educators who fail to understand the theoretical premise behind gameful learning often apply more superficial, less immersive, methods to create gameful learning. Thus, they may use multiple, rigidly structured assignments or point-based systems that rely on achievement of external

rewards disconnected from disciplinary considerations. Take, for example, GradeCraft, the learning management system (LMS) developed by the University of Michigan's Center for Academic Innovation (2019). Designed to allow for gameful, point-based courses with optional assignments, a variety of paths, and increased autonomy, GradeCraft helps instructors adopt gameful practices for their courses. An optional leaderboard component even creates a competitive environment for some courses, although this could be demotivating for many learners. While the creators of GradeCraft encourage the use of other gameful elements, ongoing research on gameful learning for classroom engagement is needed to determine which other elements might be beneficial and why. As Farber (2015) points out in *Gamify Your* Classroom, "points, badges, and leaderboards … [have] more to do with feedback than play" (p. 32).

1.3. Narrative World Building and Classroom Simulations

An alternative pedagogical approach is to introduce play that requires students to be more fully immersed in a gaming environment by helping to write the stories and course tasks within a narrative framework. This approach recognizes that not all players are motivated by points and competition and is similar to the way players in a Dungeons and Dragons game might alter storylines within a larger narrative arc, making bolder choices once they are more familiar with the narrative world. The approach draws on Bartle's Player Types (1996). Used consistently by earlier game designers and educational technology specialists, Bartle's Player Types breaks down gamers into four major categories: killer, achiever, socializer, and explorer. More recently, Andrzej Marczewski (2014) has modified these broad categories to arrive at a set of six player types: Free Spirit, Achiever, Player, Socialiser, Philanthropist, and Disruptor. Both sets of player types understand autonomy and flexibility as intrinsic motivating factors for many players, while recognizing that they are not the *only* factors engaging players. Players also need to experience a sense of purpose behind their work, as it relates to a semiotic domain or worldview. This can be accomplished by structuring activities within a story world or simulated version of a real world outside the artificially constructed classroom environment. Gamers may also embody elements of multiple player types or have a larger proclivity toward one area of gameplay than others. Consequently, appealing to multiple areas of gameplay or giving options that cross boundaries between types can create a more meaningful experience for students.

Additionally, more meaningful engagement in games often occurs when a player can embody a narrative world and live out a persona within and outside that space as both a participant and co-creator of the game environment. Players of massively multiplayer online role-playing games (MMORPGs) such as *World of Warcraft* or largescale single-player role playing games such as *The Witcher 3: Wild Hunt* are much more connected to the characters, environment, and storyline of their games than classic arcade models, such as *Pong*, or simple PC puzzles like *Minesweeper*, in part because the game is not predefined. Rather, players make choices that alter the story and game environment and, in these co-creator roles, become more invested the games' emergent narratives.

Classroom simulations that evolved outside of the gameful learning or gamification research circles have similarly engaged students in co-creator roles. Examples include *Reacting to the Past (RTTP);* certain courses assign students historical character roles and goals in role-playing games situated in a historical context. This creates a more dynamic learning environment in lieu of the more static approach typical of traditional classrooms. In a study on *RTTP*, Hagood et al. (2018) found RTTP's role-playing simulations to be a statistically effective method of instruction. Hagood describes the methods, which are a form of narrative world building, as "a powerful learning and teaching strategy that impacts students' behaviors, fosters relationships among students, promotes continuing dialogue between faculty and students, and improves learning" (p. 181). The study found that "71.7% [of student respondents] read and researched beyond the material assigned . . . and 80.5% understood concepts and ideas more deeply than in non RTTP classes" (Hagood et al., 2018, p. 170).

These preliminary investigations of courses using role-playing, a form of narrative world creation, indicate that it has the potential to motivate and engage students beyond the strictures of rote, discipline-specific curricula. That said, incorporating narrative spaces into course design and individual assignments is more challenging than more traditional approaches. It also carries greater risk of student failure. In more traditional courses, struggling students may improve their grades by completing alternative assignments or earning extra points for mastery of subject-specific skills or outcomes. Further, even introducing an existing model, such as *RTTP*, into a course requires significant investment from faculty, as they must become skilled gamemasters to do so. The potential gains in terms of student learning outcomes, however, justify the effort.

2. The Study: Gameful Learning and Narrative World Building during Study Abroad

2.1. On-Campus Pilot Course Assignment

Study abroad lends itself particularly well to the use of gameful learning and narrative world building in courses, as in designing courses and assignments, faculty can take advantage of the study abroad environment, which is new to students, and its distinct cultural situations, history, and language. The study abroad environment also encourages problem-solving and engagement with ideas over acquisition of knowledge as students must adapt to novel experiences and methodologies. My particular interest in embarking on this study was the potential of gameful learning to help students connect the content of a course taken abroad to the study abroad environment beyond the classroom. My approach is derived from research in gameful learning and classroom applications of simulations, narrative theory in literature, and the concept of emergent narratives in video game theory, my own areas of expertise.

To test the efficacy of employing gameful learning for cultural engagement abroad, I developed a pilot assignment for a general education course offered in Embry-Riddle Aeronautical University's Honors program, in which small student teams would use video game topography and narrative to create unique game proposals. This assignment would later become the game proposal assignment used in the study abroad course. To design their games, students drew on the culture and physical environment of the university campus and its surrounding location in Florida, as well as their knowledge of game design as derived from course readings and research. In the version taught in Spain, Salamanca's geography, culture, history, and mythology would substitute for the campus and Florida. The goal of the assignment was for students to apply their knowledge of the role that game environments play in video game storytelling to their own proposed game set in and around the university campus. Because the majority of students on the residential campus are not local to the area, using the campus and nearby surroundings for the game environment was intended to encourage research into the area.

To help the students establish the game's environment, I provided them with fictional and nonfictional articles on historical, mythological, and current events for practice assignments. However, the students largely chose to ignore these. Nor did they investigate the campus and local area on their own, choosing

instead to draw on their existing knowledge and experiences to set the location for the game proposal. Indeed, only one team experimented with a historical game from the 1920s that involved visiting a local historical hotel. This suggests that efforts to establish a game locale need to be required and evaluated if understanding and engagement with the game locale is important to the course learning outcomes. Students' performance in the course was evaluated on the quality of their narratives, the accuracy and detail of their environments, gameplay components, and additional narrative content, using the framework from our course text on video game storytelling.

As a humanist, I wanted students in the pilot course to increase their proficiency in analytical argumentation, primary and secondary research skills, written and verbal communication, and integrative scholarship that crosses academic disciplines in approaching a topic. To this end, students examined video game topography and narrative and the research that is used to understand transmedia representations of game narratives. The students, all self-selected honors students choosing the course based on its focus, performed well, exhibiting a high level of competency in writing, research, and mastery of the content. Lack of attention to acquiring and implementing new local historical and cultural knowledge is attributable to this neither being required nor evaluated.

2.2. Course Revision for Study Abroad

The highly technical programs offered by Embry-Riddle Aeronautical University strongly influence the university's approach to study abroad. Language study is not required when students are abroad, only cultural engagement activities, and these may or may not align with the major-specific courses taken abroad, as the latter often must meet very precise accreditation requirements. Instead, cultural engagement activities are often integrated via journaling, readings, and other methods into courses taught by communications, humanities, and social science faculty. Taught in English, these courses, when offered, fulfill general education requirements, and often only one general education course is offered in each program.

Based on my experience in the on-campus course, I opted for a digital photo-journal assignment in Spain, rather than a traditional journal. I was concerned from the on-campus experience that students might not engage as intently in the cultural activities that were not part of any graded component

for either of their enrolled courses unless an assignment required it. In-depth exploration and understanding of Salamanca, however, would enhance the game proposal required in the course. Further, to encourage transmedia storytelling, I asked students to adopt an avatar while abroad whose fictional experiences in Spain, along with images featuring the character in unique situations, would show how the students perceived both the character and environmental cues. Storytelling would reveal the avatar's character attributes. Students' pre-and post-program self-assessments and direct analysis of the work they produced suggest that gameful learning promotes increased cultural engagement and improved mastery of learning outcomes when 1) students are engaged in an immersive learning environment that connects content to relevant experiences, and 2) students become co-creators of the narrative environment in which learning occurs.

On campus in Florida, students enrolled in the course because of their interest in video games. This was not the case in Spain, where most students took the course simply because it was the only general education course option in the program. As discussed in the section on findings, this became particularly challenging in the context of the course's photo-journal assignment.

2.3. Study and Course Design[2]

A twofold hypothesis guided the study. First, both of the narrative world building activities undertaken while in Salamanca would encourage cultural engagement, and second, narrative world building in both learning activities would facilitate a greater mastery of course content. The study was conducted over a month-long study abroad program and involved three components: the game proposal assignment tested in the on-campus pilot course, the digital photo-journal assignment, and surveys administered at the beginning and end of the course. The study abroad program was ideal not only because its built-in secondary environment could function as an authentic part of the narrative world building activities, but also because the smaller cohort of 12 students made possible more frequent and in-depth communication with the course instructor.

In revising the video game proposal assignment, I drew on Gee's (2003) situated meaning principle in which meaning is derived from "embodied

[2] This project was exempted from IRB approval by Embry-Riddle Aeronautical University and IRB Director Teri Gabriel, after a review of the survey instruments and reporting structure for results.

experiences" (p. 224). Thus, students were required to 1) integrate the course content with their study abroad cultural experiences, and 2) co-create narrative worlds in small teams for their game proposal assignment. Because this course focused on video game topography and narrative, the final project included a digital diorama of their game environment, along with a written proposal.

The digital photo-journal assignment, in turn, called on students to consider video game characters as existing in a transmedia narrative world. This was the less successful assignment, to be discussed in the findings, due to time constraints, workload, a disconnect between the assignment and course learning outcomes that led it to be perceived as busywork, and the chosen structure for the assignment.

Most of the students taking the course in Salamanca were majoring in aviation, with all but two studying to become pilots. Their majors included Aerospace Engineering (1), Astronomy and Astrophysics (1), Human Factors with a minor in Flight (1), and Aeronautical Science and Flight (9). Over half were international students and multilingual speakers, who would find the written assignments in the course challenging. These demographics had not been anticipated when designing the course and developing the research methods. Of the 12, ten were male and two female. This breakdown by gender aligns closely with on-campus enrollment patterns (23% female) in 2018-19. The study abroad program took place in summer 2019.The opportunity to earn credit toward their degrees by taking a required Aviation Legislation course drew most of the students to the study abroad program. Few, however, were interested in the video game play at the heart of the secondary course. Nonetheless, all students elected to take the course in order to fulfill a general education humanities requirement; as indicated, this was the only humanities course offered in the program. Ultimately, prior lack of interest and/or experience with video games did not adversely affect satisfaction with the course, as discussed in the findings.

2.3.1. Assignment 1: Video Game Proposal

The final project for the course gave students the opportunity to work collaboratively to design a video game proposal set in the environment in and around Salamanca, Spain. The project eschewed traditional conceptions of gameful learning by having students create, rather than play, a game, to demonstrate their understanding of the structures, rules, and narrative

attributes that make for successful narrative-based games. Students were required to design games that drew upon history, current cultural norms, or mythology, in keeping with the three game types that were covered in the course. By this point, students had already composed a short research paper on a single game, analyzing its topography and narrative using some of the theoretical concepts discussed in class. They also had a framework for analyzing game designs for playability and immersion and had examined, at length, the ways in which game environments or narrative universes impact storyline and playability within a game. For the final project, the students self-selected into teams of four; this was complicated by the fact that the students who formed one team had had little prior contact with each other. Once in their teams, the students assumed four unique roles, and would be evaluated separately for their contributions to the project in these roles at the end of the course. The team lead was responsible for writing the introduction, securing the sections from each of the team members, formatting the material into a single report, creating a title page, and building the reference page for the team. The other team members created proposal sections covering the narrative development, topographical features, and gameplay components; used research from the course to support their decisions; and added charts and figures when appropriate to illustrate key concepts from the game.

After completing a 10–12-page proposal, team members collaborated to create and deliver a presentation of their findings that included digital representations of the narrative worlds in which their games took place. These presentations were assigned a team grade; particular attention was paid to the ways in which the students visualized their narrative worlds and integrated their research into the greater gameplay environment.

While both assignments were evaluated using standard analytic rubrics, models such as this one must be careful not to rely overmuch on the meeting of outcomes, as gameful learning, in its truest sense, is attempting an idealized version of experiential learning, a theory of learning based on the understanding that “[i]deas are not fixed and immutable elements of thought but are formed and re-formed through experience” (Kolb, 1984, p. 26). From this perspective, Kolb (1984) explains, “the tendency to define learning in terms of outcomes can become a definition of nonlearning, in the process sense that the failure to modify ideas and habits as a result of experience is maladaptive” (p. 26). Thus, contributions to the final project were mandated to satisfy the

requirements of the course; however, it was more important for the work to constitute a novel experience of constructing and reconstructing creative ideas within the arbitrary framework of a game proposal. These same ideas could also apply to other forms of assignments and/or intermedia representations of assignments. The complexity of the students' ideas and the thematic sophistication of the proposal were more important than the students' ability to relay that information within the guidelines of the assignment.

Without prompting, the three teams each chose a different sub-topic covered by the course that appealed to the individual team members. A team of history buffs focused on the Spanish Civil War and constructed a proposal for a historical game set in the time of Franco; another that enjoyed horror genres in film and games explored the mythology surrounding the cathedrals of Salamanca and their iconography; while the third team, drawing on their enjoyment of cultural outings to local tapas bars and tourist shops, created a whimsical arcade-style game based on the current tourist culture of Salamanca; they used the famous carving of the frog on the skull at the University of Salamanca as the protagonist. In their presentations and project proposals, each team highlighted what the team members had learned from their cultural experiences, while also constructing a game that met the criteria from our research on game development.

2.3.2. Assignment 2: Digital Photo Journal

Uncertain as to whether the video game proposal would prove successful in helping students to integrate the cultural content with the learning outcomes of the course, another major assignment was created prior to departure to help achieve this. Other study abroad instructors in writing and the humanities at the university ask students to practice writing and critical thinking by journaling to reflect on cultural experiences. Savicki and Price (2017) examine the critical use of such journals in helping students attain the type of perspectival shift that occurs from successful reflection. They argue that this shift in perspective from guided journaling "comes from being able to step away from the event by looking back at it from a different time, or by virtue of having recorded it in some medium (e.g. a journal or a photo) that allows the event to be encapsulated in time rather than ongoing" (pp. 52-53). While Savicki and Price's study focuses on the success by which certain guided journaling activities achieve true reflection in the study abroad experience, those assignments were

part of the study abroad experience and not linked directly to learning outcomes from subject specific courses taken while studying abroad.

To attempt a gameful learning method that would connect reflective journaling with course content, a different kind of journal was needed that would allow students to construct narratives aligned with course content that also included changes in perspective based on reflecting upon cultural experiences. Using Honebein et al.'s (1993) work on constructivism, which "proposes that knowledge or meaning is not fixed for an object, but rather is constructed by individuals through their experience of that object in a particular context," the course used an assignment that incorporated an artifact related to course content into a journaling assignment (p. 88). As a large portion of the course on video game topography and narrative focused on transmedia representations of video game characters and stories, an object related to games transported into the cultural context of the study abroad program seemed like an effective way to encourage student engagement with both the course and the cultural experiences.

Before departure, the students were encouraged to select an avatar from any existing video game to use in a transmedia online photo journal depicting the character's, as well as the individual student's, travel experiences while studying in Salamanca. Creating a narrative around their experiences was intended to help the students engage more fully in cultural learning. As Randy Olson (2015) points out in *Houston, We Have a Narrative,* "taking stock," which occurs when considering the implications of your story on its audience and the broader context of the issue, helps add emotional content and engagement to the narrative (pp. 138-139). Some students purchased toy versions of their avatars, while others chose to embed digital representations of their avatars into their journal entries. The photo journals were to be recorded digitally.

Using the recently released *Detective Pikachu* film to explain the transmedia nature of video game culture, students were encouraged to begin their digital photo journals with a quest or purpose for their character's travel that could be used as the context for future entries. To model the assignment, I developed a digital photo journal on WordPress for the character GlaDos from the Portal game series and claimed to be gathering test subjects for the next Aperture Science experiment. I then digitally added the GlaDos unit into my images from the program in a way that suggested she was surveilling the

students during their program and commenting on their behaviors and interactions.

Students were required to post a minimum of two entries per week to the digital photo journals and could begin the project before arriving in Spain and complete it up to two weeks after the program end. Only two students began their photo journals before arriving in Spain, with most of the others beginning to journal during our initial class meeting in Salamanca. A few students struggled with the online platforms they chose for their photo journals and required additional one-on-one appointments to learn how to publish their journals.

2.4. Research Design

2.4.1. Pre-Class Self-Report Survey

During the first meeting of the class in Salamanca, students were given time to complete a pre-class self-report survey, consisting of 10 Likert-scale questions and two open-ended questions. The purpose was to gauge their understanding and openness to learn both the content of the course (video games) and the cultural components of the extracurricular activities associated with the study abroad experience (see Appendix A for the full survey).

By including a baseline measurement of student understanding, the study intended to measure what impact, if any, the narrative world building class activities might have on students' understanding of Spanish culture and the narrative theories associated with environmental development in video games. Five of the questions addressed students' understanding of Spanish language and culture, along with their openness to explore new places. The other five questions assessed students' interests in video games and their initial opinions about the roles of video games in telling stories, representing topography, and improving critical thinking. One of the open-ended questions asked students where or how they obtained any prior knowledge of Spanish language and culture; the other asked them to describe their current investment in playing video games, along with their reasons for taking the course. While Spanish language acquisition was not part of the course content and was not analyzed in the results, some knowledge of the language could have made cultural engagement easier for students who were able to converse easily with the local population while studying abroad. Ultimately, this question was not pursued in the study. Completed pre-class self-report surveys were received

from 10 of the 12 students at the end of session. Two students did not participate in the pre-class survey.

2.4.2. Post-Class Survey

At the end of the study abroad experience, all students completed an anonymous post-class self-report survey meant to gather several key pieces of information about the class and the assignments that had been adapted to encourage gameful learning through narrative world building (see Appendix B for the full survey).

This survey also had several open-ended questions aligned with the Likert scale questions for students to explain how the assignments and course goals fit with their overall study abroad experience and the learning outcomes for the general education course specifically. The questions were divided into a section on the photo journal assignment that asked students whether, and if so how, the photo journal enhanced their cultural experience in Spain; a similar section with questions on the game proposal project; and several general questions on the course learning outcomes, workload, and the perceived relevance of this course's learning goals to future courses. The aim of the post-class self-report survey was 1) to determine the effectiveness of each assignment in meeting both its academic and cultural engagement goals, and 2) to examine whether the methods used in this course had an impact on the students' perception of learning outcomes as more or less meaningful to their overall academic experience.

3. Findings

3.1. Pre-Class Self-Report Survey

The results of the Likert-scale questions from the pre-class self-report survey are broken down in the bar graph on the following page.

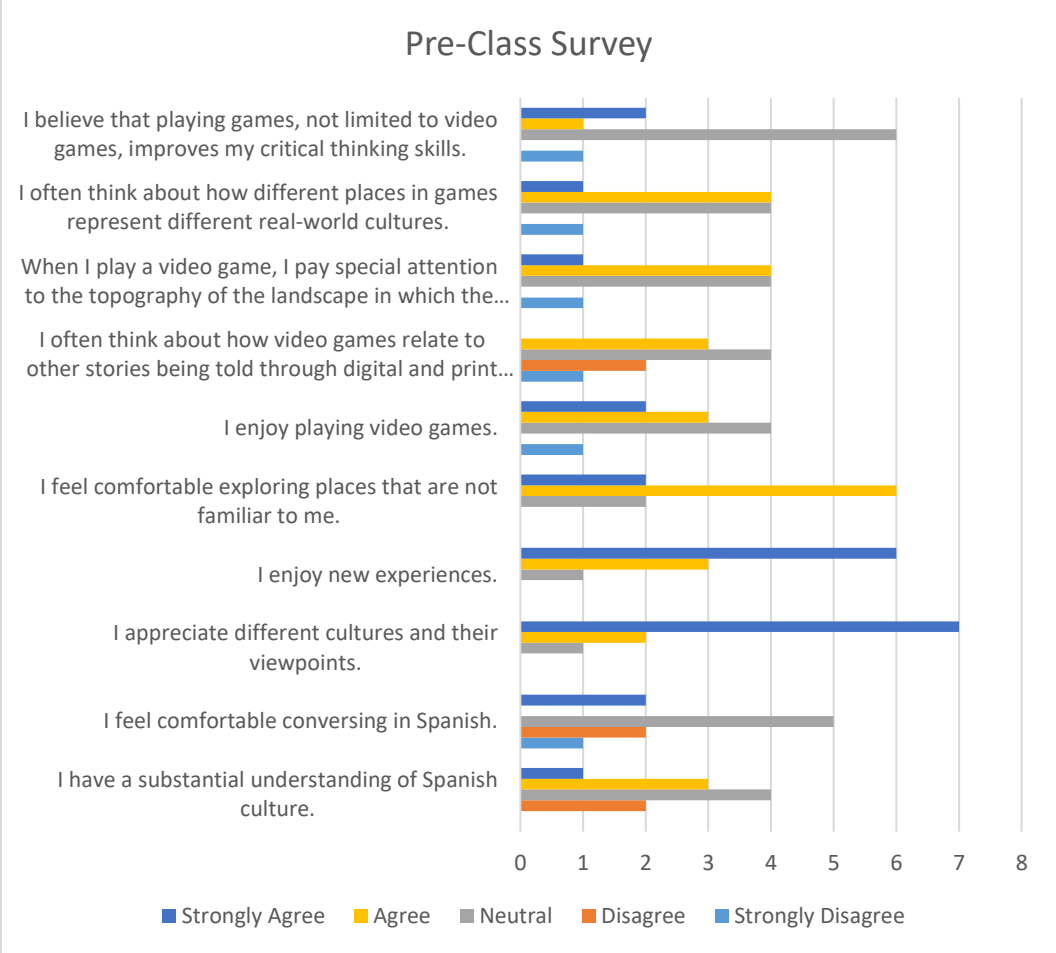

FIGURE (1): PRE-CLASS SELF-REPORT SURVEY RESULTS

This initial set of data indicate that the students were more interested in cultural learning and other study abroad elements while in Spain, and less interested in the course focused on video game narratives and topographical representations of place in games. Only one student strongly disagreed that video games had a positive impact on their critical thinking skills. This, presumably, was the same student who did not often think about the relationship between video games and real-world cultures, the topography in games, or the ways in which video games relate to stories in other media. The students were willing to explore the subject matter within the course and were open to learning more about the topic, even though the subject matter was not the deciding factor in taking the course for most Students' understanding of Spanish language and culture varied widely according to their responses to the open-ended question on prior knowledge. While Spanish language acquisition was not a mandatory or assessed part of the study abroad experience, students

were required to attend a daily class offered by Mester, the host institution, that included history, cultural, and limited language learning. Mester also arranged for daily, required excursions as well as optional weekend attended by some students. While not credit-bearing, the activities were informational and offered informal learning. Certain students in the program were fluent in Spanish or had a basic understanding of the language that could have predisposed them to more easily engaging in cultural experiences, but the study did not investigate whether that impacted their experience during the program.

There was less variation in terms of interest in gaming. While most students had some familiarity and interest in games that made the course appealing, 10 of the 12 students had enrolled in the course to fulfill a general education course requirement while studying abroad and taking an aviation legislation course required for their major program. Most were there primarily to experience a different culture while still fulfilling credits for their technical degree programs. Out of the 12 students, one actively disliked video games after an experience with a roommate who was overly invested in gaming. Another had not been allowed to play video games as a child and felt neutral toward gaming. A third did not play games but was interested in learning more about them and trying out video games for the purpose of the course. Of those who did play, one was only familiar with sports games on video game consoles, and three had not played any games regularly since leaving home to attend university. Only half the class (six out of 12 students) were active gamers who played video games regularly and found value in studying them.

It should be noted that these results are not uncommon for university students. In a study by Cruz and Penley (2014) on gamification methods and their success in the classroom, 28% of students "indicated that they had not participated in online games prior to the exercise, citing them as 'irrelevant', 'pointless', and 'a waste of time'" (p. 5). American college students have been brought up in a culture that encourages work over play and productive activities over leisure time, and many subscribe to those beliefs, engaging mostly in interests that are culturally accepted as "productive," like music or sports. In *The End of Average,* Todd Rose (2015) traces this back to Rockefeller's 1912 General Education Board, which drew upon the standardization methods of Frederick Winslow Taylor to "organize and teach children to become workers who could perform industrial tasks in 'a perfect way," eventually remaking "the architecture of the entire educational system to conform to the central tenet of

scientific managements: standardize everything around the average" (p. 51). This type of training does not value play or games.

The pre-class self-report survey suggests that while the majority of students were interested in the language and cultural engagement components of the course and study abroad experience, they had mixed opinions about the value of studying those subjects through the lens of video games and/or video game culture. This is important to note because one of the issues being resolved by the gameful learning environment is individualized creation of an educational space for students through assignments and opportunities that encourage co-ownership and creation. As Todd Rose (2015) explains, "equal access [to the *same* educational experiences] suffers from one major shortcoming: it aims to maximize individual opportunity *on average* by ensuring that everyone has access to the same standardized system, whether or not that system actually fits" (p. 186). What the pre-class self-report survey shows is that some students felt they might be entering an unfamiliar or uncomfortable learning environment with video games, despite the course intention of giving them the opportunity to take ownership of learning together based on shared interests and knowledge. A couple of students were especially suspicious of using video games in academic environments.

3.2. Post-Class Self-Report Study

Figure (2) below details the results of the Likert-scale portion of the post-class self-report survey.

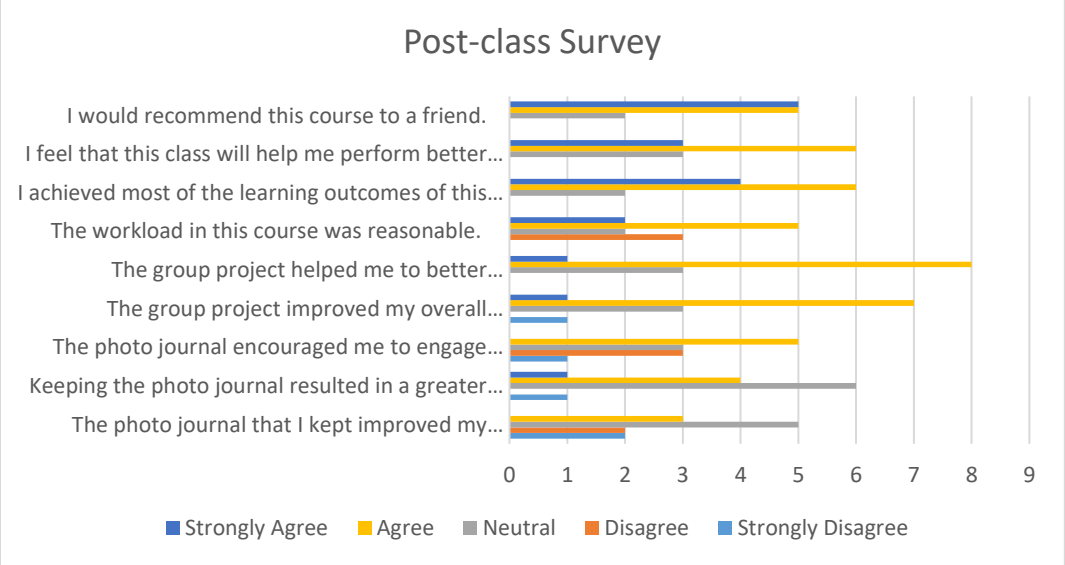

FIGURE (2): POST-CLASS SELF-REPORT SURVEY RESULTS

Responses indicated that students were satisfied with the course and felt that they had achieved the learning outcomes for the most part. The workload, which included the usual amount of reading and writing for a semester-long course delivered within the shorter time frame of a one-month study abroad program, was deemed reasonable by most students. Ten of the 12 students would recommend the course to a friend, with two responding neutrally but not negatively. For the purpose of this study, it is most interesting to note that of the two assignments that were adapted for gameful learning, the game proposal project was received more positively by students than the digital photo journal.

The same post-class self-report survey described above included two open-ended questions on the digital photo journal asking students how, if at all, the journal improved their study abroad experience and whether the journal had deepened their understanding of Salamanca and its people. The students were split nearly evenly with 4-5 students, depending on the question, stating that they did not feel the photo journal improved their experience or understanding of Salamanca. One student reported understanding Salamanca better, although that did not improve the overall experience. Students indicated that the journal had become busywork on top of an already challenging reading and writing workload. Because it was a less formally structured creative assignment without the parameters of the course essays or project, such as research components and analytical writing structure, students put off working on their journals and did not enjoy the assignment. One student speculated that the journaling would be more meaningful retrospectively: “I didn't feel like the [photo journal] deepened my understanding of Salamanca, but I DO feel like it will help me KEEP my understanding of Salamanca once I return back to the United States.” The students who enjoyed journaling liked the way that it required them to “connect with the places we visited instead of just visiting them and not paying very much attention;” they noted that keeping the journal reminded them to “take lots of extra pictures” of meaningful sights.

In contrast, the open-ended questions on the game proposal assignment, framed identically to the digital photo journal, were answered positively or neutrally by students. The positive comments remarked on how the project allowed the students to develop stronger connections with one another and encouraged them to research beyond their experiences on tours to develop a deeper context for their cultural surroundings. One student wrote, “The topographical analysis essay, and group project caused me to delve deeper into

Salamanca's numerous aspects to get a better understanding of how things work on my own." Another stated, "It helps us [sic] to work in a group and know each other better." The comments from students who had neutral responses to the assignment indicate they felt that they had engaged in the research and writing expected in the course and felt it was important to have been evaluated individually on their contributions to the project. A few students did not make strong contributions to their team project; as indicated earlier, one team's students did not previously know each other. In contrast, the team with the strongest bonds outside of class produced the best work. Future iterations of this activity should therefore pay greater attention to team-building by forming teams earlier and using smaller stakes assignments to help team members develop the rapport needed to work together effectively. That said, certain teams will have with stronger connections than others, and all the teams performed well on the assignment.

3.3. Video Game Proposal Assignment

Student game proposals were completed in three teams of four students each. As indicated, teams received a grade for their presentations. However, grades for individual contribution to the game proposal and for the analytical essay carried greater weight and used analytic rubrics to assess whether a student achieved all, most, some, or none of the elements required by each category in the rubric. The game proposal assignment was worth 175 total points, the same point value as the analytical essay. Students who were assigned the role of team lead were evaluated on the content of the overview section at the beginning of the proposal, the quality of a digital artifact representing the game environment, the Works Cited or References section, the overall structure of the proposal, the grammar and spelling within the overview section, and the formatting of the proposal in its entirety. Students who were assigned the roles of narrative development, environment, and gameplay components were evaluated on how well their section met the purpose of their role in the assignment, their ability to incorporate evidence from other sources to support their section, the organization of paragraphs within their section, the quality of the research within their section, the grammar and spelling within their section, and adherence to formatting requirements for their section. The purpose section or overview for team leads was roughly congruous to the thesis evaluation of their analytical essay in the course. Paragraphs, writing mechanics, and formatting were also parts of the earlier, more traditional

analytical essay assignment. One main difference between the analytical essay and the game proposal was the research requirement. For the analytical essay, sources were provided for the student, and the student was evaluated on how well the sources were incorporated into their analytical writing. The game proposal assignment required students to locate their own sources, instead of or in addition to sources provided in the course.

Students performed well on the final game proposal assignment with an average score of 154.58 points (88.33%), slightly increased from the analytical essay that had an average score of 151.67 points (86.67%). While most students performed similarly on the two assignments with minor variations on the rubric, the three students who scored in the "C" or below range on the initial essay all increased their scores by a letter grade on the final project. One student who had earned a B on the analytical essay, however, earned just a C on the game proposal. All students taking the course for upper-level credit in the humanities met the research expectations for the game proposal, although two of the students taking the course for the lower-level humanities credit did not. Overall, students achieved the course outcomes with a somewhat higher grade distribution on the final assignment (86.67% or high "B"). Grades for similar courses taken on campus typically fall between 2.7 and 3, with "2" equal to a C in a course and "3" equal to a "B".

While collaboration appears to have contributed to improving team outcomes, insofar as students who performed in the "C" or below range on the analytical essay improved their scores by a letter grade on this assignment, the students' individual contributions were evaluated independently. The research components were better integrated and discussed in the individual sections than in their previous analytical essay. The writing was stronger. For example, one student's writing in the first essay included, "When the game had been released, people are crazy about it. People start to go outdoor in order to catch the Pokémon which they want." In the final proposal, his more polished writing included, "Here the music will be changed. In the beginning, the music will be relaxing, everything was good. Until the stork caught its wife the music starts to turn a little bit nervous because its wife was being caught. On the bridge, the melody will be faster because it has to avoid all the traffic and people." While this multilingual student still has some issues with sentence constructions, he is able in the proposal to express more complex ideas with an added level of fluency and detail than in his analytical essay submission.

Most importantly, students genuinely enjoyed working on these projects, discussing them outside of class during our many extracurricular activities. Their positive responses to the proposal align with the research on gameful learning that suggests students will invest more in learning activities that they feel are meaningful to them, namely ones that they are allowed to choose and develop on their own, rather than being prescribed. Giving the students this freedom to choose their topics also resulted in a deepened cultural engagement with the topics that most interested them, indicating that gameful learning has the potential to deepen a student's learning experience in a study abroad environment.

3.4. Digital Photo Journal Assignment

Digital photo journals were submitted within two weeks of the study abroad program's conclusion. This gave students time to further develop journal entries as needed and to conduct a final review of their work. Students chose either WordPress or Wix to develop their journal assignments, both of which are free programs with different degrees of difficulty for students unfamiliar with online blogging or website building. To account for differences in technical proficiency, students were not evaluated based on the design qualities or technical prowess demonstrated in their work. Instead, student journals were evaluated using an analytic grading rubric similar to those used for other assignments in the course to determine whether they achieved all, most, some, or none of the elements required for each evaluative category. For the journal, students were evaluated in the following categories: purpose of overall story being related by the journal; development and number of individual entries; cultural engagement represented within entries; number and quality of images to align with entries; and grammar/spelling. As an informal creative assignment, students were not negatively evaluated based on structure or advanced writing style. No research was required. Certain students opted to include grammatical conventions unique to their chosen characters that could include errors similar to the types of writing errors one would expect from that character.

Despite not enjoying the assignment as much as the game proposal, according to their self-report surveys, students performed very well on these journals. Students could earn up to 140 points for their journals. The journal thus was a substantial assignment, albeit not as substantial as the essay or game proposal, both of which addressed learning outcomes required by the course, such as research and analytical writing structures. Journaling ranged from 125

(89%) to 150 (107%), with an average score of 133.33 (95%). The higher average score was, in part, due to five of the 12 students earning extra credit for including an image of the famed Salamanca frog in one of their entries. Three students earned 150 (above 100%) for including that image after earning a perfect score on the assignment. Most notably, two of the multilingual students who struggled with writing mechanics in the more formal assignments for the course were among the three submitting their best writing. The most common category for point reductions was in the category for number and development of individual entries. Four students lost points in this category due to entries that were under-developed or did not fully connect the story being developed with cultural components. Even with these deductions, the journals "mostly" met the requirements for a creative assignment.

Student responses to the assignment indicated that students struggled with both the online tools and the challenges of understanding how an avatar would react to a new environment. Students with a good understanding of the assignment and their avatar were able to develop a unique storyline appropriate to the characteristics of their avatar and how that avatar might react to the setting and experiences in Spain. Other students composed strong journal entries about their experiences and included photos with the avatar but did not successfully build a story around the avatar's unique experiences. Neither were they able use the journal to relay the characteristics and intrinsic motivations of their avatar, focusing instead on the cultural engagement activities themselves, in the way that traditional study abroad journals do, and exhibited limited reflection. Lastly, some students posted very few journal entries. While these were factual, they were under-developed and contained few photos with the avatars.

Feedback on the assignment as well as its assessment indicate that the assignment was mostly viewed as a necessary, but unenjoyable chore, in contrast to the game proposal assignment. The assignment could be improved by introducing it more fully prior to the study abroad program, perhaps by requiring an initial post while students are still on campus or just prior to departure following a final pre-departure preparation. This might help work out some of the challenges and could be preferable to using email to communicate about the assignment. Additionally, students could be given the option of completing the project on paper, using a notebook to make drawings or insert photos into the notebook, as an alternative to an online blogging platform. In

future iterations of the course, students who do not express an interest in the subject matter of video games could be given the option to complete the transmedia assignment using characters from other, more familiar, media to the students, such as cartoon or film characters, or even real-world media personalities. The journal could also be better integrated with the final project assignment by having students select specific elements from their entries as the basis for their game elements or by having their characters in the journal entries interact with the characters from the game.

4. Limitations

The study's limitations include the particular makeup of the student cohort and the analysis based on a single offering of the course abroad. Originally designed for honors students studying abroad in Japan, cultural experiences would have related to places significant to video gaming, such as the headquarters of Nintendo in Kyoto and Sony in Tokyo. However, when a general education course was needed for a well-established program in Spain, a decision was made to offer the course there along aviation legislation. Unfortunately, only two of 12 students studying in Spain had real interest in taking a course on video game topography and narrative. Gameful learning works best when students have options that allow them to invest in areas that most interest them.

The surveys also could have been improved upon to better analyze the relationships between students' cultural knowledge and language skills prior to departure with their written artifacts in the course, rather than simply comparing one survey with another. This would have required a revision of the assignments and analytic rubrics to evaluate more closely the students shifting perspectives of Spanish culture. The post-class survey also needed to focus more on the Mester courses and excursions and what they were intended to teach. Lastly, the discrepancy in response rates to the pre-course (10) and post-course surveys (12) weakens the analysis, as does the reliance on self-reports to understand learning outcomes.

The two major assignments also had limitations that should be noted. The game proposal assignment worked well and integrated the course learning outcomes with the cultural experiences throughout the study abroad program by requiring students to conduct research into an area they had explored or learned about during those experiences. However, the students would have

benefited from being grouped together earlier with smaller stakes assignments to help develop better rapport with one another. Additionally, a formal assessment of what cultural knowledge had been attained from completing the proposal should have been conducted for an objective assessment of students' growth in cultural knowledge. The digital photo journal was not integrated as well as it could have been with the course or the final game proposal assignment. It also required students, independent of course instruction, to learn and use online blogging tools with steep learning curves for some. The number of assignments and learning outcomes from the course became excessive with this added component. Despite many students' perceptions of the journaling as busywork, however, they performed well on the assignment. Moreover, two of the students who had shown writing deficiencies earlier in the course overcame these in the less-structured journaling activities.

5. Discussion

Gameful learning, as a practice, involves more than points and leaderboards. Games within expansive worlds, like role playing games or massively multiplayer online role playing games (MMORPGs), contextualize tasks and quests within a broader context for the player to feel immersed in their experience. Study abroad experiences immerse students in other cultures in a similar way. If faculty members teaching diverse courses are able to connect their content and learning outcomes to the cultural immersion students are experiencing, they can create more meaningful and relevant learning experiences. Both the self-report surveys and student assignments in this course indicate that students were able to master learning outcomes while connecting them to what they were learning about Spanish culture and history. By creating their own game proposals with unique narrative worlds within the context of their study abroad, students were allowed the freedom to select those elements of the cultural landscape that they wanted to study more in-depth. This nuanced approach to gameful learning accounts for what William Deresiewicz (2014) describes as a fundamental flaw in current pedagogical trends that are turning out *Excellent Sheep*:

> The purpose of life becomes the accumulation of gold stars. Hence the relentless extracurricular busyness, the neglect of learning as an end to itself, the inability to imagine doing something that you can't put on your resume. Hence the constant sense of competition (p. 16).

Learning experiences are most successful when students have the greatest degree of autonomy over the experience and flexibility in choosing their means of engaging with the material, an idea in line with the current research on gameful learning. However, those experiences are made more meaningful when students can co-create a narrative context in which to pursue their learning outcomes, as seen in the game proposal project.

While this game proposal project was successful in terms of integrating class learning outcomes with in-depth research on historical and cultural locations visited during cultural experiences, it should be noted that the individually completed digital photo journal was not as effective and received stronger criticism from students in survey results. To understand this criticism, one needs to consider the three psychological needs that gamification methods are intended to meet: autonomy, competence, and relatedness (Van Roy & Zaman, 2017). According to van Roy and Zaman (2017), "in combination, one need fulfilment may equally lead to an impediment of another need fulfillment" (p. 500). Not only did students not engage in social relatedness through this largely solitary activity, but also many did not feel competent in their writing, avatar selection, or use of digital journaling tool. There was also little-to-no autonomy because it was a required assignment with rigid parameters, especially when choosing the avatar from a gaming community. Students were not permitted to select avatars outside of games, although many of them were not as familiar with transmedia representations of video game characters and would have been more successful with a wider selection. By not beginning the assignment prior to the study abroad program, an option only two students chose, students also felt rushed and less sure of their choices; a couple of students changed characters after beginning their journals. Other students struggled to learn Wordpress or Wix for composing and displaying their journals, neither of which was part of the course instruction but an assumed burden on the students to master. In hindsight, a paper version could have been offered for greater accessibility among students of differing technical backgrounds. The written requirements, in addition to the photos, also created an excessive workload, given the number of reading quizzes and writing assignments that students were already completing for the course.

Future iterations of the course during study abroad would be more successful if the digital photo journal assignment were replaced with an assignment that could feed into the final project in a meaningful way. Devising

ways to help teams develop positive working relationships is recommended, as is encouraging research integrating cultural experiences with team projects. However, this may not overcome challenges posed if students feel confined by their team or project as their interests evolve. After all, flexibility is a key part of gameful learning. Alongside the integration of the journaling assignment and the game proposal project, it is recommended that other essays and even reading quizzes tie into the cultural experiences related to the final game proposal; this will help broaden and deepen students' understanding of core concepts in a contextual environment. Experimenting with the timeline for group projects, a creative weekly log more directly associated with that project, and reading quizzes that are better integrated with, sacrificing the gains in writing and research skills that students were able to accomplish in this course. Additionally, assessment of learning outcomes beyond self-reports and graded assignments is recommended to determine the extent to which students increased their understanding of Salamanca as a result of these assignments.

Building upon the results of this study, faculty members across different academic disciplines are encouraged to rethink experiential learning as a type of gameful learning that occurs within the context of a world being narrated by both teacher and student. Along these lines, consider what roles students could play in co-creating final collaborative projects that will allow them to demonstrate diverse skills from the course in a narrative environment meaningful to the students helping to create it. For example, a course in data analysis could include a final project in which students analyze data sets from global crises of their choosing, real or imaginary, such as a pandemic set in World of Warcraft versus one in our current reality or the impacts of industrialization on climate change in our world or a terraformed planet in a work of science fiction. More importantly, study abroad faculty should consider how to implement similar learning modalities. For example, the Aviation Legislation course offered in Spain could include a fictional legal challenge to airspace ownership that includes representative members of different governmental and industry leaders from Spain. Similarly, a study abroad course on Fluid Mechanics could gauge the impact of certain weather patterns and tidal shifts on ships and seaports, while also considering the impact of different events on infrastructure within a particular country. The idea behind these assignments is to allow students to be the co-creators of the narrative world they are analyzing by setting parameters based on the learning outcomes for the

course. Allowing students to play within these narrative environments as they grapple with the material they have learned in class will give them the autonomy and flexibility to feel invested in the learning process, while also adding narrative context to the material that will increase the depth and breadth of their learning experience. Additionally, assessment of cultural knowledge resulting from the class assignments beyond self-reports is recommended.

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Appendix A: Pre-Class Self-Report Survey

Likert scale questions	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I have a substantial understanding of Spanish culture.					
I feel comfortable conversing in Spanish.					
I appreciate different cultures and their viewpoints.					
I enjoy new experiences.					
I feel comfortable exploring places that are not familiar to me.					
I enjoy playing video games.					
I often think about how video games relate to other stories being told through digital and print media.					
When I play a video game, I pay special attention to the topography of the landscape in which the game is set.					
I often think about how different places in games represent different real-world cultures.					
I believe that playing games, not limited to video games, improves my critical thinking skills.					

Open-ended questions

- What knowledge, if any, of Spanish language or culture do you have at the beginning of this course, and where do come by that knowledge?
- Describe how and to what extent you are currently invested in video game playing or video game culture. (If you do not currently have any involvement in video game playing or culture, why did you choose this course and what do you hope to learn from it?)

Appendix B: Post-Class Survey

Likert scale questions	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
The photo journal that I kept improved my overall experience on this study abroad program.					
Keeping the photo journal resulted in a greater understanding of Salamanca.					
The photo journal encouraged me to engage more with the people and places of Salamanca.					
The group project improved my overall experience on this study abroad program.					
The group project helped me to better understand the people and places of Salamanca.					
The workload in this course was reasonable.					
I achieved most of the learning outcomes of this course (listed below and addressed explicitly in the class): • Analyze and synthesize disciplinary and integrated thinking and knowledge. • Conduct primary and secondary research on a single reality-altering event, gathering, analyzing and interpreting information generated from a variety of traditional disciplines and integrative professions. • Demonstrate proficiency in written and verbal communication. • Compose papers and present speeches acknowledging and reflecting integrative scholarship.					
I feel that this class will help me perform better in other courses.					

I would recommend this course to a friend.					

Open-ended questions

In what ways, if any, did the photo journal improve your overall experience on your study abroad program?	
In what ways, if any, did the photo journal deepen your understandings of Salamanca?	
Please provide an example of how the photo journal encouraged you to engage with the people and places of Salamanca. Why was that experience meaningful to you?	
In what ways, if any, did the group project enhance or diminish your overall study abroad experience? Please share an example.	
In what ways, if any, did the group project help you to more deeply understand the people and places of Salamanca? Please share an example.	
Identify the projects, experiences, or other class activities that best supported you in achieving the learning outcomes for this course (see below): • Analyze and synthesize disciplinary and integrated thinking and knowledge. • Conduct primary and secondary research on a single reality-altering event, gathering, analyzing and interpreting information generated from a variety of traditional disciplines and integrative professions. • Demonstrate proficiency in written and verbal communication. • Compose papers and present speeches acknowledging and reflecting integrative scholarship.	
In what ways, if any, do you feel your study abroad experience could enhance your learning in other courses?	