In a Woman's Voice: An Alternative Gamification of the Oregon Trail

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In a Woman's Voice: An Alternative Gamification of *The Oregon Trail*

Abstract

This experiential research project centered around an elective Interactive Fiction course offered jointly by the Computer Science and English programs at Ohio Northern University during the Spring 2023 semester. The course aimed to explore gender representation issues through the creation of alternate versions of the classic computer game, *The Oregon Trail*. Specifically, students were assigned the task of developing individual works of fiction featuring a female protagonist and incorporating narrative, dialogue, and differing perspectives based on the documented experiences of women along the Oregon and similar Overland Trails in the late 1840s and early 1850s. Games were implemented using the Inform programming language, characterized by coding statements taking the form of complete sentences. This approach provided a natural language syntax environment, making it inclusive for individuals outside traditional programming disciplines. To assess the course's effectiveness, pre- and post-activity surveys with a Diversity, Equity, and Inclusion (DEI) focus were designed and administered. The subsequent statistical analysis revealed a significant positive impact, with a large effect size demonstrated in raising students' awareness of gender representation issues.

Introduction and Literature Review

Female representation has continuously been an issue within computing, including computer gaming. As women are stakeholders in educational software and make up roughly half of the population, it is essential they see themselves being represented accurately and positively.

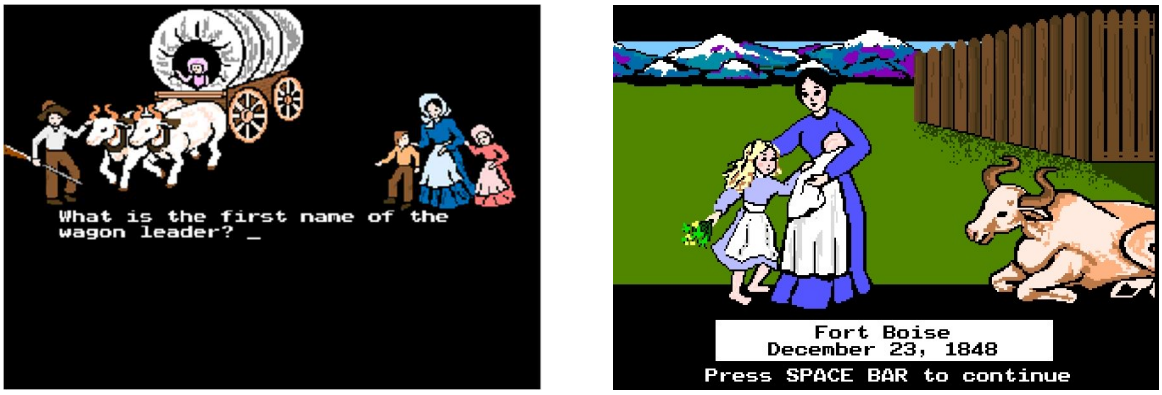
Gender Representation Issues in Computing

When digital computers became a practical reality in the 1940s, women were the pioneers in writing software for the machines. At the time, men regarded writing code as a secondary, less interesting task, as the real "glory" lay in hardware design [1]. When the number of coding jobs exploded in the 1950s and 1960s, employers looked for candidates who were logical, meticulous, and good at math. In this respect, gender stereotypes worked in women's favor, as some executives argued that women's traditional expertise at painstaking activities like knitting and weaving manifested precisely this mindset [1]. However, the advent of personal computers helped to form our current male-oriented computer science stereotypes, creating a less-welcoming experience for women interested in the profession, as noted by the decline in the amount of undergraduate computer science degrees awarded to women, from 37% in 1984 to just 20% in 2018 [2]. Research has shown that those stereotypes that depict computer scientists as lacking interpersonal skills or being intensely focused on their various computer devices discourage women from developing an interest in computer science [3]. Those stereotypes presenting masculine defaults, such as "computers are for boys," further serve as social factors that discourage the full participation of women [4]. When aired via popular mass media venues, such as who is holding a magazine versus a laptop in imagery from the *Big Bang Theory* [5], these stereotypes are made prevalent throughout society, causing additional harm.

Another medium, online gaming, is rife with the use of stereotypically masculine activities for male characters, often to the point of toxic masculinity [6]. While women play video games on par with men, they are not represented as protagonists at similar levels. Instead, when women are portrayed in games, they are placed into secondary and/or objectified roles, and often presented stereotypically [7], thereby negatively influencing female self-concept [8]. As an example, a common trope is Lingerie is not Armor [9], where male characters are shown wearing full body armor whereas female characters are usually hypersexualized [10] and have "armor" that is as revealing as lingerie. To bring about positive change, it is important to provide diverse, intersectional, and honest representations of female characters.

The Oregon Trail Game

For over 50 years, grade school educators have used *The Oregon Trail* computer game [11] as an instructional tool for teaching about American Westward Expansion. Set in 1848, the game presents students with active learning experiences through the role of a person migrating along a 2,200-mile trek. Tasks include outfitting a wagon, managing supplies, maintaining travel pace, and safely crossing rivers. Initially developed for a text-only environment as *OREGON* in 1971 [11], it was ported to the Apple II in 1980 and significantly revised in both gameplay and color graphics in 1985 [12]. This version was ported to the IBM PC in 1990; most online "classic" simulations of the game are this version [13]. While the game has cultural status (*e.g.*, the "you have died of dysentery" meme [14]), it has also generated complaints, the most common being the inclusion of Native American stereotypes [15]. The game's redevelopment in the 2020s by Gameloft included the hiring of three Native studies scholars as consultants, bringing a new level of respectful representation to the game, such as recognizing "Indigenous sovereignty and settler colonialism" [16]. However, another issue involves the game's focus on the male experience. The game uses a white male avatar [17] holding a rifle in one hand and the oxen's yoke in the other when prompting for the wagon leader's name (Figure 1a), presents one of three male-oriented occupations to select from (a banker, a carpenter, or a farmer) [18], employs male-oriented decision-making activities like traveling [19], and includes a hunting mini-game that is more appealing to boys than girls [20]. Some of the imagery embraces surface equity via the Women as Window Dressing trope, such as the woman standing outside Fort Boise with her baby and young daughter (Figure 1b) without any further narrative exploration or character development provided, such as what it was like experiencing childbirth along the Trail [21].



Figures 1a and 1b. Screen captures of (a) player name request and (b) Fort Boise imagery from the 1990 IBM PC version of *The Oregon Trail* [13].

Given that approximately one out of five women on the Trail were either pregnant or had recently given birth along their journey [22], and that many wives were young women traveling with small children [23], more could be done to tell stories from this perspective as a fitting testament to the fortitude of our emigrant ancestors. Finally, some of the dialogues experienced when selecting the "Talk to people" option available at forts and landmarks include a reference to "a frantic wife" and being asked to "[w]rite us, you or the Missus," upon reaching Oregon. Sadly, this lack of proper representation of female emigrant experiences is not new. In 1918, the American author Emerson Hough opined that the chief figure of the American West was not the "hero with the rifle across his saddle horn" but the "gaunt and sad-faced woman sitting on the front seat of the wagon… her face hidden in the same ragged sunbonnet which had crossed the Appalachians and the Missouri long before… Who has written her story?" [24].

Pedagogical Design

2016 – Initial Effort

As Honorable Mention participants in the "TIDES: Teaching to Increase Diversity and Equity in STEM" initiative launched in 2014 by the Association of American Colleges & Universities, two faculty members at Ohio Northern University – one from computer science, the other from English – jointly taught the interdisciplinary course, "Global Storytelling through Interactive Fiction." Offered in the Spring 2016 semester, this course integrated both creative writing and basic programming skills through the development of playable Interactive Fiction, a genre best known via text-based adventure games, by incorporating stories from around the world in an exploration of the connection between identity and storytelling. In terms of increasing the diversity of enrollments within a computing environment, the course was successful, as 50% of the students were female, with students from both the engineering and humanities realms taking the class. Unfortunately, the computer science faculty member that was involved subsequently left the institution, thus this course was not offered again.

2022 – Storytelling and DEI Initiatives

For many years, our second semester introductory programming (CS2) course had a term project where teams of primarily first-year students developed educational software for real-world clients [25] [26]. However, substantial growth in both the computer engineering and computer science programs made such projects no longer sustainable. It was decided by the two CS2 instructors for the Spring 2022 semester that the "sandbox" assignment [27] used to prepare teams ahead of working with clients – a "minimum viable product" version of the classic *The Oregon Trail* computer game – could be expanded upon to serve as the new term project, removing the need for external clients. But a straight-up recreation of the game seemed uninspiring. So why not use the documented experiences of those who traveled the Oregon Trail as the backdrop for students to help develop their storytelling skills? Storytelling is an oft-overlooked part of the design process, yet it is critical for illuminating the processes by which engineers create value by providing memorable scenario narratives, developing engaging pitches, *etc*. This also allowed the instructors to apply lessons obtained from attending story-driven learning workshops presented at the KEEN National Conference and similar venues [28].

Also discussed by the CS2 instructors was the male-white-centric nature of most versions of *The Oregon Trail*. Earlier in 2021, Gameloft's porting of *The Oregon Trail* into the Apple Arcade ecosystem made headlines [29] for its positive portrayal of Native American representation. So why not use this assignment as a vehicle for allowing the female voices along the Trail to be heard? In this way, the student-implemented version of the game would provide a greater diversity of characterization while also being a more inclusive experience for the female students enrolled in the course. Taking a further step with these initiatives, the lead author reached out to the English professor involved with the 2016 Global Storytelling course. A joint proposal to establish a cross-disciplinary opportunity between engineering and the arts through the development of a "Special Topics: Interactive Fiction" course was developed and subsequently approved by the curriculum committees of both colleges for the 2022-2023 academic year. While the remainder of this paper focuses on this Interactive Fiction course, the authors want to acknowledge the key roles played by the instructors involved in these preceding courses.

2023 - Interactive Fiction: Goals and Logistics

The two primary goals for the Interactive Fiction course were (1) for students to learn how to use a natural language software platform, such as Inform [30], to design an interactive game in a way that reflects the diversity of cultures and experiences encountered during the era of American Westward Expansion, and (2) to do so by considering character, narrative, dialogue, and point of view when writing historical fiction. Selecting *The Oregon Trail* game defined both time and place constraints; by also requiring the use of historical sources and information, including diaries of women who made the journey, a creative writing prompt was fully formed, encouraging students to explore what the Trail experience was like for women, and thus setting up the aspirational goal regarding gender representation in media. Apart from these guidelines, the course allowed for students' self-expression through the story medium by allowing for in-depth examinations of particular themes, locations, and/or events, while discouraging mimicking the original game. The course was also structured to support introducing story-telling concepts (simple notions of character development, narrative progression, *etc.*), thereby helping students feel that they are truly engaged in serious story development while also teaching pertinent logical aspects of programming concepts, while not compromising on either.

To get around potential cross-listing headaches within the Ellucian Banner higher education enterprise resource planning system used by the institution, both the computer science and English programs offered separate 3-semester-credit-hour Interactive Fiction courses meeting at the same time in the same room, thus allowing for joint instruction. Several planning sessions were conducted ahead of the course and then held weekly for the 15-week duration of the semester. The instructors felt that the best approach would be to aim for a seamless integration of course content by blending the two disciplines, so that elements of both writing and programming were intertwined, albeit in differing amounts, in almost every class session.

2023 - Interactive Fiction: Content

Two books were required for the course: *Women's Diaries of the Westward Journey* by Lillian Schlissel [23], and *Inform Handbook* by Jim Aikin [31]. The Schlissel book is based on the analysis of the contemporaneous diaries of over 100 women, capturing the diversity of life's

experience on the Trail from these women's views. The first portion of the book is organized into the three primary chronological periods of emigration along the Trail: the Oregon Country era (1841-1850), the California Gold Rush era (1851-1855), and the later journeys (1856-1867). Also contained within the book are six extant Overland Trail diaries, allowing the reader ready access to these primary sources. The Aikin book was the primary resource used for learning how to use the Inform programming language along with the accompanying Inform IDE, shown in Figure 2, to produce parser-based interactive fiction.

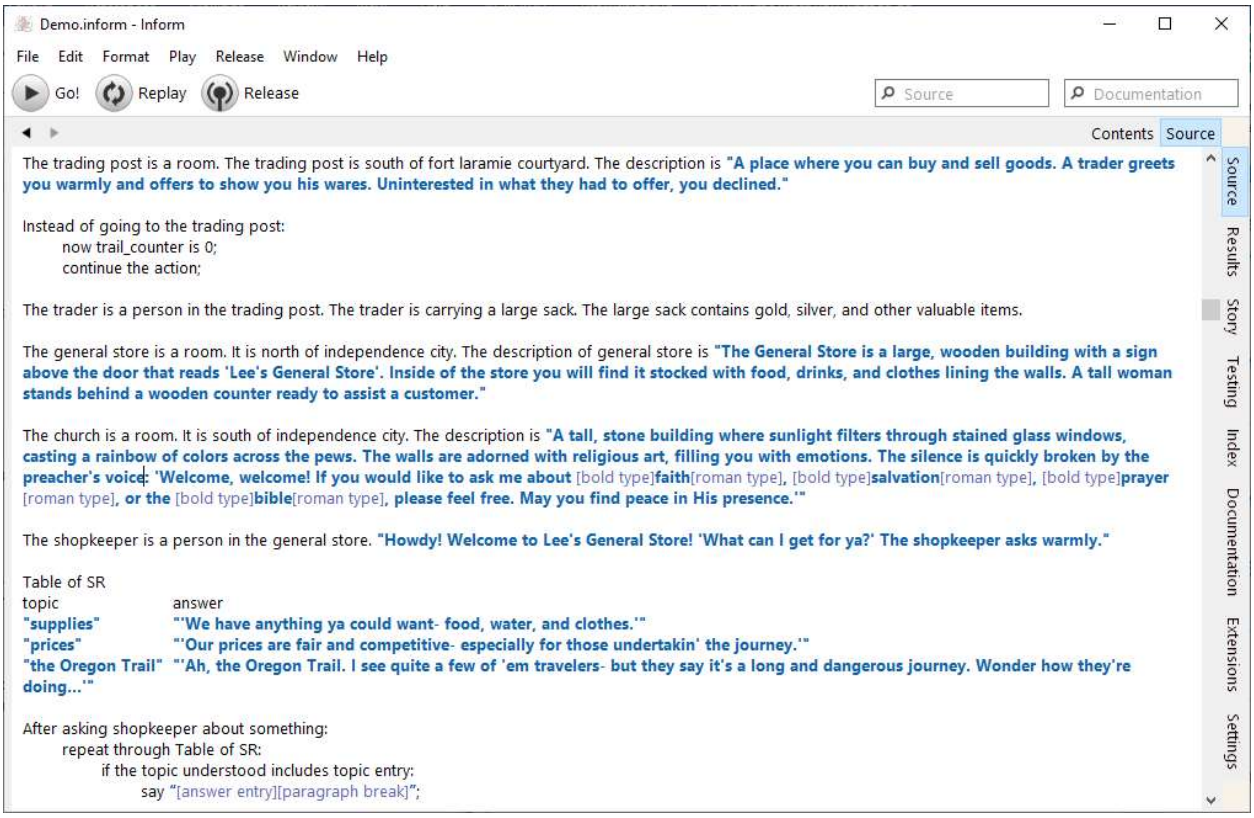


Figure 2. Example of the Inform programming language in the Inform IDE.

Lecture materials outside of creative writing and programming included introductions to gender representation issues, text-based adventure games and the interactive fiction genre, and farm life during the era of the 1840s and 1850s. Two "extras" were included in the course. First, a field trip was held at a local homestead museum [32] featuring a house built in 1843, with docents from the historical society maintaining the homestead providing both information and feedback to questions, thereby helping students obtain a sense of place. Second, arrangements were made for New York Times Bestselling and World Fantasy Award-winning author Tobias Buckell [33] to make an in-person visit to discuss various aspects of both writing and the writing industry.

Methodology

Employing a female protagonist and researching those activities associated with her experiences on the Oregon Trail provided the framework for creating historically accurate interactive fiction that incorporated one or more DEI perspectives. Pre- and post-activity surveys were employed to measure change in DEI outlook regarding female representation issues in computer games.

Research Question and Design

The research question is as follows:

> **RQ1.** Can writing alternatives of *The Oregon Trail* computer game that present realistic views of women's contribution to American Westward Expansion raise gender representation awareness?

We hypothesize that this will occur, as the writing of historically informed female dialogue will help to expose this issue by having students move away from the traditional online gaming culture that is rife with language and behaviors that reinforce white male prejudices [6]. Recent research shows that male characters outnumber female characters by approximately four-to-one [6], with games on average having twice the amount of male dialogue as female dialogue, and that 94% of the games studied containing more male dialogue than female dialogue [34].

In accordance with the Department of Health and Human Services Regulations for Protection of Human Subjects (45 CFR 46.110), the Institutional Review Board at Ohio Northern University reviewed our research protocol (JE-EN-012323-1) and granted it exempt review status, under exempt category #1 (educational strategies, curricula, or classroom management methods). As enrolled students might encounter materials considered degrading and/or offensive through their assigned readings or course-related research, the syllabus contained the following "Sensitive Materials Statement," adapted from the Ohio History Journal [35]:

> "Historical research requires the use of various resources comprised of many culturally significant materials. Some were created to be private or confidential and are now accessible as part of the historical record. Some contain offensive images, language, or content that reflect the creators' views or those of the period in which they were created, written, or recorded. Many are not appropriate by today's standards of respectful expression and actions. They serve as reminders of the importance of increased cultural competency, inclusion and equity."

Participants

Twenty-two students enrolled in the Spring 2023 offering of the Interactive Fiction course. Regarding gender, 13 identified as male and 9 as female. As data collection, analysis, and discussion processes are prone to the subjectiveness of the researchers involved, the authors' positionality and how they inform this research are shared here. John is a white male in his 60s who, although he didn't play *The Oregon Trail* until well into adulthood, fondly remembers playing *Adventure* on a PDP-11/70 back in the 1970s and wrote his first text-based adventure game as an undergraduate in the early 1980s. He is also an avid reader of American history. Lisa is a white female in her mid-60s who in the 1970s played versions of *Zork* that had castles; as a Ph.D. in medieval literature, her research interests include gender roles in the knightly culture of Arthurian legend. Solar is an Asian female in her 30s with multiple years of progressive experience working in belonging, inclusion, and diversity (BID) areas in higher education. Her work includes developing and implementing BID initiatives for institutional units. Stephany is a white female in her 40s who, when asked about *The Oregon Trail* in an interview [36], stated that she "actually hated the game as a kid. I thought it was the worst thing ever. It was boring."

Method

The course instructors requested the help of Ohio Northern University's Chief Belonging, Inclusion, and Diversity Officer in developing two related pre- and post-activity surveys that would assess the pertinent DEI aspects of the Interactive Fiction course. The pre-activity survey consists of seven quantitative questions, one yes-no question, and two open-ended qualitative questions. This survey was conducted as the initial activity on the first day of the class. The post-activity survey, conducted on the last day of class, repeats the seven quantitative questions from the pre-activity survey, adds 12 additional quantitative questions, and includes a new set of four open-ended qualitative questions. The questions regarding students' DEI experiences were adapted from question lists posted on the Internet [37] [38]. For all quantitative questions, a 5-point Likert scale was used, ranging from 5 representing "Strongly Agree" to 1 representing "Strongly Disagree." Both surveys were coded into Qualtrics, with only the first author having access to the raw data. The first page of each survey informed students that the survey was optional and that they could choose not to participate by dismissing the survey application window. To match individual pre- and post-survey responses, students were asked to provide their student identification number. This was the only identifier collected, and this identifier was removed from the data set once the responses were paired.

Results

Pre- and post-activity comparisons

The seven comparative questions are as follows:

Q1: I am confident in identifying and considering diverse devices of plot, character, narration, and point of view encountered in works of fiction.
Q2: I have knowledge about the implications of interactive game format on the relationship between reader, writer, and publisher.
Q3: I have knowledge of how to create an interactive fiction game using natural language programming software.
Q4: I am aware of the various representation issues regarding *The Oregon Trail* computer game.
Q5: I am aware of the various representation issues regarding media portrayals of the American West during the 1800s, excluding *The Oregon Trail* computer game.
Q6: I have a solid understanding of the role of diversity, equity, and inclusion (DEI) perspectives in computer gaming fiction.
Q7: I am familiar with the diversity of historical experiences encountered by emigrants traveling on the Oregon Trail.

The responses to the seven Likert scale quantitative questions jointly used in the pre- and post-activity surveys were analyzed via a dependent-samples (AKA Student's) *t*-test. The results are presented in Table 1, which shows the statistical significance (*p* value) and the size of the effect on the students. The table is ranked by descending effect size and is based on Cohen's *d* value classification schema [39], using the descriptors developed by Cohen [40] and Sawilosky [41]. The Shapiro-Wilk test [42] was applied to the paired differences for all seven *t*-test data sets; the large *p* values that resulted, ranging from 0.64 (Q1) to 0.94 (Q4), were all greater than $\alpha=0.05$, indicating that all data sets are normally distributed. All 22 students enrolled in the course participated in both surveys, resulting is a 100% participation rate.

TABLE 1. QUANTITATIVE PRE- AND POST-ACTIVITY ANALYSIS, RANKED BY EFFECT SIZE.

Question	Pre-activity		Post-activity		*t*-score	*p* value	Effect size	
	M	SD	M	SD			Cohen's *d*	descriptor
Q3 (creating IF game)	2.500	1.118	4.545	0.582	8.668	0.00000	1.85	very large
Q4 (representation–game)	3.364	1.110	4.727	0.686	5.380	0.00002	1.15	large
Q7 (diversity–emigrants)	3.091	1.083	4.409	0.651	5.228	0.00004	1.11	large
Q5 (representation–media)	3.727	1.052	4.636	0.710	3.936	0.00076	0.84	large
Q2 (format implications)	3.682	1.017	4.455	0.656	3.814	0.00101	0.81	large
Q6 (gaming perspectives)	3.955	0.928	4.682	0.555	3.004	0.00676	0.64	medium
Q1 (fictional devices)	4.000	0.798	4.227	0.670	1.783	0.08904	0.38	small

The research question RQ1 concerns the ability of this course to raise gender representation awareness. To place the gender representation responses Q4 and Q5 into context, one needs to look at other aspects of the course that are contained in the remaining subset of comparative questions. First, as students were coming into the course without knowledge of how to create an interactive fiction game and all could write their own interactive fiction game by the end of the term, the response to question Q3 (creating interactive fiction game) should be strongly positive. Table 1 shows Q3 as having the lowest pre-activity mean score and a strongly positive post-activity mean score, resulting in the largest Cohen's *d* value (1.85) which shows the course has a very large effect size on improving student knowledge in this area. Similarly, given the preponderance of engineering students enrolled, their confidence in using various fictional devices would probably not be high, regardless of the amount of instruction provided – and in Q1 we see only a small effect size on student learning. The results from Q6 (role of DEI perspectives in computer gaming fiction) demonstrated only a medium effect size, identifying an area to focus on for course improvement. We believe that having a published author visit the class made a difference in the assessment of Q2, as this was the primary source of information regarding the publication side of the business. The remaining dimensions being reported here all had a large effect size on student learning, with an awareness of representation issues within *The Oregon Trail* (Q4) and the diversity of emigrant experiences (Q7) both exhibiting a similar and sizeable mean increase from pre- to post-activity, and with representation issues within media (Q5) still in the large effect size category, albeit not as strong. Collectively, these results indicate that the activity did have a large effect in raising gender representation awareness.

One of the post-activity qualitative questions involved providing students an opportunity to make comments regarding representation. The written responses mentioned that representation "is an important area of study and an important societal aspect surrounding any topic" and that it "is a bigger issue in media than I first thought it was and this was an eye-opening experience in that even in history books, not all sides of the story are given." It was also noted that games provide "mainly masculine representation and what they go through" and that when women or minorities are involved, "it is more harmful it being there than it not being there," but this student also acknowledged that "there are some good games/companies that do great with representation." One student mentioned that it "is useful studying and discussing representation so that we can … work towards a society where representation is not an issue." Regarding the focus on the emigrant experience, another student mentioned that "[m]any fictional media pieces glamorize the American West during the 1800s and don't accurately represent either the reality of the American West nor the various diverse people during that time period" and that some works "frame Native Americans in a negative light." Finally, one student acknowledges the issue, but then states that "I hope that representation continues to improve with time and hard work."

Remaining post-activity survey questions

A set of five post-activity questions concerned the diversity aspect of the course. As shown in Table 2, the results from the four quantitative questions Q8 through Q11 were all positive.

TABLE 2. QUANTITATIVE POST-ACTIVITY DIVERSITY ANALYSIS

Question	Post-activity	
	M	SD
Q8: The course materials represented diverse voices and perspectives, and included resources, theories, methodologies, or knowledge from underrepresented groups.	4.32	0.972
Q9: This course brought attention to issues of social, economic, and/or cultural differences against one or more traditionally marginalized groups.	4.32	0.924
Q10: In this course, I gained an ability to integrate and apply knowledge or skills from diverse perspectives to address complex issues or topics.	4.27	0.808
Q11: Due to my experiences in this course, I notice more aspects of diverse representation and perspectives (or lack thereof) in media entertainment (i.e., TV, movies, video games).	4.27	0.914

The fifth question requested qualitative comments regarding diversity. One student responded "[t]he more I got through this course, the more I noticed that in many of the video games I play or played in the past, not many diverse perspectives are explored." Another made the insightful point that more "diversity *with substance* is needed" (emphasis added) so that it is more than just checking a diversity box. The remaining eight quantitative questions involved course instruction. The students' responses presented in Table 3 show an overall positive experience.

TABLE 3. QUANTITATIVE POST-ACTIVITY INSTRUCTION ANALYSIS

Question	Post-activity	
	M	SD
Q12: What and how material was taught encouraged me to explore aspects of mine or others' diversity to enhance my thinking.	4.32	0.972
Q13: The instructors appreciated diverse perspectives and modeled that appreciation.	4.32	0.924
Q14: The instructors were open and comfortable with addressing related diversity issues and topics in class.	4.27	0.808
Q15: The instructors structured learning experiences for valuing diversity, equity, and inclusion.	4.27	0.914
Q16: The instructors created an anti-bias and anti-racist learning environment.	4.59	0.937
Q17: The instructors valued the diversity of life experiences among students.	4.41	0.984
Q18: The instructors created an equitable and respectful environment in the classroom for all students.	4.59	0.887
Q19: The instructors engaged a variety of disciplinary perspectives and enhanced my understanding of the interdisciplinary nature of the subject area.	4.59	0.577

The remaining two qualitative questions requested comments about diversity and interactive fiction. Those responses are given here as they also speak to the course and its instruction. Regarding diversity, two students noted that, while "diversity was covered in the first few weeks," it "felt like we spent more time learning Inform" and "creative writing." To an extent, this was true, in that the lectures needed to focus on those aspects of how to code and how to write required for interactive story creation, whereas it was believed that the external research conducted by each student would expose them to a diverse set of voices not normally heard.

Another student opined that while "things could get in a thicket of a mess," they understood that "it's a new course we just need to improve the structure overall." Regarding the dynamics of the classroom, one stated that the "instruction in the course was well handled" while another mentioned that they "found the instruction of the course to be helpful in that everyone was supportive of each other while learning different new elements. It was greatly appreciated as it felt like we all worked together." Regarding interactive fiction, it was mentioned that Inform "was a very simple platform" that served as a "good tool for programming" as well as for "storytelling, narration, and creativity." One student mentioned that they felt that interactive fiction "is a completely niche area" whereas "2D or 3D games will always be more captivating when trying to provide multiple endings or a narrative and immersive story experience." This is true, but it is also true that such games cannot be written or designed by those new to computer programming whereas everyone in the course successfully wrote a work of interactive fiction requiring an application of both programming and creative writing concepts. Among the criticisms voiced were to "let people write what they want" instead of "being forced to do ONLY the oragon (*sic*) trail," that "books will always have better dialogue," and a request for "a little more resources for Inform." Additional comments mentioned that it was both "fun" and "very interesting to learn" how to write interactive fiction games, as it is "different that any standard book" and "gives the power to tell stories" not possible through other media because of it taking "on a far more story based turn," thus making such games "interesting and enjoyable to play."

Limitations

We were fortunate in that all 22 students enrolled participated in both the pre- and post-activity surveys. Given that Ohio Northern University has an average class size of 19 students [43], we see these results as being relevant for decision-making at our institution. However, there are always inherent threats to the validity of any study. These students represent the equivalent of "preaching to the choir," in that this was an elective course openly advertised as containing the "incorporation of diversity perspectives into gaming fiction." Accordingly, such students were expecting the presented content and thus pre-disposed to being appreciative of it. However, this might not be the case if this material was incorporated into a required course, such as the CS2 course mentioned earlier, as this new participant pool may include individuals who are less receptive to such content. Accordingly, the broader inclusion of entire cohorts of computer engineering and computer science majors could potentially reduce the reported effect sizes.

Next Steps

Lessons learned from this research are being applied to the Spring 2024 offering of our CS2 course, where *The Oregon Trail* game is still used as the basis for the term project. While the primary goal of this CS2 course is to gain competency with the object-orient paradigm, this course can also serve as a basis for introducing concepts involving gender representation in computer games. When looking at the historical documents available that present the history of the Oregon and similar Trails from a woman's viewpoint, the preponderance of primary source materials was written by white women. Expanding the set of available resources to include works of historical fiction and written transcriptions of Indigenous memories would give agency to the voices of Black women like Letitia Carson [44] and Lakota women like Susan Bordeaux Bettelyoun [45].

Conclusion

"There is no science without fancy, and no art without fact."

– Vladimir Nabokov

In this course, students from different academic backgrounds were encouraged to collaborate and explore new areas of knowledge. Writers learned how to apply decision-making algorithms to craft multiple alternative compelling narratives, while programmers learned how to incorporate literary elements such as character and story arc into their code. Through analyzing contemporaneous diary entries and presenting drafts within their small interdisciplinary groups for feedback, students gained critical insights into the diverse experiences of women on treks taken long ago – experiences that were either suppressed or misrepresented in various media portrayals of Westward Expansion and Manifest Destiny. This collaborative and inclusive approach led students in both groups to successfully publish their own interactive historical fiction games. Consequently, through the process of reimagining *The Oregon Trail* game, this course significantly influenced our students' perceptions of gender representation in media. Thus, to Hough's aforementioned question posed over a century ago, we can now answer that these Interactive Fiction students *have* written her story – a story told… in a woman's voice.

Acknowledgment

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