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"ARE THESE PEOPLE REAL?": DESIGNING AND PLAYTESTING AN ALTERNATIVE REALITY, EDUCATIONAL SIMULATION

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In this design case, we report our design and playtest of a form of alternative reality, educational simulation that we call a playable case study (PCS). One of the features that make our simulations unique is how they are designed to implement a principle called This Is Not a Game, or TINAG, meaning that the affordances we design into the simulation suggest to students that the experience they are having is real, in contrast to the way the artificial nature of the experience is highlighted in many computer games. In this case, we describe some challenges we encountered in designing a PCS to align with TINAG, along with how the situation in which we play tested the simulation highlighted other ways in which the principle of TINAG was challenging to achieve.

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INTRODUCTION

Since 2016, our interdisciplinary design team at Brigham Young University has developed a type of educational simulation we call a playable case study (PCS). Our team is comprised of both faculty members and students, drawn from the departments of English, Information Technology, and Instructional Technology. Three faculty members (one from each department) act as a core, persistent team, two of which have been involved since the beginning (and one of whom is this paper's second author), and the other joined in 2017 (this paper's first author). Other faculty members and students join the team on a temporary basis, often to provide specific expertise, to serve as a liaison for a specific course in which the PCS will be used, or, in the case of students, to use it as internships or capstone project experiences for their degree programs. The other authors of this paper were involved for such reasons, as will be described as the narrative unfolds.

A PCS is a web-based simulation that students experience through their interaction with common tools including email, video conferencing, chatbots, and technical documents. The framing device for a PCS is the conceit that students have been hired as a member of a professional team (e.g., an intern in a cybersecurity firm or a new employee at a museum), and then role-play through a realistic scenario that provides them opportunities to learn relevant knowledge and practice applicable skills while experiencing some of the affective responses that often accompany common work situations. This occurs through a structure that blends fictional elements with real-world assignments. Two of the most common features are that students (a) communicate with in-game characters who interact as would actual supervisors, peers, clients, and so on; and (b) are assigned professional tasks they complete as both in-class activities and homework. For more background on the PCS format see Giboney et al. (2021) and Winters et al. (2020).

One of the principles that guide our design of a PCS is the "This Is Not a Game" ethos (TINAG). Borrowed from the genre of alternate reality gaming (Flushman et al., 2015), designing for TINAG means that the affordances we design

into the simulation suggest to students that the experience they are having is real, in contrast to the way the artificial nature of the experience is highlighted in many computer games. Certainly, students completing a PCS know they are engaged in an educational simulation, but through the way characters talk to them, or how tasks are framed, they are encouraged to suspend their disbelief in the simulation's artificiality and fully embody the identity they are given. So, for instance, when TINAG has been achieved the interface will not instruct students to push a button to continue to the next video, but rather will direct them to call their supervisor whenever they are ready. Or, instead of requesting that they complete a background survey to collect relevant information about their readiness for the simulation, they will receive an email from the human resources department inviting them to complete an onboarding questionnaire.

Designing a PCS so that it aligns with TINAG is not always easy, however. Since the simulation is, in fact, an artificial environment there are sometimes realities of the genre that only allow TINAG to be taken so far; as a result, it is sometimes not clear how to frame a game mechanic or technological constraint in terms of real-world activities and situations. Further, TINAG is only one principle among many that guides our design; most notably, as an educational experience, a PCS aims towards certain learning outcomes that sometimes are best facilitated through learning activities that are clearly contrived. Nevertheless, we have found TINAG to be a helpful principle in many situations, and worth the effort to balance with the realities of our PCS technology and the other principles that direct our efforts. In this design case, we describe how we have attempted to achieve this balance in the design of a particular PCS that we call the Seneca simulation. We also highlight some of the challenges we experienced in doing so and how we attempted to overcome them. This includes our report of our playtest of the simulation, where the nature of students' prior experience highlighted aspects of the simulation's artificiality in ways we did not expect.

BACKGROUND

A PCS is designed to nurture students' development of professional identities, and learning of professional practices, within a particular domain of knowledge (Giboney et al., 2021). The primary goal is to help students gain a more realistic view of professional work and understand the importance of situational constraints when communicating within these contexts. In addition to exposing students to professional contexts, the PCS simulations are also designed to help develop career intentions by increasing self-efficacy (I can do this) and career exploration (do I want to do this?). The format is based in part on the broader educational simulation genre (Gredler, 2004), case study instruction (Heitzmann, 2008), and educational Alternate Reality Games (or ARGS; Battles et al, 2011; Jagoda et al., 2015; Johnston et al., 2012; Niemeyer et al., 2009). The PCS experience is one of students "playing" through a scenario, or case study, as a member of a professional team, completing tasks and communicating with fictional characters through a realistic interface (Hansen et al., 2017). Additionally, each simulation contains a learning analytic platform that we included in an attempt to present teachers with real-time data on students' trajectories within the technology and their engagement with in-game tasks. Students also write and reflect on their experiences within the simulation. We intend that this approach gives teachers data points that will inform classroom discussion, helping teachers decide what to emphasize and how to respond to students' experiences within the simulation. We have used the PCS format to develop students' interest in exploring a potential discipline as a possible career (Giboney et al., 2021), help novices develop a sense of self-efficacy as they start to explore a discipline (Winters et al., 2020), improve writing skills (Balzotti et al., 2022), and prepare them for important professional realities like how to address ethical dilemmas (Neupane et al., 2021).

Critical to the students' experience in a PCS is the use of what we call a *time-released narrative* (a term that appears to be unique to our work, although precedent for the concept can be found in Kim et al., 2008, and Whitton et al., 2008). Students access the web-based simulation either through their personal devices (laptops or tablets being common) or through computers provided through campus computer labs (most students use their own devices). They move the story forward through their interaction with other characters and through interaction with other students in the simulation. The challenges students face are released as they complete different tasks and assignments given to them by characters in the story. The events are triggered by our PCS authoring tool as students send emails or reports to other characters. The time-released narrative is embedded in a web-based experience in which students adopt a specific persona. These devices - the student persona and the time-released narrative - are the primary mechanisms through which we attempt to create a sense of TINAG. The situation out of which students' identity is presented to them mimics those common to real work settings, and the narrative immerses students in the simulated situation through how tasks are represented, along with how they are instructed to interact with the environment.

THE SENECA PCS

The Seneca PCS places students in the role of an intern at a city government. Throughout the simulation, they prepare, and eventually deliver, an oral presentation for the annual budget meeting of a small town called Seneca. At the outset, students access the simulation through a website designed to simulate a dashboard for municipal employees, where they choose to represent one of two departments: Library, or Parks and Recreation. After making this choice the rest of the

PCS is organized into four "days"—each of which is centered around a learning objective, with the learning material customized based on the department for which they are working:

DAY 1: Complete introductory tasks to become familiar with the simulation

DAY 2: Learn about the audience (city council members)

DAY 3: Review and analyze research related to the department's proposed project

DAY 4: Present to the city council

Each day features 3-5 tasks that the students must complete. Some tasks involve sending daily report emails to a supervisor, reviewing city council members' bios, reviewing project timelines and community feedback, and developing a handout for the final presentation. The tasks are designed to help students work towards the outlined learning objectives and move forward in the simulation.

Students may only work on one task at a time and may not skip ahead. A checkmark appears beside each listed task after it is completed, and, after the final task of the day is finished, the simulation automatically enters the next day. Though students could work through the entire simulation in 1-3 hours, breaking the simulation into days creates natural resting points for both students and instructors.

Instructors may assign students to work through the entire simulation or assign a certain number of tasks or days to complete as homework, depending on how they choose to integrate the PCS into their course schedule.

The interface of the PCS is designed to engage students in the simulated experience. The "dashboard" includes all the information and applications that students will need as they work on tasks. As Figure 1 illustrates, the dashboard allows students to see their progress in the simulation, review what tasks they have or will complete throughout the day, read and send emails, review departments' project initiatives, study city council members' bios, interact with characters through video chat as directed, and stay apprised of city happenings via the social media feed. These artificial aspects of the simulation were all developed to mimic reality. For example, the videos of the city councilors used actors, playing the role of councilors in a scenario written specifically to advance the PCS narrative and filmed in a conference-style classroom located in the university's Law School, which had the appearance of common city council chambers.

Many aspects of the interface also mimic programs that students regularly encounter (e.g., email forms and social media feeds; see Figure 2). This is meant to increase the simulation's TINAG ethos and navigability. Because the design of the interface does not feel entirely foreign to student participants, they are more likely to feel immersed in the tasks and overall experiences.

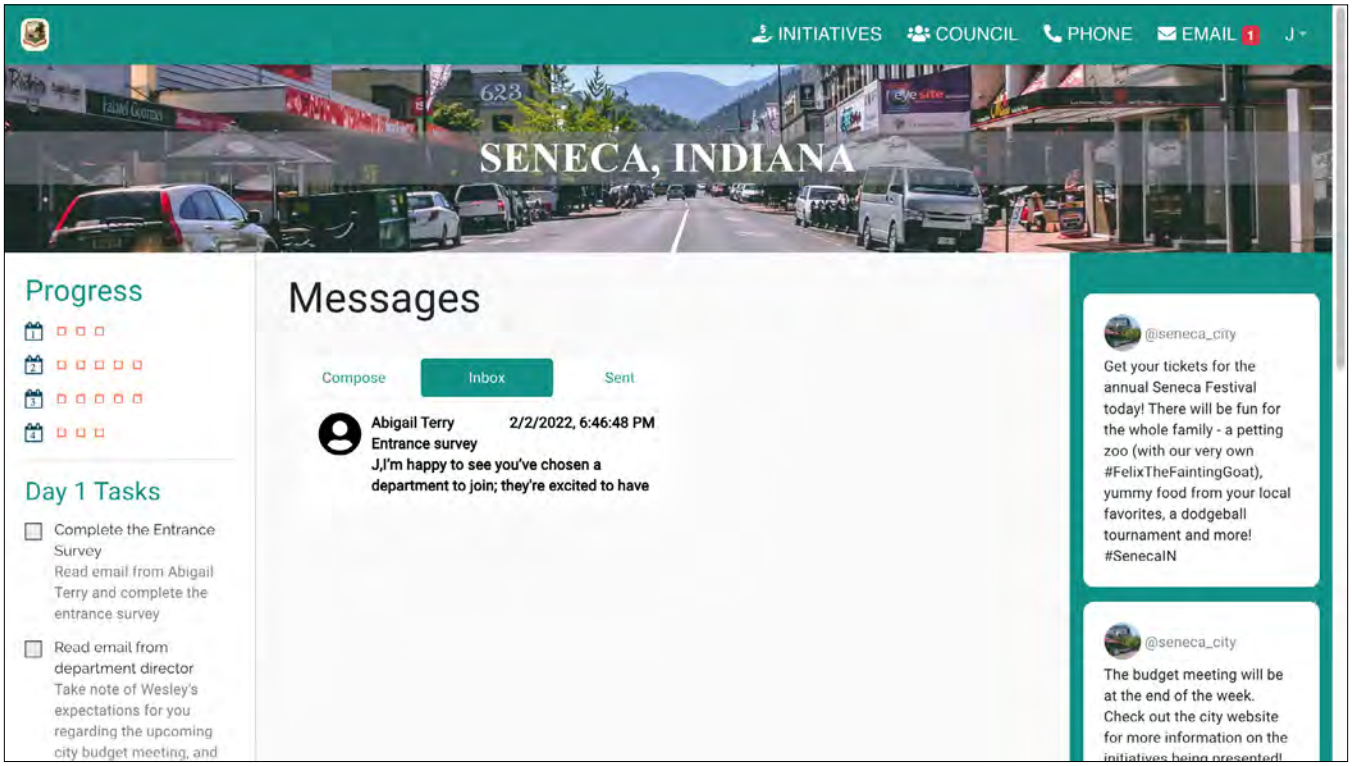

FIGURE 1. The Seneca PCS dashboard.

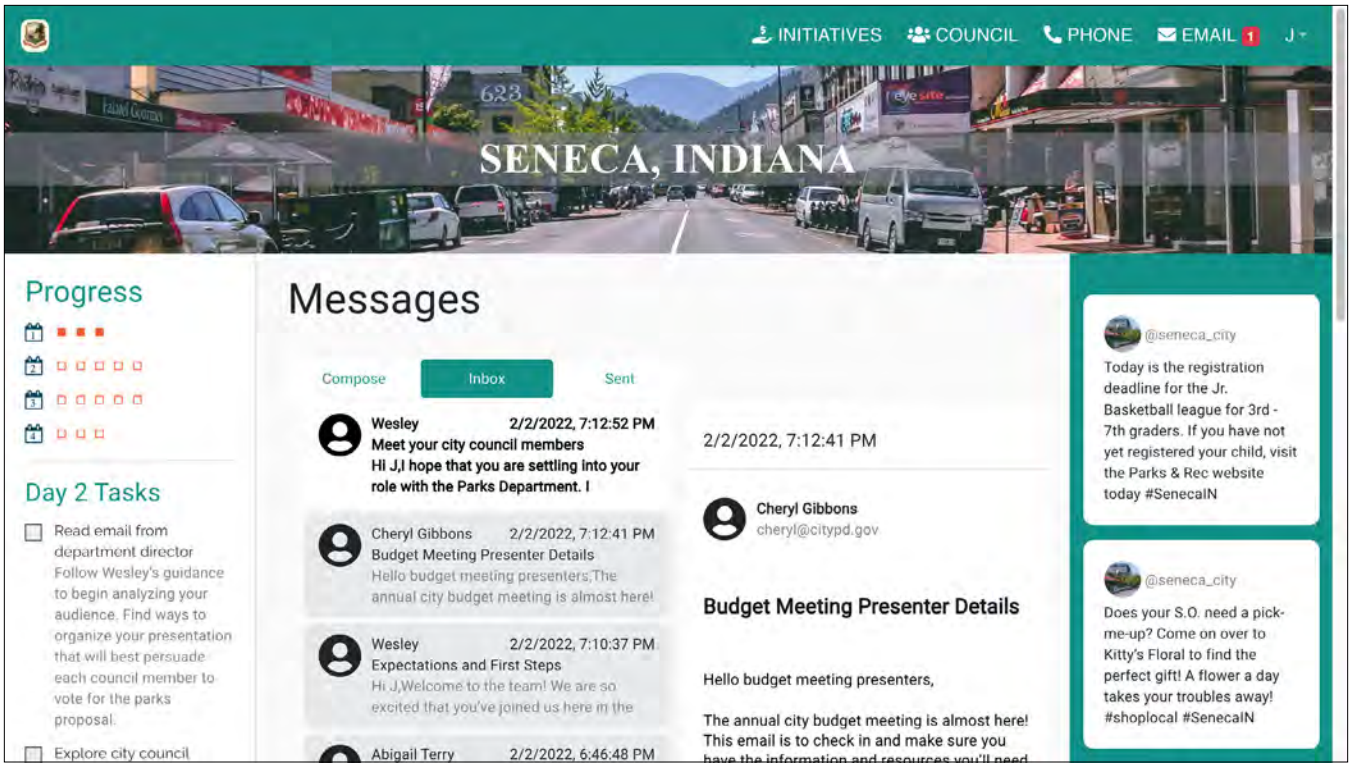

FIGURE 2. Examples of email and social feeds.

As previously stated, each task is designed to guide students through the simulation and to direct their attention toward the learning objectives. As one example, the detailed breakdown of tasks that students must complete on "Day 2," as they appear in the simulation, are:

1. Read the email from the department director. Follow Wesley's guidance to begin analyzing your audience [author note: Wesley is a city employee students work with to learn about the city council members]. Find ways to organize your presentation that will best persuade each council member to vote for the [parks/library] proposal.
2. Explore city council member bios. Read the council members' biographies on the "Council" tab. Take note of each person's background, agendas, and current initiatives. Develop a sense of what each member will want to hear during your presentation.
3. Read Marcus's email. See when Marcus is available to talk [author note: Marcus is a city council member who provides additional background information about his colleagues]. Follow his instructions to join his video call.
4. Meet with your committee's council member representative. Call Marcus Rosales. Take note of any relevant inside information he shares regarding the other city council members.
5. Email the department director. Organize your notes from the day and send an email to Wesley with key insights you have learned about the council members.

Each task was created to both move the simulation forward and help students learn and practice skills related to giving oral presentations.

The culminating assessment of the Seneca PCS is an oral presentation to the city council, that students record inside the simulation. Students must use the information they gathered about their audience and their department's project to compose an effective presentation. In the simulation, the students join a "Livestream" city council meeting (a pre-recorded video) and have three minutes to present their argument for why their department should receive funding. (Figure 3 shows the interface during the city council meeting where students present.)

Additionally, after students record and submit their presentations, they view additional videos from city council members that ask them two, unexpected questions to which they must respond by recording another video (the questions are the same for each student). The simulation allows students to re-record their responses before submitting them, so they have the option of retrying until they are confident in their presentations. Both aspects of this final presentation—the presentation and the responses—are designed to help students increase awareness of their audience's various needs and expectations. Additionally, unlike live presentations, the simulation allows students to practice addressing an audience in a low-stakes setting. Students can use this exercise to boost their confidence and self-efficacy without

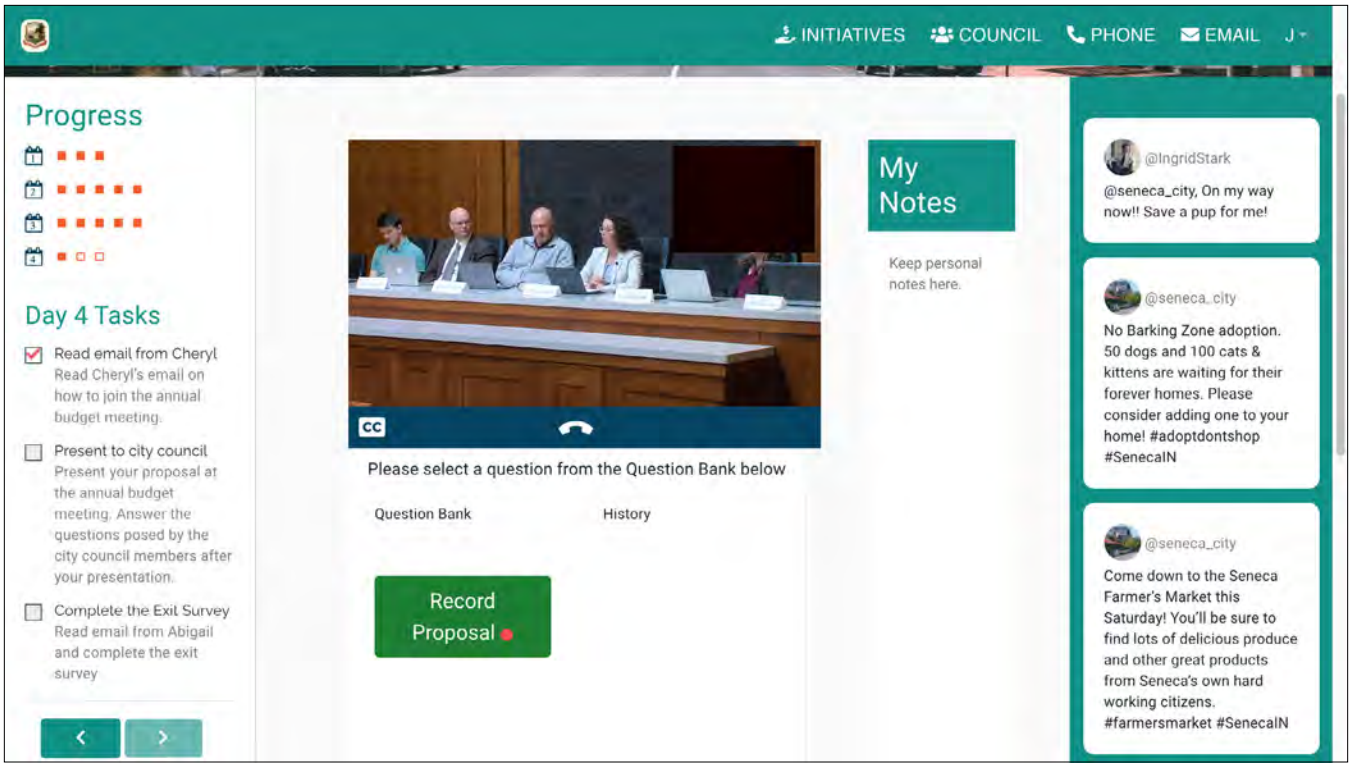

FIGURE 3. City council meeting interface.

the heightened anxiety that many instructors at our university have observed in them when they present.

DESIGN PROCESS AND CHALLENGES

The Seneca PCS was the seventh simulation we designed. We began the project to address gaps many writing teachers at our university had observed: students lacked confidence and ability in preparing and delivering professional presentations. Because this challenge aligned so well with the purpose of a PCS (as discussed in the Background section of this paper), our design intent was to address a practical problem in writing courses, using an educational technology that had shown promise in similar settings.

In some ways, we considered the project a "return to our roots." Over time our designs had become more intricate and complicated (adding in required teamwork, for instance, or developing complex interfaces for students to create different kinds of artifacts). On the one hand, we were pleased with such efforts because they allowed us to push the boundaries of the PCS format and provide students with learning experiences that were difficult to achieve in other ways. Yet, at the same time, as our designs became more elaborate, we found ourselves making concessions on a number of principles, including TINAG, to accommodate additional features. In some of these cases, this meant that students were not having as immersive an experience with the simulation as we intended. Given the connection we had found between immersion and the PCS's affective outcomes (for instance, the connection between students' immersion in the scenario and their interest in the continued study of a discipline; see Giboney et al., 2021), we expected that this trend would eventually impede some of the most unique educational affordances the PCS offered. So, as we started to plan the Seneca project, we took steps to ensure that our structure and process would facilitate our ability to align the simulation with the principle of TINAG.

One early decision was to keep the PCS design team small. This was in part a pragmatic decision since one of our team members who was usually involved was playing a lead role on another project, and so only had time to take an advising role on a new PCS. But we also assumed that a small team could help us focus on our most essential processes and goals. In contrast to the PCS we had previously completed before the Seneca project, which had input from six faculty members from three institutions, as well as dozens of students, we limited our team to the three core faculty members, an instructional design student, two creative writing students, and two student software developers. Another way we kept our team small was to only use actors from a local talent agency for major speaking roles, with all video extras or actors with one or two lines being taken from the existing PCS team.

Further, some of the early decisions we made about the simulation story were intended to provide a context in which it would be easy to develop a sense of TINAG. For instance, once we had decided that our learning outcomes would aim

toward oral presentation skills, one of the faculty members suggested that we place students in the role of new employees in a city department preparing a budget proposal for the city council because he had a contact in a local city government that could act as an advisor for the project. Our instructional designer and writer met with this individual (who provided background information and answered questions but did not participate further in the design), and much of what they learned became the foundation for the simulation's daily tasks, such as students' assignments to develop detailed descriptions about how their proposal would impact residents, and what kind of feedback they had received from other citizens through surveys and door-to-door research. They were also able to use his input for minor details that added additional touches of authenticity. One example was how important it was for many cities to accommodate the sentimental value residents placed on different locations or even specific objects like trees. In response, our writer and designer included citizen feedback that made these kinds of requests, to see if and how students considered such appeals in their eventual proposals.

Even with these steps, however, we still encountered challenges in aligning the Seneca PCS with TINAG. For example, when students "interviewed" members of the city council, or interacted with the council during the budget meeting, they were expected to ask several questions. The limits of our technology did not allow us to create a verbal interface for students to speak their questions using their natural language, so we resorted to an artificial, visual interaction where they chose questions from a question bank. Also, when it came time for students to record their presentations, we were unable to develop a plausible reason why they were supposedly live before the city council but were also being instructed to record their presentations using the in-game interface (both concessions were illustrated in Figure 3). Yet given the many other TINAG affordances we were able to successfully create, we ultimately judged that these two concessions did not do irreparable damage to the overall sense of realism towards which we strove.

As challenges arose during the development of the Seneca PCS, we also used TINAG as part of our problem-solving process. One example was related to our video production. During the fact-finding phase of the simulation, students "interviewed" one of two city council members to learn more about dynamics within Seneca, along with what various council members cared about when approving projects (the interviews were actually pre-recorded video segments that played in response to students choosing an audience analysis question from a list provided in the user interface). Each interviewee also offered advice on how to prepare a successful presentation for the city council. The specific council member that the students heard from depended on whether they selected the library or the park project at the beginning of the simulation. But even though the stories each person told were unique to them as characters, the actual information students were given about the city and other council members was essentially the same. This was intended to simplify instructors' eventual grading process by eliminating any need for them to keep track of different success criteria that might arise if students were being given different details by their informants in the alternative storylines.

As we were adding the video clips into the simulation, we discovered that a script for one of the council members had been overlooked, and so had not been shot. Specifically, this clip would have given a key piece of information about one of the other members of the council. Consequently, we had a complete set of information for one storyline, but the other was missing some details students needed to complete their final presentation. Our first response was to return to the video production office and ask them to shoot the missing video. Ultimately, however, this would not have been as simple as it appeared. The video team we had contracted with was a small unit housed in Brigham Young University's Center for Teaching and Learning. Given the demand for their services, getting a slot on their schedule was challenging. They were sympathetic to our position that they had inadvertently missed the script and agreed to take necessary actions to deliver us the product we were expecting. However, since we were a relatively small project, with smaller enrollments compared to many of the courses for which they were shooting videos, the priority of their other deadlines meant that we would have to wait for at least a month (and likely more) before they could shoot the missing script. As it turned out, we could have waited, since we did not playtest the simulation for six more months. But at the time we were hoping to conduct our first test much sooner, so we began looking for alternatives.

As we considered other options, our primary criteria were (a) the simplicity of the alternative and (b) whether it maintained a sense of TINAG. TINAG remained important in this case because we anticipated that many of the ways we could respond might undermine students' sense of the simulation's authenticity, which, inadvertently, might damage their sense of trust in what they were learning. We judged that it would be advantageous to find an in-game justification for why some information was being delivered through a mechanism other than the simulated "face-to-face" manner in which students had learned everything else.

The most feasible alternative was to add a new email that students received after they completed their interviews. To maintain TINAG, we tied the email into how the students' interview with the council member had ended; the council member abruptly told students that he was out of time and had to leave for his next meeting. Building on this, the new email we wrote apologized for ending the interview so quickly, then revealed that the council member was in

such a hurry he forgot to tell the student about one of his colleagues. The message then proceeded to convey the same information that was found in the original script. In addition, even though we had all the videos for the other branch of the simulation we decided to cut out the clips that described this council member and add a similar email as in the other branch. This decision was based on our belief at the time that it would ultimately be easier for teachers if the media in each narrative were consistent (e.g., if teachers referred back to the information about city council members, they did not have to remember that some students had read an email while others had seen a video).

PREPARING FOR THE PCS PLAYTEST

During the Fall of 2021, we prepared to playtest the Seneca PCS in a class at our campus. For previous simulations, we had developed the product for a specific course, and so as part of the design process, we asked the relevant instructors if we could playtest the simulation using their class(es) as a trial for us to gather evaluative data. In the case of the Seneca PCS, we developed the simulation for a broader purpose, specifically to fit in any course that had a writing or presentation component (a skill many writing instructors had observed students struggle with, as described earlier). Since it could apply to multiple courses, to playtest it we approached an instructor in the English department (the last author of the paper), who taught a practicum course where students put their skills as persuasive communicators to use in projects for a local community. His reflection on the course background, along with why he was willing to playtest the simulation, is reproduced below:

"The Provo City Lab (PCL) is an internship-like course in which students collaborate with city planners, elected representatives, residents, and other stakeholders to improve urban design, economic vitality, environmental responsibility, social equality, and overall livability of the community in which our campus is situated. In Fall 2021, eighteen students worked in teams to redesign five of Provo City's gateways (the areas where residents and visitors enter and exit the city). A project like this one gives students opportunities to discover how the competencies they have developed in their various majors are useful beyond the university and to further develop competencies that their courses have not helped them acquire."

"While our university has explicitly directed its resources toward helping students become better writers, it has paid less attention to helping them develop their ability to communicate orally. In designing the curriculum for the PCL, I wanted to provide students with the opportunities and training to improve their oral communication skills that they may not have received in other courses. To this end, I scheduled three different presentations that students would give over the course of the semester to Provo City committees. The sequencing of these three presentations allowed students to both receive feedback on their ideas throughout the semester and to reflect on the quality of their oral presentations with an eye toward improving for the final and most significant presentation to the City Council and Mayor."

"In previous iterations of the PCL, students prepared for their presentations to Provo City in relatively informal ways—the curriculum did not contain any assignments or other types of learning activities that students completed prior to their presentations. The class would spend some time discussing an upcoming presentation, designate a few students to give the presentation, listen to and provide feedback on a dry run of the presentation, and then gather for a debrief after the presentation. While this process certainly gave students opportunities to improve their oral communication competencies, it did not help them as thoroughly and thoughtfully as it should have. When the Seneca PCS team approached me about the possibility of piloting the simulation, I saw the potential it had to help students improve their oral communication in more structured and deliberate ways."

RESULTS OF THE PLAYTEST

At this point in our process, it was difficult for us to imagine a more ideal curricular context for the Seneca PCS than the PCL—a course in which students could prepare to present to an actual city council by participating in a PCS organized around preparing for and presenting to a simulated city council. The reality of this, however, proved to be more complex than we had hoped. The initial run-through of the simulation was conducted towards the end of the semester - a solely practical decision based on how quickly our software developers could complete the project. By that point, however, students had already prepared and given several required presentations to a real city council. Consequently, for at least some students the PCS seemed less like a learning experience that would prepare them for the more difficult assignment of a real presentation, and more like a simplified review of skills they had already learned by doing. Combined with some technical issues that arose during the playtest, our evaluation results suggested that while some students were engaged with the simulation, the overall experience was not as effective in preparing them for the realities of professional practice as we had anticipated, based on the results of our prior work (as discussed earlier in this paper). This is illustrated through data taken from the evaluation report prepared by two student researchers (the remaining authors of this paper), which forms the basis of the account that follows.

After the instructor and student researchers introduced the PCS, students were instructed to complete as much of the simulation as they could during the current class session and to finish the work—including recording the oral presentation—before coming to the next class. However, a technology failure resulted in only one student receiving the

simulated entrance email and being able to start the PCS. We had anticipated the possibility of this type of challenge. We had our software developers on hand (remotely) to troubleshoot. While the developers worked to solve the problem, students began chatting and working on other assignments. After about 15 minutes, but before the developers were able to correct the problem, one student found a workaround and was able to trigger the starting email by clicking out of, and then back into, the simulation's email environment. However, by this time some of the other students seemed to have lost interest and confidence in the simulation. About 10 minutes later, after the simulation had officially "started" and students were anticipated to have made some noticeable progress, the researchers observed that some students were still talking to each other, and only casually completing the simulation's initial tasks. When questioned, some students indicated little initial enthusiasm for working through the simulation.

Once students did start the simulation, at least some of them seemed to approach it with a skeptical attitude. Some initial comments the student researchers recorded included:

> *"Are these people real? Is this a real email? It's giving me a little anxiety thinking this is a real person and they're expecting to talk to me."*
>
> *"My role isn't really clear, I'm not sure why I was selected to do this."*
>
> *"For each step, it's not really clear how to proceed."*

Eventually, most students started working through the simulation tasks as they had been directed. Overall, as they proceeded through the initial tasks, many of them did seem to engage with the simulation, although several others continued to have questions about how to proceed. An exception was encountered with a team of students who were actively working on a different presentation for the real city council, that would be delivered the following week. The student researcher who observed this recorded, "the students who are presenting next week were more distracted and not as engaged in the PCS. Their concern for the real-life context superseded the concern for the simulation."

During the next class session, the instructor and one of the student researchers conducted a focus group to elicit student comments about their experience with the PCS. Questions included, "What was the value of this simulation?" What strategies did you learn? What did the simulation offer?"

The focus group did provide some findings with which we were pleased. Some students commented on authentic touches in the simulation which drew them in, such as one student who reported "the city council bios were very compelling," which made another class member wonder, "if they were real people." Another student described how she learned the importance of "research and making a presentation specific to the interests of the audience," which aligned with one of our primary learning outcomes.

Several other students, however, commented on aspects of the PCS that were not authentic to them. While they did not directly compare the PCS to their prior experiences of presenting to a real city council, the manner in which they described completing the simulation suggested that they did not find it as compelling because it was more contrived than work in which they had already been involved. One student noted how he "missed some elements that are inherent in live presentations. [He] wanted to be forced to defend his ideas because there was no pushback," a judgment he presumably based on his prior experience presenting to a similar audience. And another mentioned how one of the PCS tasks - to prepare a handout that summarized the main points of their presentation - was not realistic because it was not a requirement "for the [real city] presentation."

Further evaluative insights were gathered from the students who responded to the simulation's exit survey (15 of the 18 students in the course responded to the survey). Students were asked to respond to a series of statements and rate their level of agreement or disagreement (5-point scale, 5 being strongly agree, 1 being strongly disagree).

> *"The interface helped me believe in the experience." The mean response was 4.07 out of 5.0.*
>
> *"I felt responsible for the tasks I was given." The mean response was 3.40 out of 5.0.*
>
> *"I believed my tasks were consequential." The mean response was 3.13 out of 5.0.*

When asked how their confidence in presenting improved through the simulation, eight of the 15 students reported feeling that they were somewhat more confident, while three told us there were no changes.

From these findings, we concluded two things. First, the simulation itself (the interface, email, video interactions, and so on) were perceived as authentic by many (although not all) of the students. This was affirming, given some of the challenges we had encountered in maintaining a sense of TINAG during development. A slight majority of students reported it being at least somewhat helpful to them in preparing for future presentations.

Second, we discovered that the quality of the simulation itself was not the only factor in whether TINAG was created for the students. In our prior work, we used simulations with students who were true novices in a subject (e.g., Winters et al., 2020); in this case students already had some prior experience with real presentations that had offered them more authentic learning experiences than the PCS offered. This was not only evident in the focus groups but seemed

to be a factor in some of the observational data gathered, and also related to why students perceived that their actions were not consequential in the simulation's outcomes (a finding that was different from our evaluations of prior simulations; Winters et al., 2020). In retrospect, this seems to be an obvious and predictable result, however, during the development and planning of our playtest, we did not sufficiently consider it. While the possibility had been discussed, we had concluded that students would appreciate the more structured opportunity we provided them to practice before they engaged in another high-stakes presentation. While this seemed to have been the case for a few, for a number of others they perceived the PCS to be somewhat of a distraction, and it was not very consequential to their learning. As a result, we speculated that the quality of the simulation itself was only part of what created a sense of TINAG for students. The prior experiences, expectations, and skills that students brought to the experience were as important.

Based on these findings, we are preparing to use the Seneca PCS in the next offering of the same course. Rather than using it at the end of the semester, we plan for students to experience it during the initial weeks of class, where it can truly be a preparation for their first real presentation. Although our evaluative findings suggested possible improvements we could make to the simulation, our plan at the time of this writing is to use it unchanged, other than completing critical bug fixes (such as the email failure described earlier). Since our software development team is shared with other projects, we do not have the ability to make other improvements at this time.

CONCLUSION

In this design case, we have reported the results of our design and playtest of a playable case study that we called the Seneca simulation. We highlighted some of the challenges encountered in adhering to our ideal of creating a simulation where students experienced a sense of TINAG, or a sense that "This [simulation] Is Not a Game," that, through earlier work we had found to be useful in preparing students for some of the aspects of real-world practice. These included both development challenges, as well as how the circumstances in which we tested the PCS drew out the effects of students' prior experience on whether they were able to accept the simulation as an authentic situation.

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