

Tablet Detectives: Teaching Narrative Fiction through a Digital Framework

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Abstract

In second language (L2) writing courses, learners may be intimidated at the prospect of writing their own creative fictional narrative, often leading to writer's block that can limit their in-class writing time. In order to counteract this writing delay, the researchers designed and created a cooperative digital game to use as a narrative framework, anticipating that learners would respond positively to the collaborative nature of the game, the novelty of its implementation (tablet computers) in a reading and writing course, and use the story to scaffold their own creative writing projects. The game was developed through two iterations that resulted in various changes to both the story and gameplay mechanics. The results of a final survey indicated that university L2 writers not only enjoyed playing the game as a way to practice reading and writing, but that most learners were also able to begin producing written text relatively quickly after completing it.

Keywords: games; L2 writing; narrative texts; creative writing; CALL

Introduction

“All writing problems are psychological problems. Blocks usually stem from the fear of being judged. If you imagine the world listening, you'll never write a line.” So asserts Erica Jong, in her essay of advice to creative writers (Martin, 2008, p. 3). This could be doubly true for L2 learners who may not have engaged in narrative fiction writing in their first language (L1). Given this lack of creative writing experience, prompting students to build an original text without first providing them with a framework might lead to L2 learners becoming overwhelmed with a creative writing task and limit their ability to produce text within a set time frame. This delay in beginning the writing process can serve to limit learners' in-class time that could otherwise be used to receive feedback from peers or the instructor on their writing skills.

Context

The researchers had noted that, in particular, the task of creating an original fictional narrative was often met with lengthy delays by L2 learners during the brainstorming phase of the writing process. Not having much, if any, experience in creative writing in their L1 may have had something to do with this reluctance, but when asked why they were not generating ideas for the brainstorming activity of the project, students reported that they simply had no idea where to begin. It may be that this delay in brainstorming ideas for their story could have been due in part to a lack of brainstorming experience or adequate vocabulary to do the brainstorming in their L2. Indeed, Bereiter and Scardamalia (1987) have noted that breakdowns in the writing process can sometimes

occur among L2 writers when they are dealing with second language processing issues as well as the writing process – generating ideas, drafting, editing, and revising. The researchers hypothesized that having “no idea where to begin” – and the resulting delay in beginning writing – might be offset if the learners were provided with a framework that supplied basic characters, setting, and plot from which to springboard a fictional narrative writing project. It was postulated that providing them with a framework that would serve as the basis from which to build their own story would assist in the brainstorming process. Moreover, it was determined that learners should be able to collaborate with each other as they interacted with the framework to build a greater understanding of the features of narrative fiction as a team. As noted by Ferris and Hedgcock (1998), working collaboratively allows learners to practice multiple language skills within a writing course, something that is important for the development of L2 writing skills.

Furthermore, as the researchers began creating the framework, it was decided that as the majority of university L2 learners are now so-called “digital natives,” or those born during the digital age, that incorporating a digital platform for the framework was paramount. As such, the researchers of this study designed and created a collaborative mobile game in order to develop such a framework in order to determine if it may help reduce writing delays for L2 learners

The study was designed with the following questions:

1. Does playing a digital game foster collaboration among L2 writers in a reading and writing course?
2. Does the game’s story appear to serve as an adequate framework to reduce delays in pre-writing activities?

Review of Literature

There have been a number of studies investigating the effectiveness of playing digital games for L2 learners, mostly focused on massively multiplayer online role-playing games (MMORPGs), the most well-known of which is *World of Warcraft*. These studies have largely concluded that the opportunity to adopt a digital persona and interact with other players has a positive impact on learning the target language (TL). In fact, it has been asserted that these games “arguably comprise the most socially and cognitively complex forms of interactive media currently available” (Thorne et al., 2009, p. 807-808) and that L2 acquisition may indeed be aided when supplementing their in-class education (Garcia-Carbonell et al., 2001; Piirainen-Marsh & Tainio, 2009; Suh et al., 2010; Throne et al., 2009; Waters, 2007). Of particular note is the conclusion that L2 learners who play cooperative multiplayer games seemingly have less hesitation and are less prone to hiding language mistakes while playing these types of games when compared to a traditional classroom setting (Kongmee, I., Strachan, R., Montgomery, C., & Pickard, A., 2011; Rama, P., Black, R., Van Es, E., & Warschauer, M., 2012; Rankin, Y., Gold, R., & Gooch, B., 2006). However, it must be noted that most of these studies have largely focused on the area of verbal communicative competence, but not many have investigated the efficacy of cooperative video games on developing L2 learners’ reading and writing skills. Given that most of the commercially-available MMORPGs’ method of written communication - the chat box - is primarily used for quick private exchanges in gaming shorthand or jargon, this focus on verbal exchanges is not surprising.

As such, the researchers made the decision to create a custom-designed digital game to help bridge this gap. This is not to say that there have been no games designed to target reading and writing skills, however, most of the research currently available investigating the use of digital games for the development of reading and writing skills have been designed targeting the skills of L1 writers. Indeed, many of these studies involve custom-built games such as *Alien Contact!* and *Murder on Grimm Isle* (Dickey, 2011; O'Shea et al., 2009). The former was developed under the auspices of the Handheld Augmented Reality Project (HARP), which focused on determining the efficacy of using augmented reality (AR) for middle-school students in math and language arts skills. The HARP game was played in groups, each utilizing a handheld AR device that used GPS signals to locate and display information in the form of superimposing images on a user's view of the world. The designers of *Alien Contact!* pinpointed several gameplay elements that were necessary to include: "(1) narrative and setting, (2) differentiated role playing; (3) master goal divided into subtasks; (4) interactivity; (5) choice; and (6) collaboration" (O'Shea et al., 2009, p. 6). While the learning focus of this game was interdisciplinary in nature, another game called *Murder on Grimm Isle* concentrated solely on writing skills development (Dickey, 2011). This "game" was in fact a narratively-designed game-based learning environment designed to help learners gather ideas and arguments for a persuasive writing assignment. The goal was for players to take information in the form of clues gathered within the virtual gamespace and use that information to assist with prewriting activities. Because none of the aforementioned games have been designed with L2 learners in mind, one of the goals of this study was to contribute to the gap in the literature in using digital games to assist L2 writers.

Method

Overview

In the studies reported here, the researchers designed and created an interactive murder-mystery mobile game titled *Narrative Mysteries: The Case of Adam Mortis* (hereafter referred to as *Narrative Mysteries*) to be played on an iPad. The game's story was to serve as the framework for L2 writers by providing them with a basic set of characters, settings, and the beginnings of a story, the aim of which was to reduce writing delay in pre-writing activities as well as provide opportunities for learners to collaborate and interact with the stimulus and their peers.

Stimulus

The story focuses on the disappearance of a university professor at a local university. Participants, roleplaying as detectives, interview colleagues, friends, and students of the missing professor in order to discover what caused his disappearance. The gameplay features of *Narrative Mysteries* consist of branching conversations accompanied by animated 3D characters. Players interact with objects via the tablet's touch screen, and motion sensors were used to allow players to rotate the in-game character's perspective to simulate looking around virtual spaces.

The vocabulary for the dialogue exchanges was written at an intermediate reading level, incorporating Krashen's (1979) *i+1* approach to L2 reading fluency. As the researchers were

familiar with the general reading-level of the learners, and the particular challenges to understanding casual language that students in the course faced, they placed a limit on the number of idioms and slang expressions that were used during conversations with non-player Characters (NPCs).

Participants

The participant sample for both studies were students enrolled in first-year reading and writing courses at a private Japanese university. These courses met twice a week for 90 minutes and consisted of approximately 20 students per class. All participants were enrolled in the same major and were of approximately the same age (17-19) and language proficiency (average TOEIC score of 400-500). All participants had access to an iPad.

Procedure

The digital game was incorporated into the course unit discussing the genre features common to fictional narratives. Each gameplay session was alternated with a grammar lesson about certain genre features (characterization, descriptive language, direct/reported speech, casual language, narrative perspective, tense-aspect in discourse). Before each gameplay session, participants discussed the game's story. During each session, participants played the game and took notes before comparing their findings with each other at the conclusion of the session. At the end of both studies, participants were then asked to write an original text based on the framework the game provided.

Data Analysis

In each study, participants were given surveys to report their general opinions of the game-as-framework, their perceived level of contribution to collaborative activities, as well as how long it took to begin pre-writing activities.

Pilot Study

The first version of the Narrative Mysteries game story consisted of a complete narrative arc (exposition, complicating action, rising action, climax, falling action, dénouement). It also incorporated activities where participants were sent to specific locations around campus to find passwords hidden at each location that were entered into the game interface to trigger first-person perspective "on-location" interviews with NPCs (Figure 1). Another type of activity involved students pointing their tablet cameras at AR target images that triggered "evidence" in the form of 3D animated objects that would appear on their screen superimposed over their real classroom desks (Figure 2). By tapping the images on their screens, players had access to information about the objects and could draw conclusions from them.



Figure 1. Example of NPC interaction



Figure 2. Example of an AR 3D image on a real-world surface

Procedure

At the beginning of the first gameplay session, participants were divided into ten groups of 3-4 players and tasked with creating a shared group avatar that would become the detective character tasked with solving the mystery. Through collectively roleplaying this character, players investigated the mystery of the missing university professor. During each gameplay session, players would write down any information that they learned into “police report” worksheets (Appendix A). After the conclusion of each gameplay session, they would collate their information and work on extension activities such as generating timelines and suspect lists.

Once participants had completed a session, they were asked to write that session's story “chapter” by dividing the task between all group members. They were instructed to engage in a summary/pre-writing activity that outlined all of the important information they had gathered during the session before collectively deciding who in their group would be responsible for writing what parts. For example, one participant might write about the detective’s interview with a witness, whereas another participant might write about the detective's encounter with the Police Chief. This writing task was completed as homework.

Data Collection

All police reports and homework writing tasks were collected by the researchers at the end of the study in order to determine how much of the story was summarized, and whether or not participants were able to identify key information from the framework. Additionally, the researchers conducted a survey that asked each group to identify what aspects of the game and story were most or least difficult, and which activities most or least interesting (Appendix B). This survey was conducted in order to gather information on whether certain aspects of the framework were a hindrance to either collaboration or global understanding of the overall framework story.

Results

Participants reported having several issues with framework structure, content and mechanics. The most common complaint was that the interviews with the NPCs were too long and sometimes confusing. There were also several responses claiming that they did not care for the story's ending as it was considered too difficult to find the true culprit. Some participants found that the AR mechanics were somewhat of a hindrance due to having to hold their iPad directly above a target for extended periods of time.

Changes to *Narrative Mysteries*

As a result of participant feedback, the researchers changed several aspects of the framework as detailed below:

Pilot Study Issues	Second Study Changes
Content	
<ul style="list-style-type: none"> Dissatisfaction with story conclusion. 	<ul style="list-style-type: none"> Conclusion removed, participants now create their own ending.
<ul style="list-style-type: none"> Many of the participants reported that they found the interviews “long” or “boring.” 	<ul style="list-style-type: none"> Number of conversations individuals needed to read reduced in number and length.
Structure	
<ul style="list-style-type: none"> Participants did not actively engage enough with each other during and after gameplay. 	<ul style="list-style-type: none"> Gameplay tasks were divided among members, necessitating discussion.
Mechanics	
<ul style="list-style-type: none"> AR scenes, while encouraging collaboration, caused physical fatigue. 	<ul style="list-style-type: none"> All AR scenes were replaced with in-game virtual spaces.
<ul style="list-style-type: none"> Participants reported finding some of the conversations “confusing.” 	<ul style="list-style-type: none"> Removed distracting background imagery during conversations and highlighted narrative features discussed during class.
<ul style="list-style-type: none"> Participants leaving class to trigger on-location AR and conversation scenes was too time consuming. 	<ul style="list-style-type: none"> Gameplay changed to 3rd person perspective. Players move by joystick, rather than physically leaving class.

Figure 3. Chart of changes made to *Narrative Mysteries* for the second study.

The primary changes that resulted from participant feedback were mostly concerned with length of NPC interactions the elimination of AR elements in favor of virtual-only gameplay.

Additionally, there was a basic redesign of NPC interactions that reduced the amount of background visuals to increase focus on the dialogue.



Figure 4. (left) NPC interview in second iteration; (right) example of non-AR virtual space

Second Study

The second version of *Narrative Mysteries* was significantly shorter than the first version, both in terms of length and number of sessions. The scope of the story itself was also much shorter, as it retained only the first part of the narrative arc, ending just before the climax of the story. This version eliminated all usage of out-of-classroom excursions and AR elements in favor of a virtual-only gamespace. Many elements remained the same as the pilot version of *Narrative Mysteries*, such as the need to investigate by reviewing evidence through interaction with the virtual environment by tapping on the iPad screens and interviewing witnesses and suspects.

Procedure

Participants were placed into pairs for the duration of the study. If any of the participants were absent during any of the gameplay sessions, their partner was allowed to join another pair for that session. Each participant was responsible for creating their own personal detective avatar to use throughout the duration of playing the game, which could be seen in third-person perspective on their iPad while playing the game (Figure 5).



Figure 5. Example of 3rd person perspective in second iteration of Narrative Mysteries

Each paired student was seated across from each other and given the role of either Detective A or Detective B. They were then given different in-game missions for each game session. This was done to divide the task of collecting evidence so that no one member of a pair had access to all the information, but rather paired students were required to interact in order collect all the information needed to complete that session's "chapter." This was designed incorporating Ellis' (1994) notion that tasks involving "a two-way exchange of information...[promotes] extensive meaning negotiation" and can aid language acquisition. Like-role participants were seated next to each other so that collaboration could occur between learners as they interacted with the framework text (Figure 6).

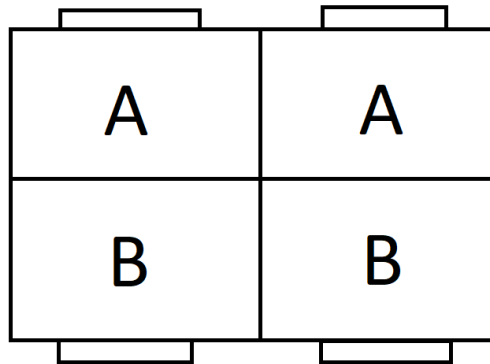


Figure 6. Example of seating chart in which players with like roles sit next to each other and across from detectives with different information.

While participants played the game, they completed the "police reports" with their like-role partner. At the conclusion of each session, players shared information with their different-role partner, thereby gaining access to all the evidence from that day's investigation. After partners had shared their information, extension activities were given to participants to complete as a pair.

At the end of the final gameplay session, *Narrative Mysteries* ends before the climax of the story, with the suspect temporarily evading capture, followed by this prompt:

“The game ends here, but the story continues. It is up to you and your partner to write an exciting climax to the mystery of what happened to Adam Mortis. Good luck, be creative, and have fun!”

Pairs of participants were given a brainstorming worksheet on which they wrote ideas about how they wanted the climax and conclusion of the story to proceed. Once these worksheets were completed, participants individually wrote their own version of the ending for their unit project.

Data Collection

After submitting their creative writing assignment, participants were given a Post-Unit Survey (Appendix C) about the second version of the *Narrative Mysteries* game-as-framework. This survey was a mix of open- and close-ended questions and was completed individually during class time. Many of the initial questions were related to whether or not participants were able to operate their avatar (without explicit instruction) to determine if the game mechanics were impeding gameplay. It was decided to offer simple yes/no response options to determine *if* there was a problem, not to what extent. A continuum of the game mechanics' ease-of-use may be further investigated in subsequent studies. Other relevant questions asked about the balance of teamwork and collaboration, as well as how long it took for participants to begin pre-writing activities.

Results

An average of 90% of the participants of this study reported that they had no trouble maneuvering their character or understanding how to play the game (*Figure 7*).

Ease of Operating Game Mechanics		
Description	Yes	No
Did you understand how to move your character?	27	3
Did you understand how to continue the dialogue?	28	2
Did you understand how to make choices when speaking to characters?	28	2
Did you understand how to use the City Map?	28	2
Did you understand how to use "Look Around" mode to search for clues and information?	28	2
Did you understand how to put together the letter from Ronny?	28	2

Figure 7. Responses to participants' ease of use in regards to game mechanics

Participants of the second study reported that they felt that they and their partner had contributed equally to the gameplay and extension activities, with 90% of participants reported that they perceived sharing an equal amount of effort.

As indicated in Figure 9, 70% of the players reported that they were able to not only begin their brainstorming session, but also start writing within 30 minutes of the game's completion. Two participants, however, were not able to begin writing until after class ended.

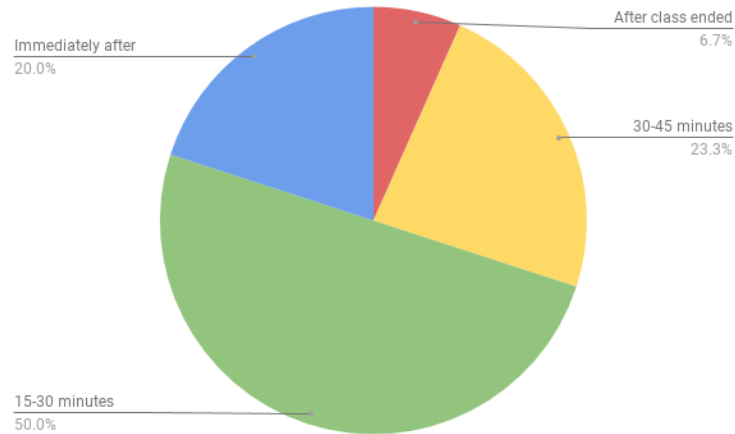


Figure 8. Participant responses to the question “How quickly could you think of ideas to complete the story?”

Discussion

The researchers made various changes between the two iterations of Narrative Mysteries that were presented to participants of each study in order to target collaboration opportunities as well as measure the delay in pre-writing brainstorming activities.

Research Question 1

Regarding collaboration, the pilot study did not have the desired effect of participants interacting with each other as well as the framework. The researchers noted that although encouraged to share the workload and discuss the story, many of the participants chose to work alone with their iPad, eschewing interaction with their classmates. This could be due to a number of reasons, but the researchers posit that information access and differences in reading speed could be a large factor. This is due to the fact that in the pilot study, all members of the game session had access to all the same information, thereby invalidating the need for interaction with each other. As partners and team members had identical information they were receiving from the game, there was no inherent need for them to collaborate, especially as they either fell behind or advanced more quickly in the story according to individual reading speeds.

The researchers noticed a marked difference in participant interaction during the second study in that they were actively engaged with their like-role partner for the duration of the game session and were able to maintain interaction with their different-role partners while sharing information. Making the groups smaller also appeared to have a positive benefit, ensuring a lesser chance of one player taking responsibility for the entire data collection process. While researchers had informally noted that workload between players appeared to be more balanced in the second iteration, survey results confirmed these observations.

Whereas many studies note that participants struggle to understand the game mechanics of MMORPGs such as *World of Warcraft*, thereby limiting the amount of time spent using these games to support L2 acquisition (Peterson, 2012; Rama et al., 2012; Rankin, 2006; Zheng et al., 2009), distracting them from understanding the story and framework itself. As *Narrative Mysteries* was designed specifically for those familiar with mobile games such as *Minecraft*, the participants had few problems manipulating the controls, as seen in Figure 8.

Research Question 2

As to whether or not the game story framework appears to reduce the time it takes for L2 writers to begin pre-writing activities, both the pilot and the second iteration of *Narrative Mysteries* seems to have had a positive effect. The results of Figure 8 show that 70% of participants were able to begin their brainstorming activity within thirty minutes of completing the final game session. These results suggest that the game was able to provide a sufficient enough framework to decrease delay in beginning the writing process for a majority of participants.

Conclusion

The researchers assert that using a game of this nature appears to provide several benefits for L2 writers who are engaged in creative writing projects. The foremost of these benefits is the evidence suggesting that a majority of these learners are able to minimize delays in pre-writing brainstorming activities by being provided with the outline and the beginning of a narrative. Granted, using narrative frameworks as a way for L2 learners to generate ideas for their own writing projects is not a new approach. However, the interactive nature of this framework serves to differentiate *Narrative Mysteries* from traditional receptive-only “what happens next?” extension activity methods, such as writing an epilogue chapter for a book completed by the reader. As players directly insert themselves via a custom-designed avatar into the story and interact with the world and characters, they take ownership of not only the story’s conclusion, but also maintain a certain amount of control over the narrative from the very beginning. This approach may have contributed to the reported enjoyability and receptivity of using the game to practice reading and writing, as participants were *part* of the story from the very beginning through their detective avatar.

Moreover, allowing players with like roles to collaborate was helpful when learners encountered unfamiliar words or phrases, as they were able to turn to a partner who was at the “same place,” narratively-speaking, in the game story. By limiting the amount of information that any one player was able to collect, collaboration was necessary between players. This appears to have limited

problems sometimes associated with group work, where one member of the team can often become responsible for the bulk of the workload. As a result, it appears that the second version of *Narrative Mysteries* helps foster better collaboration, while also providing L2 writers with a framework from which they can quickly begin writing their own creative writing project. Further studies can be done using this type of framework in order to determine if L2 writers are able to benefit in other ways.


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Appendix A

“Police Report” Worksheet

	<h1><u>POLICE REPORT</u></h1>
<h2>Takemachi Police Department</h2>	
Case No: _____	Date: _____
Reporting Officer: _____	
Incident: _____	
<u>Detail of Event:</u>	
<u>Actions Taken:</u>	
<u>Summary:</u>	

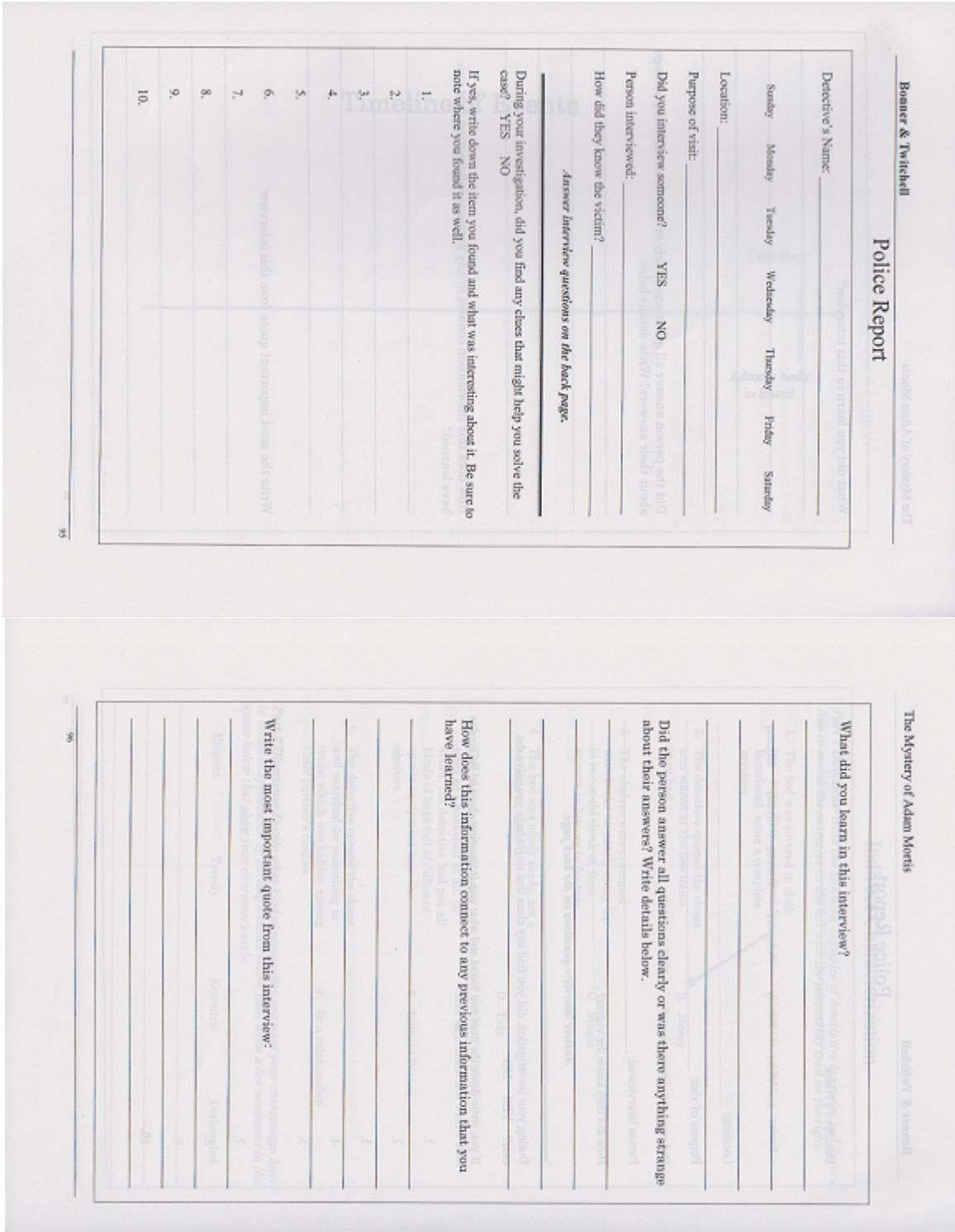
Appendix B

Post-Unit Survey

1. What did you think about the murder mystery story?
2. How would you make this game or unit more interesting?
3. What was your favorite part of the game? Why?
4. What was your least favorite part of the game? Why?
5. What did you think about having grammar lessons in between game days?
6. What was the easiest part of the unit for you?
7. What was the most difficult part of the unit for you?

Appendix C

Example of Second Iteration "Police Report" Worksheet - 2 sides



19. Do you think that playing the mystery game was an interesting way to practice your reading and writing skills?

Yes

No

22. How quickly could you think of ideas to complete the story's climax and resolution?

My partner and I could write ideas immediately after we finished playing.

My partner and I could write ideas after 15-30 minutes.

My partner and I could write ideas after 30-45 minutes.

My partner and I could write ideas only after class had ended.