

ASPEN ACADEMY: DESIGNING A TASK-BASED DIGITAL ROLE-PLAYING GAME  
FOR TEACHING ESL VOCABULARY

By

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## **Abstract**

The field of computer assisted language learning has grown exponentially in the last few decades. Technology is becoming a larger part of our everyday lives and with this comes the rise of digital game-based language learning as well. Research has shown that even digital video games, like Role Playing Games (RPGs), can be used to help learners acquire language. In this project, I designed and created a game that incorporated RPG elements, as well as both a Task Based Language Teaching framework and vocabulary items from the test of English as a foreign language (TOEFL) and International English Language Testing System (IELTS) tests. I reflect on the game design process, additionally, learners of varying English proficiencies played the game and shared their experiences through post-game surveys and interviews. The data shows that RPGs are a promising tool for language learners because of the in-game dialogue as well as opportunities for feedback from non-player characters (NPCs).

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## Introduction

As a child I always wanted to go into a field where I could help be a pioneering scientist discovering new things. I used to joke with my dad that I would probably never be a teacher since I was so shy and was not great at explaining things. What I knew best was logical things like chemistry, every reaction had an equation and a straightforward answer. In my undergraduate years I was determined to be a geneticist, but it was also during that time that I found that I really did not care for working in the laboratory setting. I realized that my favorite classes at the time were my Japanese courses. Those classes reminded me of my love for learning languages. So, when I graduated, I decided to try and apply to different graduate programs in Japanese translation, but I also decided to apply to UAF's Linguistic program. I knew with my chemistry background it would not be an easy path to take, but I knew it would be more fulfilling. I had realized what I wanted most was to find a way to work with people. I had taken an introductory linguistics course as an undergraduate and realized it felt like the science of language. We all speak and read and write every day but how exactly does it work? How do you actually learn a language? I was accepted into the program and felt excited that I would have a chance to study something I felt truly passionate about. There are so many things about language that we have yet to learn and discover and I feel grateful to be a part of it.

In my first year of graduate studies, I did a research paper on digital game-based language learning. While doing my research for the paper, I found that many of the games they used for language learners were games I had grown up playing. I never realized just how much of an immersive environment those games could create for language learners. That was when I realized that during my undergraduate years, I would play my Pokémon games in Japanese so I could practice and maintain my skills over the summer. From there I realized that I had actually

spent my whole life playing different games and software for language learning. It felt like I finally noticed something that was right in front of me the whole time, I wanted to do what these games and software did and help others learn languages.

In my second year of my graduate program, I was given the opportunity to be a Teaching Assistant and teach the Academic Writing English as a Second Language course. It was there that I really realized I had a passion for teaching. I wanted my master's project to combine my love of teaching with my love for digital game-based language learning. That was where I came up with the idea to create my own game for my students.

I based my game's structure heavily off of Task Based Language Teaching (TBLT) as discussed by Ellis (2003, 2005, 2009, 2012). I was mainly drawn to TBLT for the fact that it focuses less on drills and exercises and on more practical language use. In video games there is also a primary focus on meaning. When playing a game, you are not thinking "okay now I press a, b, a, up direction" to do something, you're focusing on "okay I need to talk to this person, I need to grab this item" etc. But the main reason I was drawn to it was because of the task cycle. The logical flow from pre-task, to task, and to post-task reminded me of the structure of how RPGs worked. In RPG's you get a tutorial, a quest, and a post quest reward. This works well in that for teaching ESL it would allow me to teach the target vocabulary my students were always asking me about. The most common questions I got were related to vocabulary: "which word is better for this?", "I want to learn more vocabulary for the TOEFL (Test of English as a Foreign Language) exam", "I'd like to learn more synonyms to make my writing better". By using an immersive gaming environment, I would be able to help expose the students to more of the vocabulary they wanted to learn.

By creating this game, I was able to discover what I really wanted to do. I want to help people learn languages by making the kind of games I grew up playing. For this project I created an RPG game based on a fantasy research school to help teach my students' TOEFL and International English Language Testing System (IELTS) vocabulary. These are standardized tests for non-native English speakers, which are often required for: school, work, or immigration purposes. So many of my students are already highly motivated to do well on these tests. In the next section, I will outline the research related to vocabulary acquisition, TBLT, and digital game-based language learning (DGBLL) that helped inform my game design. Then I will describe the game materials themselves, including but not limited to: story and chapter summaries, target vocabulary, and the software used. After that, I will share my reflections on the design process as well as how the game worked for the ESL learners.

## **Literature Review**

Vocabulary acquisition is an essential part of second language learning, “vocabulary is not an optional or unimportant part of a foreign language” (Milton, 2009). Without a solid vocabulary foundation, students would be unable to use a language in any shape or form. Vocabulary can allow one to learn about grammar, pragmatics, and other facets of a language. Since language is interconnected, being able to learn grammar and pragmatics pre-supposes a knowledge of vocabulary. Or, as Min (2013) put it: “A solid foundation of vocabulary knowledge is essential at every stage of the learner’s second language (L2) development”. There is a myriad of tools that are utilized by teachers and students alike in order to support vocabulary acquisition (e.g., flash cards, games, apps). By investigating students’ experiences and

motivation using these tools, we can find out which tools can and should be further utilized in the language learning classroom.

For this project, both games and Task Based Instruction (TBI) are incorporated to aid learners in their vocabulary acquisition. I adopt the following definition of task (Ellis, 2009, p. 223) throughout this project: 1- The primary focus should be on ‘meaning’, as opposed to grammatical forms; 2- there should be some kind of ‘gap’, like getting information or expressing an opinion; 3- learners should have to rely on their own resources; and 4- there is a clearly defined outcome other than the use of language. In other words, learners are not producing language for the sake of producing language. I considered all of the above task features to help integrate tasks into the digital role-playing game.

RPGs are games specifically designed with stories in mind, where the player will progress through the story while “role-playing” as the main character(s). These types of games are used often in DGBLL. The reason for using a digital game and application is that games are: highly immersive, stimulate cooperation, provide players with real-time feedback, encourage exploration and experimentation, provide entertainment, and support differing levels of difficulty based on the player’s experience (Berns, Gonzalez-Pardo, & Camacho, 2013). Games are not the same as toys: whereas a toy can be a “goal-less simulation”, a game has a goal and an “overtly structured environment” (Cornillie et al., 2012a, p. 247). Games then “can be seen as sources of linguistic input that are tirelessly capable of repetition when needed, meaningfully contextualized as part of event-driven scenarios, simulations and goal-directed sequences, and controlled by the player” (Reinhardt & Thorne, 2016, p. 420).

In this project, I created a game that incorporated RPG elements, a TBLT framework and, target vocabulary from the TOEFL IELTS. The purpose of this project then, is to shed light on



the affordances of the game and to what degree it can and should be further utilized in language classes to both motivate the learners and help provide them with the best means possible to acquire the language.

### ***Vocabulary Acquisition***

Vocabulary acquisition is the process of learning new words. In order to discuss vocabulary acquisition, we must first define what exactly is meant by a word. As Nation and Read (1986) state, “For instance, are: ‘depend’, “depends”, “depended”, and “depending” to be classified as one word or four?” (p. 5). Including all of them as individual words would increase vocabulary size, and in order to deal with more reasonable quantities of words, it is better to group the words into word families where all of the above listed words would be listed as a single unit. For example, if I used the target vocabulary word “deviate” and also used the forms “deviates” and “deviated”, I would consider all three uses as different forms of one word. But as Milton (2009) proposed, “the result is still called a word count” (p. 8), so in this case my word count would only be one rather than three, which is still a word count. He also goes on to give the example sentence “The boy stood on the burning deck” to contain seven words, as this is the method used by dictionary compilers and publishers. The terminology used for these words is to call each one a “token”, so that sentence would contain seven tokens. However, “the” appears twice, meaning that there are only six different “types” of words. In order to work better with the game scripting, this project used word families as a single unit for the definition of a word (Nation & Read, 1986), in which a word family is a group of words with a common base to which different suffixes or prefixes can be added (e.g., sign, signify, design, etc.). For this project I had ten target vocabulary words per chapter, or 80 words total. If I were not counting a

word family as a single unit, this vocabulary list would be even longer. For example, some words I used were “enhance”, “enhances” and “enhanced”, but I only counted it as a single vocabulary word under “enhance”.

But once a student knows a word, what criteria should be used to actually determine if they know it? Typically, simple vocabulary tests are used with multiple choice or matching questions, since these are better equipped for analyzing large amounts of vocabulary at a time. However, words can often have multiple meanings. Nation and Read (1986) mentioned generalization (defining a word), breadth of meaning (recalling the different meanings), precision of meaning (applying the word correctly to all possible situations), availability (being able to use it), the words’ relative frequency, syntactic properties, connotations, and links with other words in semantic contexts (p. 7). Table 1 below provides examples of each of these word characteristics through the word “spontaneously”.

**Table 1**

*Example of Word Characteristics*

Word Characteristics	Illustration through word “Spontaneously”
Generalization	Adverb: as a result of a sudden inner impulse or inclination and without premeditation or external stimulus.
Breadth of meaning	<ol style="list-style-type: none"> <li>1. In a spontaneous manner</li> <li>2. Without advance preparation</li> </ol>
Precision of meaning	<ol style="list-style-type: none"> <li>1. That person likes to dance spontaneously.</li> <li>2. The crowd spontaneously broke into applause.</li> </ol>
Availability	Whether a student is able to use the word “spontaneously” in conversation/writing.

Frequency	This is how often the word is used.
Syntactic properties	It is used like an adverb, it modifies or qualifies and adjective, verb, or other adverb or a word group.
Connotations	It has a neutral connotation since it can be positive or negative, it implies that it is natural and has a lack of prompting.
Links with other words in semantic contexts	Example quotes from in game dialogue: “I know that it did not start <b>spontaneously</b> . This magic is far too wide spread”, “I wish my magic could <b>spontaneously</b> make us jackets!”

Milton (2009) noted that a common convention is to divide word knowledge into receptive/passive knowledge (associated with listening and reading skills) and productive/active knowledge (associated with speaking and writing skills). It is usually thought that a learner’s receptive knowledge is larger than their productive knowledge (Milton, 2009). Sometimes, teachers and material designers will create vocabulary lists for words the learners should have receptive knowledge of and lists of words they should have productive knowledge of. Nation also mentioned that word knowledge can be divided into three areas: form, meaning, and use (2001). Each of these can be further subdivided: - *form* can be thought of as spoken, written, and word parts, - *meaning* can be thought of as form combined with meaning, concepts and referents, and associations, and - *use* can be thought of as grammatical functions, collocations, and constraints on use. But because all of these have so many aspects, a single test would be unable to test a learner on all of that knowledge.

There are a multitude of vocabulary tests that can be utilized to determine a learner’s vocabulary knowledge. Checklist type tests, where students answer multiple choice or matching questions in which the vocabulary is not used in context can be utilized to show a learner’s

breadth of knowledge, - however, this only looks at their receptive knowledge and not their productive knowledge. In order to test productive knowledge, there are a number of different types of tests one can use. Translation and elicitation tests with “forced answer measures, such as gap-fill exercises, have the great virtue that the test designer can control, at least to some degree, the language that the subject will produce.” (Milton, 2009, p. 119). But it is also possible to have free language production tasks where students can write or speak freely about a topic and by analyzing the words, frequency, and accuracy of their use it is possible to see how learners know and use vocabulary words. Another tool to measure vocabulary knowledge is word association tasks. However, these may have limited applications with beginner level learners, as their vocabulary knowledge may not be large enough to show the associations they have with the words. These are simple tests, however, in that to create the test one needs only to generate a list of the words and ask the learners to write down words that they associate with the given word. From all of these types of tests it seems most advantageous to use a variety of them in a given exam in order to see a wider scope of a language learner's vocabulary knowledge. In this project I incorporated the vocabulary into the core dialogue within the game, which made it similar to a checklist, but I did not create ways to test their vocabulary in the game. The learners needed to have enough comprehension of the vocabulary words in order to understand what they needed to do in each quest, and to be able to successfully beat the game. I assessed whether or not they were able to understand the vocabulary through context, as there were no free language production tasks, no translations, or elicitation tests. This game is not meant to be a vocabulary test game; rather, the game itself is meant to be a task. In addition to exploring how vocabulary can be assessed, I also consulted different methods that are used to teach vocabulary and drew on those to inform my game design.

In this project reading was the main source of input for teaching vocabulary. This is because the game I created requires a large amount of reading. My game in total was approximately 7,150 words, of which at least 320 were target vocabulary words (80 total target vocabulary each used at least four times). I have taken inspiration from Nation's work on extensive reading. In Nation's (2013) paper he explained that extensive reading "involves reading large quantities of material which has been specially written to be at the right vocabulary level for the learners" (p. 1). This level is determined by the proficiency levels of the students, in my case my ESL students generally have intermediate English proficiencies. In another paper by Nation (2015) he explained that in extensive reading the learners ideally "would be interested in what they are reading and be gaining enjoyment from the reading" (p. 140). The key in all of this however, is making sure that the vocabulary words occur in the reading often enough because "vocabulary learning depends on the number of meetings with each word and the quality of attention at each meeting... The more meetings, the more likely learning is to occur" (p. 136). I created my game with this in mind, making sure that all of the target vocabulary were used multiple times per chapter. This becomes important in the fact that when "a word occurs several times within the same text, or even in different texts, in the vast majority of the cases the linguistic contexts are not the same" (p. 138). All of the different contexts that a word appears in will give the learners a better grasp of when and how to use the word.

### ***Task Based Language Teaching (TBLT)***

TBLT has become increasingly popular in the last few decades. Ellis is one scholar who has developed many ideas related to TBLT (2003, 2005, 2009, 2012). This teaching approach focuses specifically on tasks, which are defined as meeting the following criteria as defined by Ellis (2009): 1- The primary focus should be on 'meaning', 2- there should be some kind of

'gap', 3- learners should have to rely on their own resources, and 4- there is a clearly defined outcome other than the use of language. For example, some tasks that could be given to students could be: planning out a road trip, writing out a grocery list, making a website, practicing making a phone call to make a reservation, etc. Tasks can be as large or as small as a teacher wishes. They can be as short as 15 minutes, or month-long projects, it depends on the needs of the students and the goals of the teacher. However, the tasks that a teacher creates need to follow certain criteria in order to be considered a TBLT type task.

The first criterion is that the primary focus should be on meaning. This means that the learners are not consciously focusing on the intimate grammar structures or rules, they are focused on doing the task itself and making themselves understood in the target language. For instance, if the task was to give their friend directions from point one to point two on a map in the target language, their primary focus would be on giving the directions in a meaningful way that allows their friend to follow them and successfully make it to point two.

With regards to the second criterion, there are three types of gaps: information gap, opinion gap, and reasoning gap. An information gap is where one learner has information that another learner does not (such as the example given in the previous paragraph). An opinion gap is where learners both have the same information but they use that information to express their own opinions on the matter. Then a reasoning gap is where the learners use reasoning and logic to decide what information to convey to solve the problem at hand. In my game this took the form of the individual quests in each chapter, as well as solving the overall plot to beat the game.

In the third criterion, the learners should rely on their own resources. This means that they do not rely on others to tell them how to do the work and they use what resources they have available to figure out the problem. In my game an example of this is the fact that no one told

them how to solve the quests in each chapter. In chapter two when the players are asked to meet every professor, since there are eight total, the players may meet them in a different order. The players were free to explore and complete tasks in whatever way they please.

The fourth and final criterion involves a clearly defined outcome other than the use of language. This means that the point of the task and the end outcome is not just that the learner used the target language. It means that they created or did something, and they can show what they did. In my game this took the form of finishing quests in each chapter and also beating the game itself, though in order to do this they needed to understand the vocabulary.

To summarize all of these criteria with an information gap task, a teacher can assign two students to work in a pair. One of them, student A, will be given a map of a city, and the other, student B, is given a location they need to get to from a specific starting point. Then student B will ask for directions and student A will guide them to that location. In this task there is a primary focus on meaning, since they are focusing on giving directions and getting the other student to the desired location. There is a gap in the fact that one student has a map and the other does not. Both students will also have to rely on their own resources to figure out what path will take them to that location. Then the outcome of the task is that they successfully directed the other student to the desired location.

In practice a TBLT lesson has three phases, a pre-task, task, and language focus (or post-task or review) (Willis, 1996). In the pre-task the teacher will tell the students what is expected from them in the task phase. The teacher can also preview key vocabulary or grammatical constructs, or even present a model of the task by doing it themselves or by using pictures or videos that demonstrate the task. The task phase then will consist of the students performing the task, typically in small groups though it depends on what the specific task is. The teacher then

acts as an observer and counselor to help the students through the task. Then in the review phase if students have created tangible products, such as posters or presentations, the students can review each other's work and provide constructive feedback. In the map example given above, the pre task could consist of the teacher giving the students example directions to a location on campus from the classroom they are currently in. Then the task phase could consist of the students using a map to direct each other to given locations. In the review phase the students could then present these directions to the rest of the class. Later in the paper, in the section Games as Tasks, I describe how TBLT relates to my game.

### ***TBLT and Vocabulary Learning***

TBLT has been shown to help increase learner's vocabulary knowledge. In particular it seems that information gap tasks can affect short term vocabulary recall (Khoshima, 2016). In Khoshima's study, Iranian intermediate EFL learner's vocabulary was investigated through three groups: - a jigsaw task group, an information gap task group, and a control group. The jigsaw group was separated into groups and each student in the group was given a different segment, then they were all temporarily put into expert groups where everyone in that group had the same segment. In these expert groups they were asked to master their part and then they were all put back into their original groups to explain their parts to the other group members. The information gap group did something similar, but in this case the teacher himself described the task and gave a description for the incomplete picture. The students took notes based on the description and used that to complete their own pictures, after that they were asked to match their own picture with a correct one among the ones on the board. The control group experienced the same amount of instruction as ordinary classes but the instruction was not based on TBLT approaches. They received instruction for one session each week for five weeks and their results indicated that TBI



had a significant effect on promoting vocabulary knowledge of the learners. This allowed them to improve their knowledge, and by “developing the knowledge of vocabulary, achieving communicative competence in a second language can be enhanced.” (Khoshima, 2016, p. 228). This means that using TBLT can help students develop their vocabulary as well as improve their ability to communicate, thus showing that TBLT methods can be effective when used to teach vocabulary.

In another study (De la Fuente, 2006) a similar approach was taken to investigate the effects of three vocabulary lessons (one traditional and two task-based) on Spanish vocabulary acquisition. There was a present practice produce (PPP) group, and two TBLT groups. The first TBLT group did a one-way, role-play information gap task that required students to use the target lexical forms in order to achieve the goal of ordering food from a restaurant’s menu. This group then did task repetition where the students performed free role-plays during the remaining ten minutes of class. The second TBLT group did the same except that instead of the task repetition, a teacher-generated, explicit focus-on-forms (Long, 1991) stage was incorporated. Both TBLT groups did information-gap role play tasks, and all three groups talked about food. The quantitative analysis of the data suggested that the type of pedagogical approach had no effect on immediate retrieval of words but that task-based lessons were more effective for long-term retrieval (one week after being introduced) of words. This supports the idea that TBLT methods are effective for helping students to have better long-term memory of vocabulary, which should help them to maintain that vocabulary even longer.

In a third study, Ajideh, Rahimpour, Amini, and Farrokhi (2013) looked at motivational strategies and TBLT. In this study they specifically investigated task motivation, which refers to when the task characteristics are the focus of attention in motivation. Motivational strategies are

techniques that promote the learner's goal-related behavior, specifically motivational influences that are consciously exerted in order to achieve some kind of systematic and enduring positive effect (Ajideh et al., 2013, p. 1046). Some examples of task motivation are: explaining the purpose and utility of the task, the learners knowing what success in the task involves, personalizing learning tasks, and encouraging learners to choose specific short-term goals for themselves. In their study they probed the effect of motivational strategies applied to the pre-task phase of task implementation on short-term and long-term retention of L2 vocabulary. The results showed that motivational strategies had an enhancing effect on both retention and ease of activation of L2 vocabulary for the short term, confirming "the effectiveness of task-specific motivation in improving linguistic achievements" (Ajideh et al., 2013, p. 1044).

The studies described above show how TBLT can be effective in helping learners to acquire vocabulary. By designing tasks tailored to the vocabulary, learners are able to maintain the vocabulary longer than by traditional methods. Additionally, if learners apply motivational strategies while engaging in the vocabulary tasks, further vocabulary retention can be obtained. One possible way to design tasks tailored to the vocabulary is to create and utilize role-playing games as tasks.

### ***Games as Tasks***

Due to the story-like nature of RPG games, both digital and non-digital, they can be seen as tasks. Table 2 below shows the connections between the elements of a game and the elements of a task, such as: there is a primary focus on meaning, there is some kind of gap, the learners use their own resources to complete the task, and there is a clearly defined non-linguistic outcome.

**Table 2***Similarities between games and tasks.*

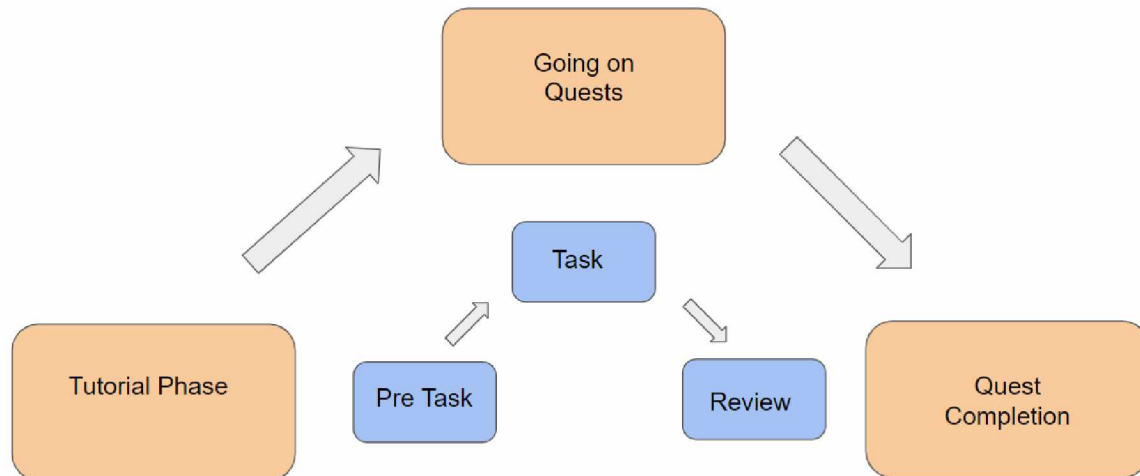
Games	Tasks
In an RPG game the focus is on understanding the story and being a part of it.	A task involves a primary focus on (pragmatic) meaning
In games there is a focus on problem solving, where the gap has to be solved in order to move on in the story.	A task has some kind of ‘gap’
Players must use their own resources to figure out problems (both linguistic and non-linguistic)	The participants choose the linguistic resources needed to complete the task
Completing the requests and problems/puzzles in the story to complete the game is the primary outcome.	A task has a clearly defined non-linguistic outcome

It has been noted that “gaming environments are often associated with TBLT approaches (Cornillie, Thorne, & Desmet, 2012b). In this project I used TBLT to ground the creation of a digital role-playing game for an English as a Second Language (ESL) class. In Rosas et al. (2003) it is noted that some of the most notable features of games are that they have “a clear goal” as well as “holding power” which captures a player’s attention similar to a focus on meaning (p. 75). This is one of the reasons why I believe that games can make a great facilitator for learning language. In a similar vein, Cornillie et al. (2012a) mentioned that learners “focus exclusively on meaning during gameplay” and that by utilizing TBLT you can “organize (de-)briefing sessions that raise attention to formal aspects of the L2 before and after playing” (p. 51). I believe that by utilizing this TBLT approach, it will allow learners not only to learn from gameplay itself but extend their learning outside of the game as well.

In tasks there are three primary phases during teaching: pre-task, task, and review. In RPG games there is a similar cycle for completing quests in the game. There is a tutorial phase, questing (going on quests) phase, and quest completion as shown in the figure I created below (Figure 1).

**Figure 1**

*Similarities between RPG phases and TBLT phases.*



*Note:* The orange represents RPG games and the blue is TBLT.

The tutorial phase in games involves either a non-player-character (NPC) or a system dialogue telling the player how to do something in the game. Typically, this involves how to use the in-game menus or how to do combat, crafting, or equipping gear. This is similar to a pre-task in that the players are shown what is to be expected in the second phase. The players can be primed with key vocabulary or controls. In the second phase, once the player knows how to follow the given directions, they are typically given a quest. This quest is generally a request from an NPC asking them to do something for them in return for a reward, such as fighting monsters, buying them items, finding items in the wild, delivering items, or other such favors. The players then go on that quest and do whatever favor is asked of them. This is similar to the task phase in that the players perform the task given to them. Upon completion of the quest, they return to the NPC who asked them for help and turn in the quest, and this is where the NPC may talk and explain their thanks for the help or what may need to be done next, essentially reviewing

what the favor was. Then a reward is given to the player, which is typically in game currency, equipment, items that sell for a lot, or sometimes even moves/abilities their characters can use in game. This is similar to the review phase in that the NPC talks about the request in a similar manner to the way that a teacher might help the students review their work, and can provide constructive feedback. These are all the ways in which an RPG game can be similar to a task, and in the following sections I explain in more detail types of games within DGBLL.

### ***Digital Game Based Language Learning (DGBLL)***

In the field of DGBLL there are a variety of games that are used. There are either games created with the purpose of creating L2 learning environments, named *synthetic immersive environments* (SIEs) or games that were not specifically tailored to L2 learning, *commercial off-the-shelf* (COTS) games. The “SIEs borrow insights from COTS games, namely by providing goal-directed and (often) collaborative forms of play, while emphasizing targeted learning outcomes that pertain to specific domains of communicative competence” (Cornillie, 2012a, p. 246). Another common term for games with an educational focus is “serious games” (Godwin-Jones, 2014), and the creators of such games “strive to achieve the same level of engagement associated with recreational video games with the caveat that players acquire knowledge and learn new concepts during game play that is useful in the real world” (Rankin, McNeal, Shute, & Gooch, 2008).

This project will focus primarily on SIEs, and in particular role-playing games. RPGs are games specifically designed with stories in mind, where the player will progress through the story while “role-playing” as the main character(s). Some common examples of RPG type games are: World of Warcraft, the Final Fantasy series, Dungeons & Dragons, the Witcher series, the Pokémon series, etc... In a very similar vein is the idea of narrative based games. These are

essentially the same thing as role playing games but differ mainly in the idea that they focus more on the narrative design of the game rather than the mechanics of the gameplay. These can include things like visual novels or other RPG games such as: Final Fantasy IV online, Minecraft: Story mode, Phoenix Wright games and many others.

The main idea for utilizing games for language learning is that by playing a game, students will thereby be more motivated to learn (Calvo-Ferrer, 2017). By making learning “fun” or by distracting them with a task in the game, they will utilize the language in order to accomplish the task. It is in this respect that “gaming environments are often associated with task-based language teaching (TBLT) approaches” (Cornillie et al, 2012a, p. 250). If the tasks in a game are implemented intentionally then, playing the game can become a motivational factor for the learner.

Other benefits of playing games are that they are highly immersive, stimulate cooperation, provide players with real-time feedback, encourage exploration and experimentation, provide entertainment, and support differing levels of difficulty based on the player’s experience (Berns et al., 2013, p. 211). However, if a game is utilized for second language acquisition, then there are many principles that games can help with: motivating learners, providing them with comprehensible input, opportunities for real and meaningful interaction through task-based and goal-oriented activities, encourage learners to experiment and take risks while communicating in the target language (Berns et al., 2013, p. 211).

Certain games can also allow for large amounts of comprehensible input for the students. Krashen (1985) defines comprehensible input as language that is just beyond a learner’s proficiency level, but language that the learner can still understand. RPGs specifically contain large amounts of language, “In fact, the primacy of language in RPGs requires a lot of reading

(and comprehension) in order to play them well” (Cornillie et al., 2012b, p. 50). This ties in with the idea that extensive reading can be used to teach vocabulary (Nation, 2013, 2015). Rankin, Gold, and Gooch (2006) found that “the more NPCs [non-player characters] model appropriate use of vocabulary words, the more ESL students develop the appropriate meaning in English” (p. 3). Other studies have also shown that digital video games can help with vocabulary acquisition as well (Ebrahimzadeh, 2017). This then does bring up the point that starting with too difficult of an RPG could end up having a demoralizing effect on the learner since the vocabulary may be too advanced, but when appropriate level games are chosen, they can help provide motivation to learners as well as provide feedback and reward mechanisms. The main key to making sure that appropriate game levels are chosen is by ensuring that dialogue within the games matches that of the students’ proficiency in the language.

A component of appropriate dialogue in language learning is feedback, and role-playing games provide an opportunity to give learners feedback. Since RPGs are built upon dialogue and interactions within the game this means that the NPCs within the game can become a tool to deliver feedback to the learners, “In a computer-scripted dialogue, for instance, an NPC may give implicit comments or a recast on linguistic errors” (Cornillie et al., 2012b, p 51). This means that by creating a game yourself you are able to not only tailor the language to meet the learner’s proficiency level, but also provide feedback. Rankin et al. (2006) mentioned that having NPCs model appropriate use of vocabulary words can aid ESL students develop the appropriate meaning in English, which suggests that if we are to go one step further and have NPCs provide feedback it would even further aid ESL students in understanding the target language. In this project my primary focus is on the target vocabulary, however I do include some opportunities for feedback in each chapter of my game.

Despite the many advantages, there can be some drawbacks to utilizing DGBLL. There are individual differences between learners and some may be opposed to playing games rather than outright studying from textbooks. Then there are the stereotypes that go along with video games. Many have argued against their use due to them containing aggression if not outright violence, that they “reflect gender stereotypes that favor masculinity.”, and the immersion effect present in them can sometimes “produce an alienating effect over players, who develop an “electronic autism” that hinders social and academic development” (Rosas et al., 2003, p. 76). In terms of classroom use, it can be hard to make sure that students will all have equal access to the platforms on which the games will be. Another issue of access relates to price, while serious games can come in a variety of price ranges, it also requires the learners to have access to technology that will allow them to use the games. However, these things can be avoided by choosing the right game for the right students or by creating the game yourself.

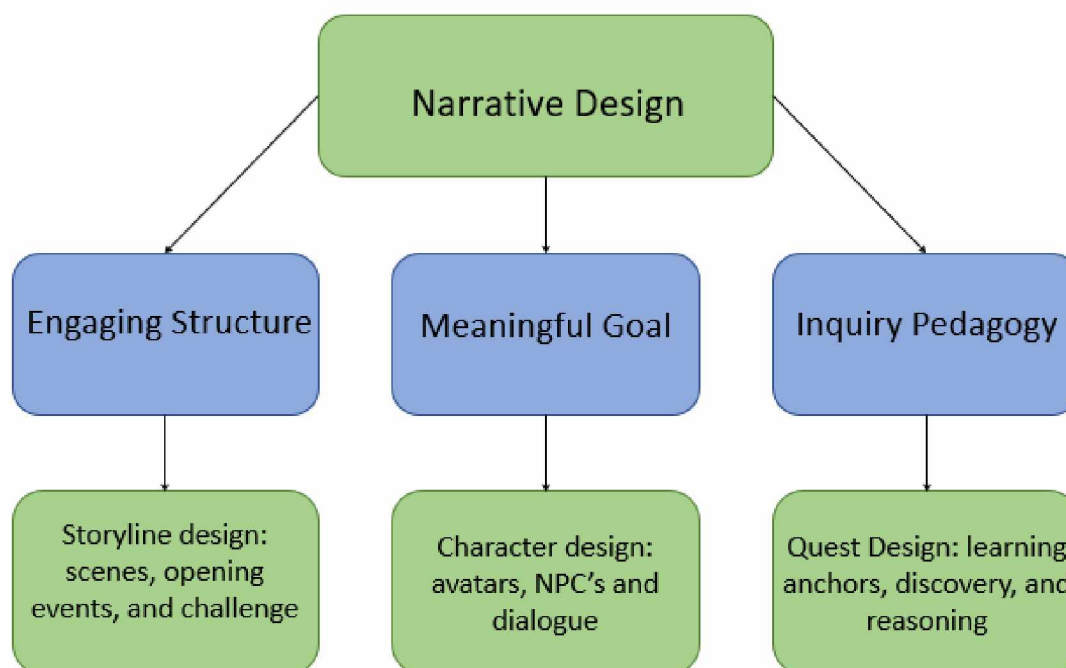
There are also many avenues by which one could create a serious game. Since RPGs have a large focus on story and a higher amount of vocabulary, it is typical to choose a narrative framework. In Chen, Chen, and Dai (2018), they outlined a design framework in which a narrative design is composed of three components: engaging structure, meaningful goal, and inquiry pedagogy. Engaging structure is composed of the storyline design, such as scenes to give context, an opening event to create curiosity, and a challenge to provide sustenance. Meaningful goals are composed of character design, such as the avatar to give self-identity, NPCs to give social commitments, and dialogue for negotiation. Inquiry pedagogy is composed of quest design, the properties of which provide a learning anchor, allow for discovery learning, and require reasoning to help with comprehension (p. 187). The authors define inquiry pedagogy within their design framework as “an active learning that is initiated by a question or problem in



a specific context. During the process, students discover related cues and evidence from the context, and attempt to identify the relationships between questions and evidence.” (p. 188). The quests then should be designed with properties that need to be investigated to discover more so that they cause the learner to question things like “where are they from, or what are their histories” (p.188). This then creates an anchor that serves as a starting point for inquiry-based learning (p. 188). A simplified version of their graphic is shown below in Figure 2.

**Figure 2**

*Narrative design framework graphic adapted from Chen, Chen, & Dai (2018).*



### ***Implications for Language Teaching***

So, what does all of this information mean in terms of language teaching? Research has shown that video games have quite a few benefits and drawbacks as well. But when implemented mindfully they can help learners acquire their target languages (Ebrahimzadeh, 2017). With the

rise of the gaming industry “video games are clearly a preferred game for children who reach game-playing age.” (Rosas et al., 2003, p. 75). Video games are effective for a number of reasons, and Rosas et al. (2003) summarized them nicely: (1) games have a clear goal, (2) adequate levels of complexity, (3) fast game time, (4) incorporated instructions, (5) independence from physical laws, and (6) holding power. I incorporated each of these characteristics into my own game. The clear goal of my game was both completing each quest in each chapter as well as beating the game as a whole. To create adequate levels of complexity I designed the dialogue of the game to match that of the English proficiency of my learners. For the fast game time, I created each chapter to take students approximately 15 to 30 minutes to complete. The instructions for the game are included in the game itself. The independence from physical laws is shown through the idea that magic is very prevalent throughout the story and instead of electricity/technology there is magic powering everything in this world. The holding power is created through the story and gameplay mechanics. Video games also have many different instructional approaches that can be utilized. One approach “often taken in educational simulations and task-based language teaching methods, is to focus exclusively on meaning during gameplay, and organize (de-)briefing sessions that raise attention to formal aspects of the L2 before and after playing” (Cornillie et al., 2012a, p. 51). However, these de-briefings alone cannot suffice for “enabling noticing of formal L2 aspects” and would need to be accompanied by more final teaching (Cornillie et al., 2012a, p. 51). Another approach that can be utilized is by including “‘mini-game’ remedial exercises, input enhancements, or (corrective) L2-directed feedback in the game (delivered by computer, teacher or peer). In a computer-scripted dialogue, for instance, an NPC may give implicit comments or a recast on linguistic errors.” (Cornillie et al., 2012a, p. 51). Another approach is to exclude the form-focus strategies from the core of the

game and include them in a broader environment, for example “game mechanisms could be exploited by having learners and others, such as native speakers, give asynchronous feedback on the language produced by other players.” (Cornillie et al., 2012a, p. 51). In my game I included two opportunities for NPC feedback, including recasts and explicit comments for each chapter.

Language learning then, does not have to be limited to the game itself. By having students interact with one another or even develop their own strategies, as was done by Turgut and Irgin (2009) “guessing from the context, looking it up on an online dictionary, asking a friend sitting close by and people who know English”, allows students to interact with one another and develop problem solving strategies (p. 762).

To summarize, games “can be seen as sources of linguistic input that are tirelessly capable of repetition when needed, meaningfully contextualized as part of event-driven scenarios, simulations and goal-directed sequences, and controlled by the player” (Reinhardt & Thorne, 2016, p. 420). These games can be tools for L2 learning “that lead to the development of communicative competence and its interactional and discourse correlates” (Reinhardt & Thorne, 2016, p. 420). Therefore, there is support for the idea that games can provide a multitude of L2 language learning support such as: comprehensible input/output, motivation, authenticity, opportunities for feedback, clear goals, immersive holding power, and opportunities for self-study. Though these benefits do come with the caveat that one has to find or create a game specific to their learners, the level of language complexity and gameplay complexity must be of an appropriate level or risk frustrating and demotivating the learners.

### ***Rationale***

I chose to use an RPG game not only because of my past language learning experiences, but also because of what the literature says about games and language learning. In particular I

believe that TBLT fits well with the storytelling and questing elements in RPG games. From there I wanted to focus primarily on vocabulary acquisition since RPG games are so reading intensive, and because of my own language experiences, I found RPG games to be useful for learning new vocabulary. Specifically, to vocabulary, I used the TOEFL and IELTS vocabulary lists to design the script and dialogues for the game.

I chose these vocabulary lists because of the needs of my ESL students in Fall 2019 and Spring 2020. In both semesters the majority of the questions I received in my writing course were related to vocabulary. In the fall semester students wanted to learn a solid base of vocabulary for IELTS and TOEFL and then in spring the focus was on trying to learn synonyms so that they could rephrase things. Almost all of the students were studying to take either the TOEFL or IELTS test, which led me to choose those as the primary vocabulary focus in the game. It was also working with these students that showed me that using a game format was very effective in helping expand their vocabularies.

In the spring 2020 semester I implemented a short *Dungeons and Dragons* game with my students. It lasted a few hours total and was set in the world of Lord of the Rings and the Hobbit. The students were able to create their own characters and write their character backgrounds. From there we played the game and they completed quests that mimicked real world situations such as shopping, interacting with people of a higher status (in this instance it was King Bard of Dale), ordering food, and other simple tasks. After each mini-session of about 30-45 minutes the homework assignment was linked to a TOEFL writing prompt that related to the events of that session. For example, one of the prompts was “Decisions can be made quickly, or they can be made after careful thought. Do you agree or disagree with the following statement?”, “The decisions that people make quickly are always wrong. Use reasons and specific examples to

support your opinion.”. None of the students had played Dungeons and Dragons before, but two of them had heard of it. However, all of the students that played (one student dropped the course before she had a chance to play), found the game incredibly interesting and enjoyable. Some of the shyer students who did not participate as much in class did a complete 180 and became more active in participating. They also learned more descriptive vocabulary that could be seen in their final writing project, a short story. Since Dungeons and Dragons is essentially the original RPG, I believed that playing a digital RPG would be effective as well. From there I found that the students enjoyed the fantasy setting, so I created the digital RPG with a fantasy setting as well.

### **Game Design**

The first step in designing the game was creating a story and environment for the game to take place in. Since the target vocabulary was all from the TOEFL or IELTS vocabulary lists (Appendix B), I needed an environment that would naturally have those types of vocabulary words. So, I decided to make the game take place in a magical research school environment called Aspen Academy. From there I designed the game to be broken down into a series of eight chapters, so that if it were to be used in a classroom setting, one chapter could be assigned as homework for each week. Each chapter is designed to take thirty minutes or less to play. In Table 3 below I have created a summary of the main points of each chapter along with the target vocabulary for each chapter.

**Table 3**

*Game Chapters and content*

<b>Chapter</b>	<b>Content</b>
1	The main character (the participant) begins in their small home town and has been accepted into the main magic research school, Aspen Academy. They will complete a tutorial level here where they learn how to do the main controls of the games and learn how to complete a quest. The quest involves gathering ingredients from the

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forest for dinner. There will be comments that the plants and animals to behave unusually.

Target Vocabulary: Familiar, Accustomed, Enhance, Emphasize, Leery, Cautious, Radish, Cucumber, Cauliflower, Spinach

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- 2 This chapter is where the player will go to Aspen Academy and learn about the different types of research areas at the school from their respective teachers. There is one for wildlife, plants, and one for each of the elements of magic (light, dark, earth, water, fire, and air). The player will also meet the two other students who will be their good friends at the academy.

Target Vocabulary: Indisputable, Undeniable, Primary, Essential, Significant, Important, Extraordinary, Fantastic, Fundamental, Responsible

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- 3 The player will hear a conversation between two professors about changes in the wildlife and plants, and that their instruments have been getting odd readings from the local environments. These professors will then recruit the player to their environmental protection club and have them help solve the mystery of what is happening to the local wildlife.

Target Vocabulary: Contribute, Share, Ambitious, Enthusiastic, Community, Neighborhood, Responsible, Badge, Foliage, Greenhouse

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- 4 This chapter will currently involve going on a quest and collecting plant and animal samples (leaves from trees, animal hair, etc.... no harm will be done to the wildlife to collect the samples).

- Collect fauna samples (hair from a local elk type species)
- Collect Flora samples (collect leaves from the local plants)
- Collect magic radiance samples. (earth, water, fire, and air)

Target Vocabulary: Spontaneous, Impromptu, Require, Lack, Deviate, Differ, Measure, Data, Speculate, Variable

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- 5 The player along with the help of the professors will figure out that the issues are being caused by an overflow of dark type magic that has been fused with the energies of the local plants and wildlife.

Target Vocabulary: Release, Free, Manipulate, Exploit, Exclude, Block, Sacred, Tremendous, Grim, Immediate

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- 6 There is a research corporation that has been mixing the magical elements to try and create progress at any cost. (there is no electricity in this world, things are run by magic, so the company is essentially trying to find an unlimited source of magic). The player will then go to their headquarters to try and investigate their research facility and collect a sample of their research.
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Target Vocabulary: Devise, Arrange, Evidence, Clue, Primary, Leading, Tyrant, Unsatisfactory, Withdraw, Yield

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- 7 They will be able to bring the sample back to their professors and they will be able to create an antidote. The player will then be able to take that antidote to each of the townsfolk they talked to before, as well as the main characters parents.

Target Vocabulary: Implement, Carry Out, Vanish, Clear, Expose, Bring to light, Irregular, Indicate, Locate, Observe

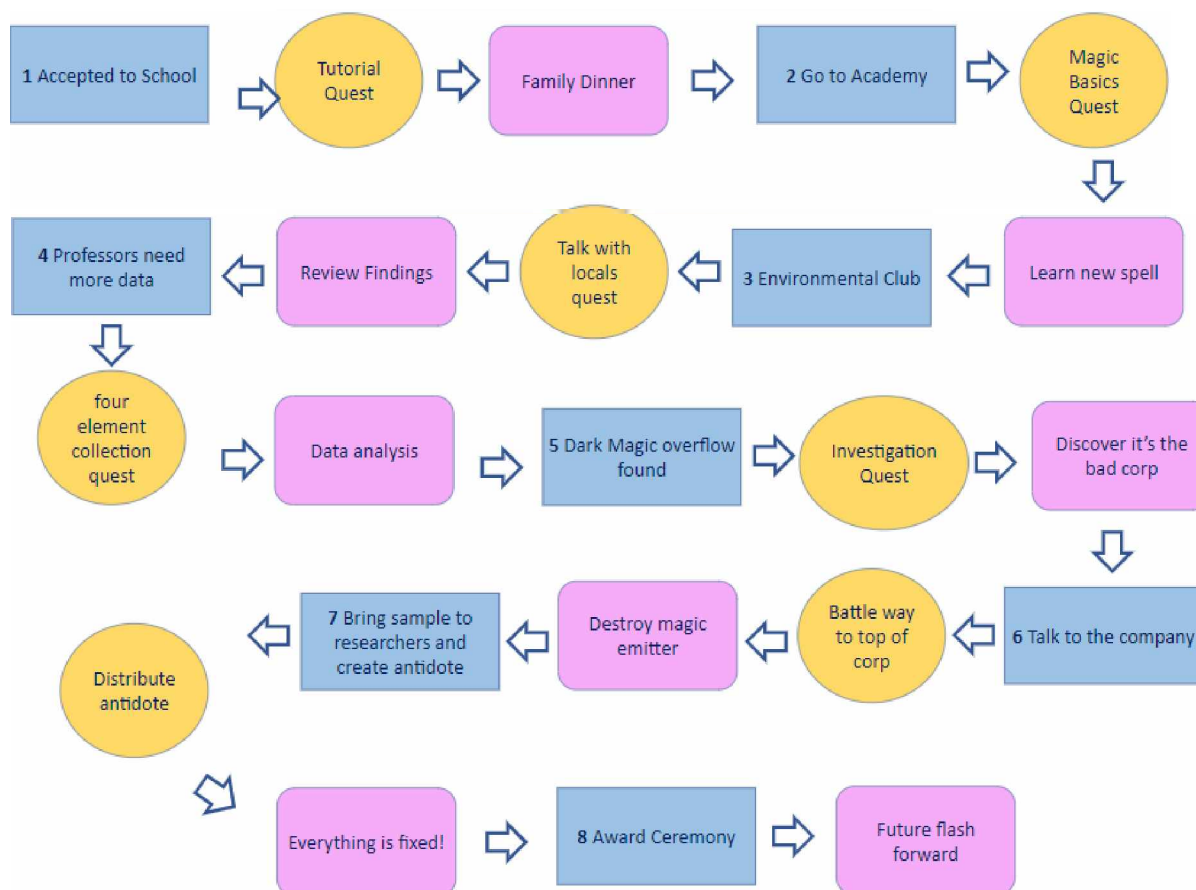
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- 8 There will be a montage at the end where the player and their NPC friends are awarded medals for their service and are able to continue their magic education and graduate. The player will be shown becoming a researcher at the school in the future.

Target Vocabulary: Demonstrate, Exhibit, Contribute, Assist, Advocate, Encourage, Ceremony, Gratitude, Leadership, Influence

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Once I had the outline for each chapter's content, I was able to create a flow chart that would help me to implement the game in my chosen software. The flow chart idea came from attending a CALICO Online workshop "Explore Games, Make Games and Game-Based Frameworks for Foreign Language Learning", where the facilitators discussed game design for language learners. In the flow chart I mapped out each chapter in three parts to mimic the task phases in TBLT. There is the quest start, going on the quest, and the quest completion. By mapping it out in the flowchart in this style I was able to make sure that I maintained the task phases in the game itself.

**Figure 3***Chapter Sequence Flow Chart*

*Note:* flow chart depicting the chapter sequences. The blue rectangles represent the tutorial phase and pre-task phase at the start of a new chapter, the yellow represents the main quest or task phase, and the pink is the quest completion or task review phase.

***Target Vocabulary and Quests per Chapter***

For each chapter I found ten vocabulary words that I wanted to focus on. I chose three from the TOEFL vocabulary lists, then three words that were synonyms for the TOEFL words, and four from the IELTS lists to make the ten total vocabulary words for each chapter. In total this means that there were 80 vocabulary words for the entire game. The reason I chose to find



synonyms for the TOEFL words was due to many of my past students wanting to learn how to paraphrase or summarize using different but similar vocabulary. However, I had to make sure that the target vocabulary in each chapter made sense with the topic of that particular chapter. For instance, in the first chapter the player is being introduced to the game mechanics and does a quest where they fetch vegetables for dinner. The vegetables I chose were based on IELTS vegetable words, which were: radish, cucumber, cauliflower, and spinach. I also wanted to give the player a bit more context and background on the in-game world, so from the TOEFL list I chose: familiar, enhance, and leery. The synonyms I chose for those words were: accustomed, emphasize, and cautious. A full list of the target vocabulary words per chapter can be found in Appendix B of this document. For these vocabulary words I also made sure that each word came up in the dialogue of that particular chapter at least four times. This was primarily influenced by Nation's (2015) work, which highlights how multiple instances of the target words provide different contexts to learn the word from. There is no magic number for the number of times that vocabulary words should be used, but I found when writing the script for the game if I used the target words more than four times each chapter, the dialogue became repetitive and contrived. Occasionally later chapters might use target words from past chapters, but those did not count towards the four count.

These vocabulary words were chosen in order to best fit with the quest in that particular chapter. Each chapter has its own quest for the player to complete in order to move onto the next chapter. The table below outlines the main quest for each of the eight chapters.

**Table 4***Chapter Main Quests*

<b>Chapter</b>	<b>Quest</b>	<b>Target Vocabulary</b>
1	Gather vegetables for dinner	Familiar, Accustomed, Enhance, Emphasize, Leery, Cautious, Radish, Cucumber, Cauliflower, Spinach
2	Meet all eight professors at the school.	Indisputable, Undeniable, Primary, Essential, Significant, Important, Extraordinary, Fantastic, Fundamental, Responsible
3	<b>Mini quest:</b> Find two more students to join the environmental club. <b>Main quest:</b> Go into town and speak with the townsfolk to see if they've noticed anything odd.	Contribute, Share, Ambitious, Enthusiastic, Community, Neighborhood, Responsible, Badge, Foliage, Greenhouse
4	Travel to four different areas and collect samples: Earth, Air, Fire, Water, Flora, and Fauna	Spontaneous, Impromptu, Require, Lack, Deviate, Differ, Measure, Data, Speculate, Variable
5	Talk with the townsfolk to see if they have seen anyone suspicious who might be behind the dark magic.	Release, Free, Manipulate, Exploit, Exclude, Block, Sacred, Tremendous, Grim, Immediate
6	Speak with the president of Muddle Corporation and stop him from exploiting the magic.	Devise, Arrange, Evidence, Clue, Primary, Leading, Tyrant, Unsatisfactory, Withdraw, Yield
7	Deliver the antidote (ambrosia) to the townsfolk and your parents to help save their animals/crops.	Implement, Carry Out, Vanish, Clear, Expose, Bring to light, Irregular, Indicate, Locate, Observe
8	Speak to all the professors, townsfolk, friends, and family at the ceremony.	Demonstrate, Exhibit, Contribute, Assist, Advocate, Encourage, Ceremony, Gratitude, Leadership, Influence

Only one chapter had two quests, but this is due to plot reasons and the mini quest is a simple one that adds two more people to your in-game party that are necessary for the storyline. The rest of the chapters had only one quest to complete in order to move on.

### *Creation of The Game in The Software*

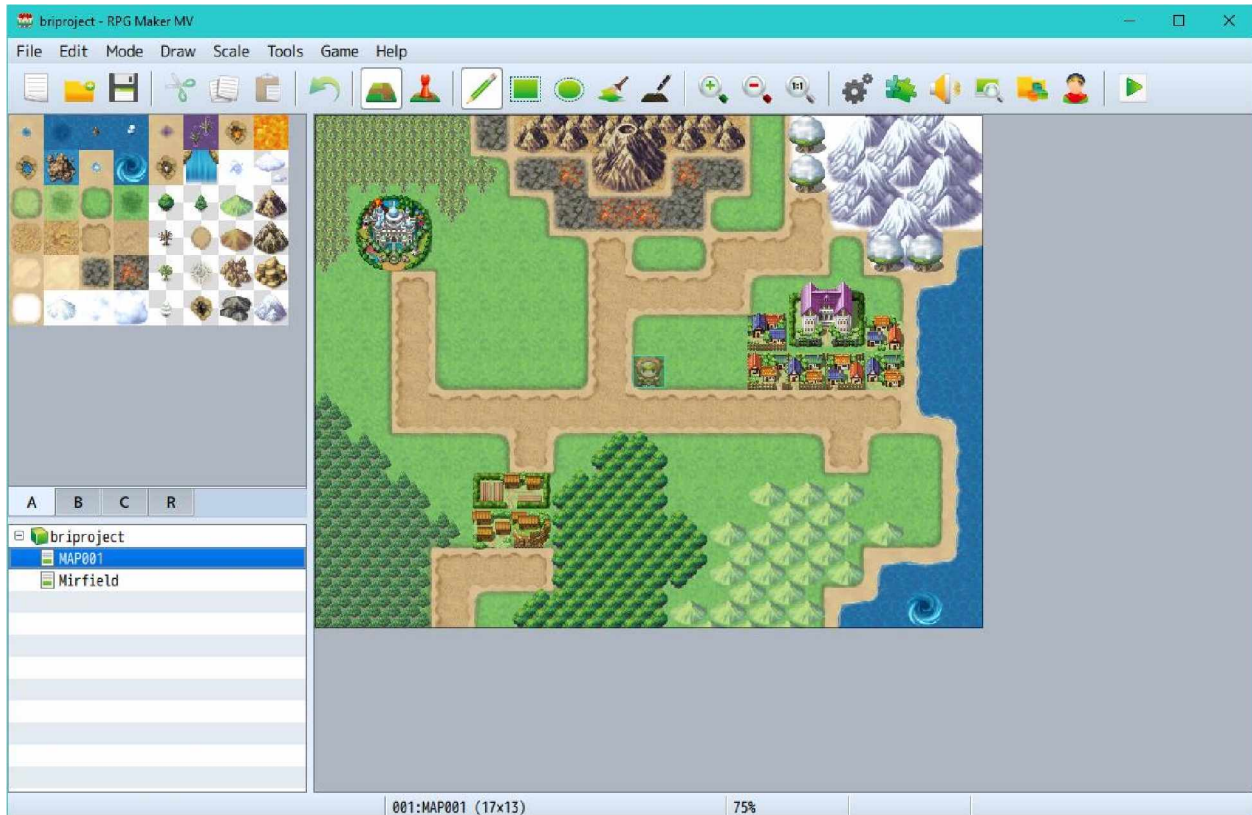
The software I chose was RPG Maker MV, a software that I had heard about a few years before. This software is built to allow people with no coding or computer science background to be able to create their own games. The software provides all the templates, artwork, music, and in game menus you might need for a traditional RPG game. In my case I was able to purchase this software on sale for \$50 through a site called Humble Bundle, where it came with additional DLC (downloadable content) packs that gave me more options for art style and music. The game, when not on sale, is currently \$80 on Steam. The software itself is designed to make 2D games, rather than free software such as Unity and Unreal Engine. These software are free but require a solid knowledge of coding and have a higher entry level barrier in order to create anything decent. Those two software are also optimized for 3D game environments which I did not need.

The RPG Maker software does not have options that allow you to create a story flow chart or create story outlines. But it does have the ability to let you create the environments, characters, monsters, items, etc. that populate the in-game world. When creating all of the dialogues for the chapters I wrote them out in google documents and was able to copy and paste them over into the software itself. The software worked similar to a blank canvas where we can drag grass or other map textures onto the map, and on another layer add NPCs and events. In Figure 4 you can see that the top left of the window shows different items you can use to decorate the map such as mountains, water, grass, etc. The bottom left of the window shows the

maps you have created for your game, and in this image, I had only created the world map and the hometown of the main character, Mirfield. The top of the software shows the different options such as saving, working on the map layer or event layer, and settings for the game itself.

## Figure 4

### *World Map Creation*



Everything in this software is organized by maps that you create, and on each map, you can have different events and chapters take place. This is why it was important that I created the story and background first because it would be very hard to keep track of all of the events in each chapter since it is not displayed linearly. For instance, in my game, the students often had to leave the school and go to different areas and then come back and turn in the quest at the school. I did not create separate school maps for each time they had to go there, rather just different events that would happen if certain conditions were met.

Some chapters would require combat to happen, so for each of these I had to make sure to create the monster troops (groups of enemies) and individual enemies that would be involved. This meant choosing a background to match the environment that the combat would take place in and choosing enemies that made sense for that environment. Combat is found commonly in RPG's (though not always) but I included it in my game as another visual way to show the character gaining experience using their magic. It was also a part of the story of this game, as the dark magic overflow was causing the wildlife to become agitated, hence they would attack the player in combat. In this game I wanted the combat to be on a similar level as Pokémon where there is no death, it will just say that the creatures have returned to their natural habitat upon the player defeating them. The same goes for if the player is defeated in combat, it will just say that they were knocked unconscious.

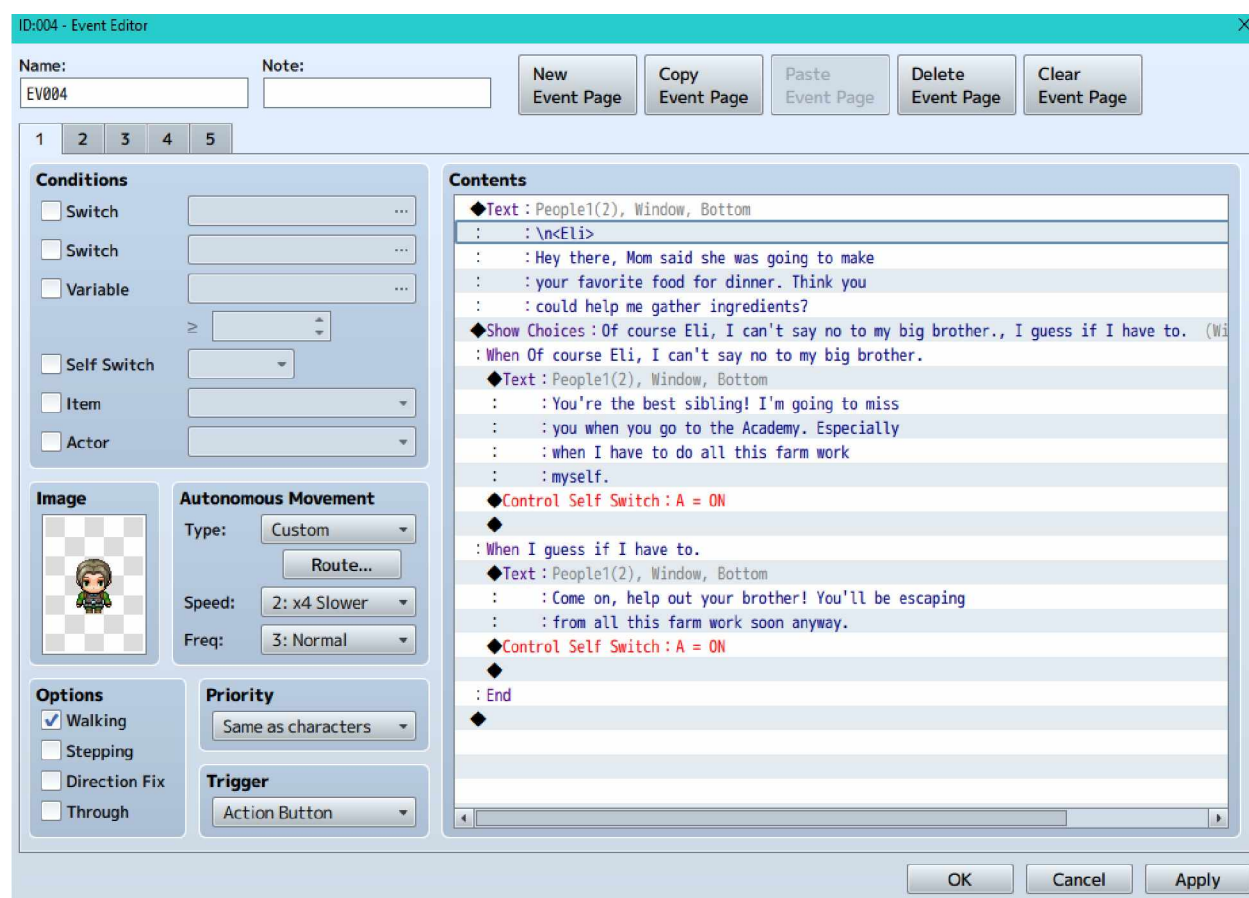
So, to create the actual game in the software I started with my list of target vocabulary words and then drafted out a script for that chapter in google documents. I had to write out everything that any character might say in that chapter and make sure that the target vocabulary words were each said at least 4 times in the chapter. A sample script is shown in Appendix C. Then I would write out everything I would need to make for that chapter in the game, such as: an introductory scene, a quest, a map, any NPCs, events, or affecting access to other areas in the game. I created one main character for the game, who was a teenager name Blake. However, I ran out of time to create and implement a way for participants to choose between a male, female, or non-binary appearance, so I stuck with a more masculine appearance. I was careful however throughout the game to use the pronouns they/them in case I was able to implement more character options at a later time. The main thing that needed to be included was the introductory

scene, a quest, and quest completion dialogue, since these are meant to mimic the pre-task, task, and post-task phases. A full sample checklist is also shown in the Appendix D.

A screenshot of dialogue creation for an NPC is shown below in Figure 5. It shows the player's older brother asking the player for help gathering vegetables for dinner. Also, it shows that the player will have two options as a response to the request: "Of course Eli, I can't say no to my big brother" and "I guess if I have to".

**Figure 5**

*NPC Creation Screenshot*

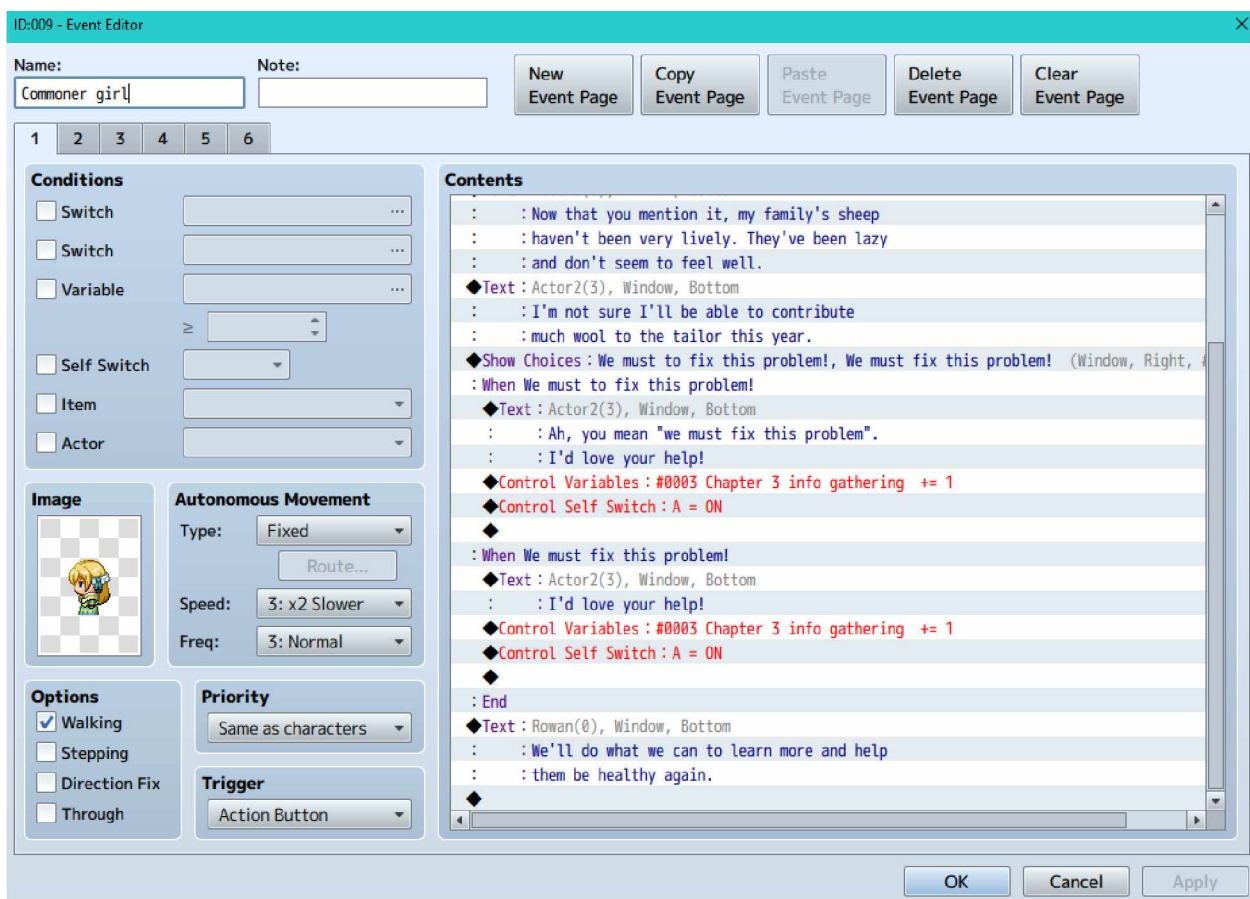


Many of the other NPCs also had dialogue that allowed the player to make a choice between different options in response to the NPC dialogue. Many of these ended up just being pragmatic differences, but in each chapter, there was at least one instance for linguistic feedback. For

instance, a player could choose between two different grammatical options. In Figure 6 shows two options for speaking with a villager in town: “We must to fix this problem!” or “We must fix this problem!”. For the incorrect option with “to fix”, the NPC will respond by saying “Ah, you mean “we must fix this problem” I’d love your help!”. Then if the player chooses the other option, there is no feedback and the NPC just says “I’d love your help!”.

**Figure 6**

*NPC Event Interface*



Once I was able to input everything into the software for each chapter, I went through and playtested. Playtesting is playing the game you have created to test it out to make sure there are no bugs (errors) that could stop the player from being able to complete a quest or do anything else in game. This is primarily where I would see if I created something in the software wrong,

such as having a character NPC that you only meet in chapter 5 or later be visible in an earlier chapter or having a typo in the dialogue of one of the NPCs. It was also what allowed me to see if quests in the software were working properly. I would take notes on anything that did not work (often times it would be forgetting to make doors lead to the right areas, or a player would still be not allowed to go to the next area, or there might be typos in the NPC dialogue). There would also sometimes be errors where even though I completed the quest, the quest giver would not think I completed it, which meant that the directions I input into the software for each of the parts of the quest needed to be checked to make sure they all worked. Sometimes it would just be that they did not have the correct command (essentially coding), or sometimes the dialogue an NPC had did not match the current chapter, so I would have to write in new dialogue so that their conversations made sense. Playtesting like this was done after the creation of each chapter. I was also able to have a native English speaker playtest a few of the chapters as well to help double check for any errors or typos. After I playtested all of the chapters I had two additional playtesters (classmates from one of my classes) that were native English speakers who helped me find any last-minute bugs.

### ***Reflection on Game Development***

Overall, the experience with this software was really informative, especially as I did not have to learn any actual coding or learn any computer languages in order to create the game. I would use the software again to create another game. The only downsides are that RPG Maker games tend to have a very specific style to them and they can really only make RPG games, so if I wanted to make a different art style, perspective, or even a different type of game I would have to look into utilizing different software. But for my purposes of creating a simple RPG game that could be played on a computer, it worked very well. However, if I had not found online video



tutorials, I think it would have been a lot harder, but still easier than trying to learn a computer language in order to do the things I could do in RPG Maker. The main takeaway I had with creating the game in the software was learning to think in a more cause and effect way that could be input into the software, such as “when X happens, then Y happens” or “If A happens here, then this will set off event C later”. Since I needed specific things to happen in the software when players did something, for instance they do A and that means they now have access to B and then that leads to C, I had to think in this cause-effect way to make sure it happened in the correct order. The software itself does not have built in flow charts or logic maps for the events, so I planned these things out on paper first. Then when creating the quests, I had to write out logic maps to figure out things like “this quest needs X to happen” so the NPC needs a way to tell if they did “X”. Then have dialogue for the NPC that responds if they did do X, did not do X, or only partially did X. In the beginning of the game creation during chapters one and two, it was the hardest to figure out how to create the logic maps in a way that would correspond to directions I could input into the software. But as I created more and more of the game the more it became second nature.

One of the more surprisingly difficult parts of creating the game was actually writing out the scripts for each chapter. This was due to the fact that I had ten vocabulary words per chapter that I needed to make sure I used at least four times. In a way it felt like writing a limerick in poetry, since I was trying to make sure the vocabulary showed up enough times and that they felt like they would naturally fit in that context. This part easily took twenty hours to complete for the entire game. At first, I would script one chapter at a time and then create that chapter in the software. But I found that the story flowed better when I wrote out multiple chapter scripts at a

time. By the time I was scripting the fourth chapter I went ahead and scripted all the rest of the chapters before working with the software again.

I do wish I had tried to get more people to playtest the game earlier on. Since I knew what each quest required, I would go straight to each location and do the quests. But that is not necessarily how every player will go about doing the quest. They may try exploring different areas or talking with more NPCs, or fight more monsters along the way. This means that there were more opportunities for bugs in the software than I could easily find on my own. Thankfully I was able to have some more playtesters after I started sending out the game to my participants, but this means that any time they found a bug I would have to re-save my game files and send the new ones to the current participants. This meant that they would have to start the game over from the beginning since their old version of the game could have a bug that would prevent them from completing the game. Thankfully only one participant had to deal with a game-breaking bug such as that.

Overall, the entire process was very fun and interesting, which turned out to be a great thing due to how long it actually took to create the game. The game was created over the summer while I worked part time (30 hours/week) for an internship. That worked out to working at my job for 6 hours a day and using the last two hours (or more) of the day to work on the game. The main idea brainstorming was done the previous spring semester during an individual study class. In that class I was able to come up with ideas for the overall story, target vocabulary, reading articles, and researching, which I would estimate to be about 40 hours. So that meant that over the summer I was able to start off by scripting the game. That took about 20 hours to write. Then I would go into the software and create the game itself, which at the time of game completion totaled around 90 hours according to Steam (the website I bought the software through). But

some of that time, probably 10 hours or so, was likely spent away from the computer to grab food, play with the dog, or work on scripting while I left the software running, so it is realistically more like 80 hours actively making the game. This means the total approximate time to create the game from start to finish was around 140 hours. So now that I have explained my experience designing and making the game, I will share what the experience was like for the learners.

## **Game Implementation**

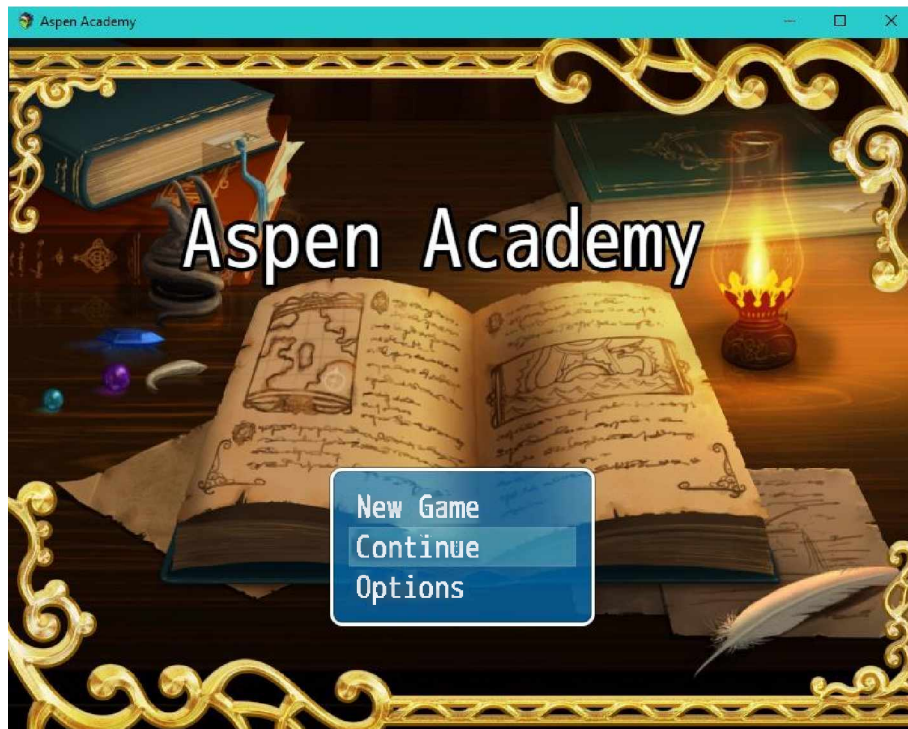
### ***Participants***

The five participants in this project were all non-native English speakers. One of them was currently living in the United States and the rest were from Japan. Two of the participants were male and three were female. Their ages ranged from 22 to 59 years old. Four of the participants had a first language of Japanese and one of Urdu. Two of the five participants used a Mac system and the rest used PC. Four out of five participants knew at least one other language other than English and their native language, if not more. The minimum time a participant had been studying English before this study was three years.

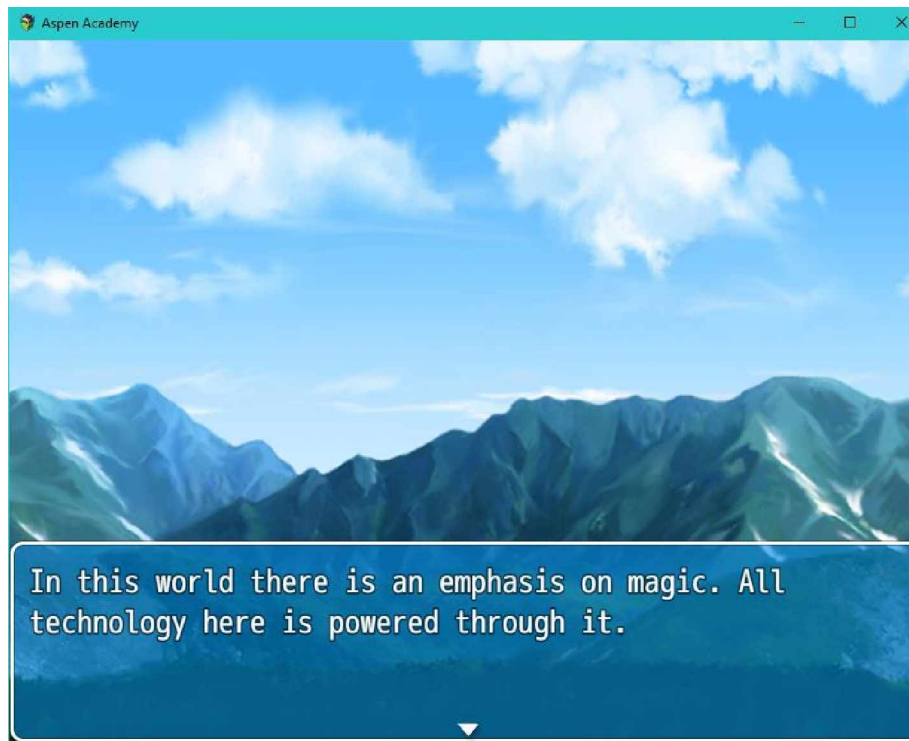
All participants had experiences playing video games of some kind before this project. The average amount of time participants spent playing games each week was 10 hours, though two of the participants have not been playing games recently. The average amount of time spent playing video games in English was 3 hours. Some of the participants had experience playing RPGs specifically while the rest played more casual games such as Pacman or Animal Crossing.

### ***Game Experience***

In this section I will walk you through chapter 1, the tutorial chapter. In the very beginning, after the players open the game, they will see the main menu as shown in Figure 7.

**Figure 7***Opening Game Menu*

The player could create a new game or load a previously saved game. There are also options where they could change the in-game settings for volume and controls. At the start of each chapter there was an introductory scene that sets the tone for the rest of the chapter. Figure 8 below shows the first line of the script.

**Figure 8***First Narrative Dialogue Screenshot*

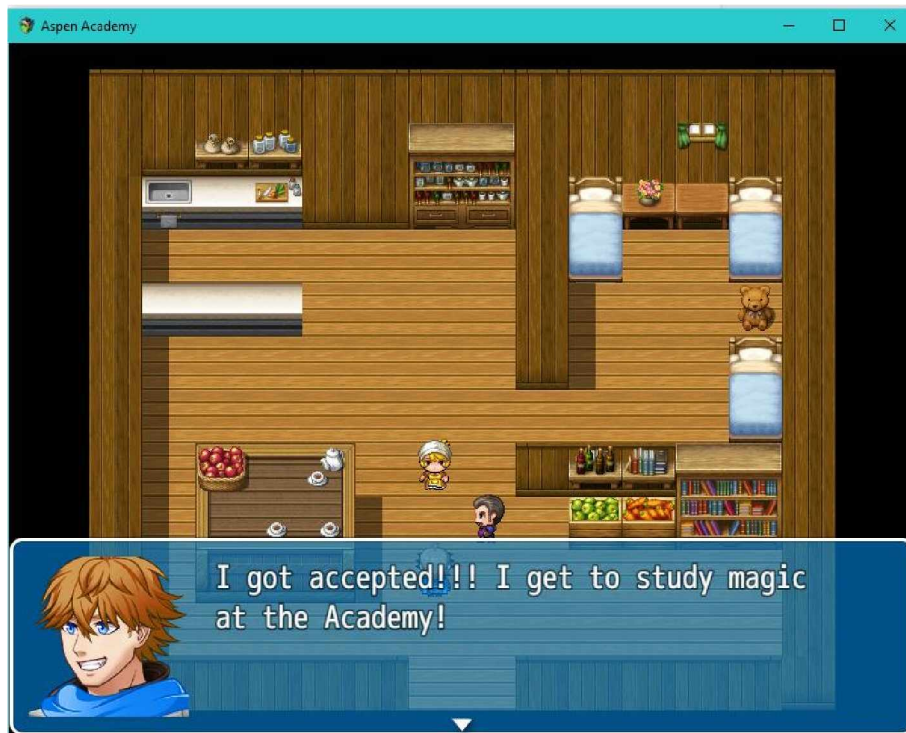
The player then read through the rest of the introduction of the story and was brought to a screen where they could then name their character (Figure 9). The default name was Blake, but they could type in any name that they prefer. Unfortunately, I did not have time to implement multiple options for the appearance of the protagonist, so all players played as the male version of the protagonist I created.

**Figure 9***Character Creation Screenshot*

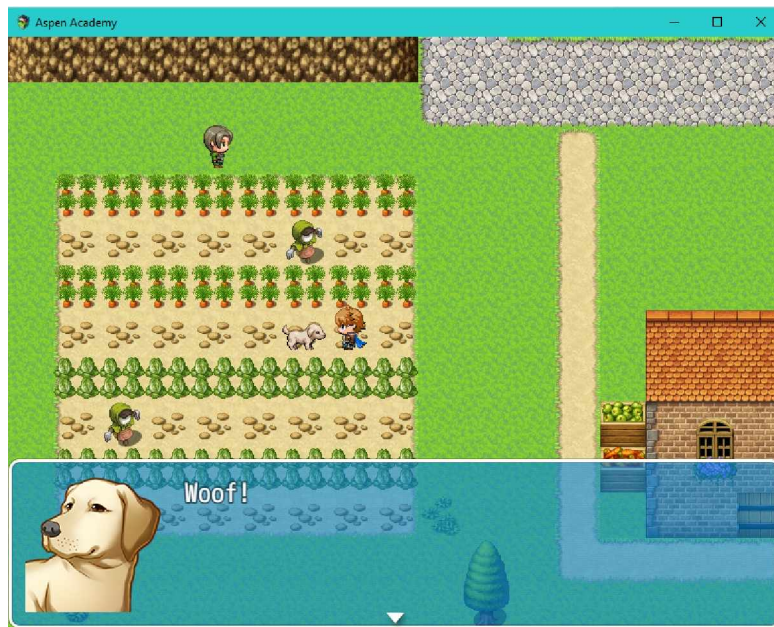
Once they completed naming their character, the player was put into the game itself. Here they saw an introductory cutscene (Figure 10) in which the main character, Blake, explains to his parents that he was accepted into the magic Academy.

**Figure 10**

*Opening Cutscene Screenshot*

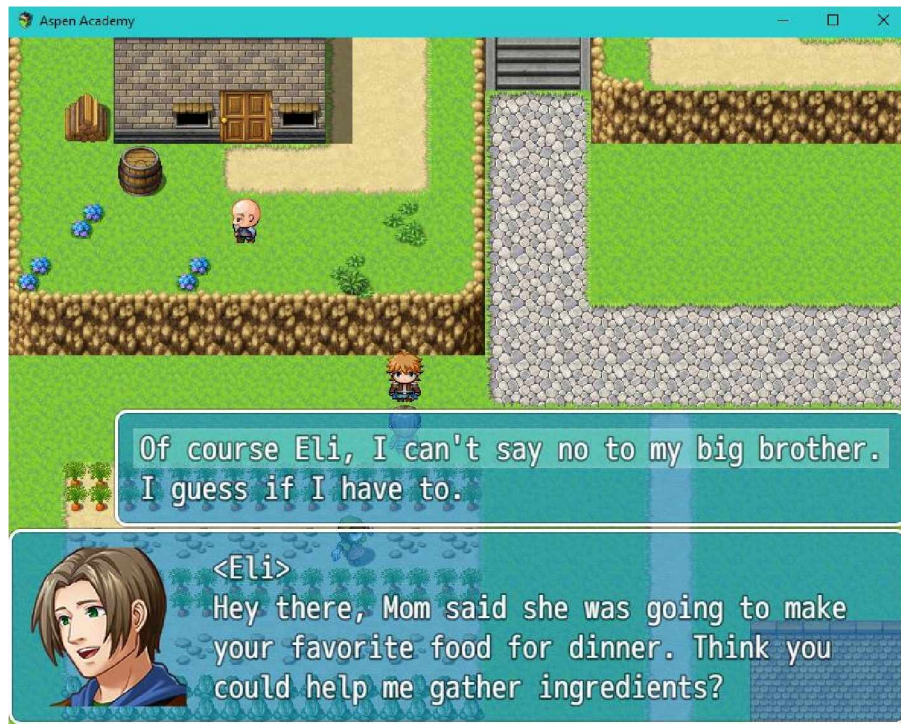


After the scene, the player was able to walk about the home and the rest of the town freely. This game was created to reward exploration. Every NPC in the game has dialogue that the player can read and sometimes random items in the game will provide dialogue when clicked on. Even the animals in the game had their associated sounds, as shown in Figure 11 below.

**Figure 11***Animal Dialogue Screenshot*

From there the player could interact with all of the other NPCs in town. There are the main characters parents, brother, sister, an innkeeper, and an elderly gentleman in the town who all utilized one or more of the target vocabulary words. This then brought us to the pre-task, or “tutorial phase”. In this chapter the pre-task was prompted when the player speaks to the older brother, Eli, shown in Figure 12 below.



**Figure 12***Chapter One Tutorial Phase*

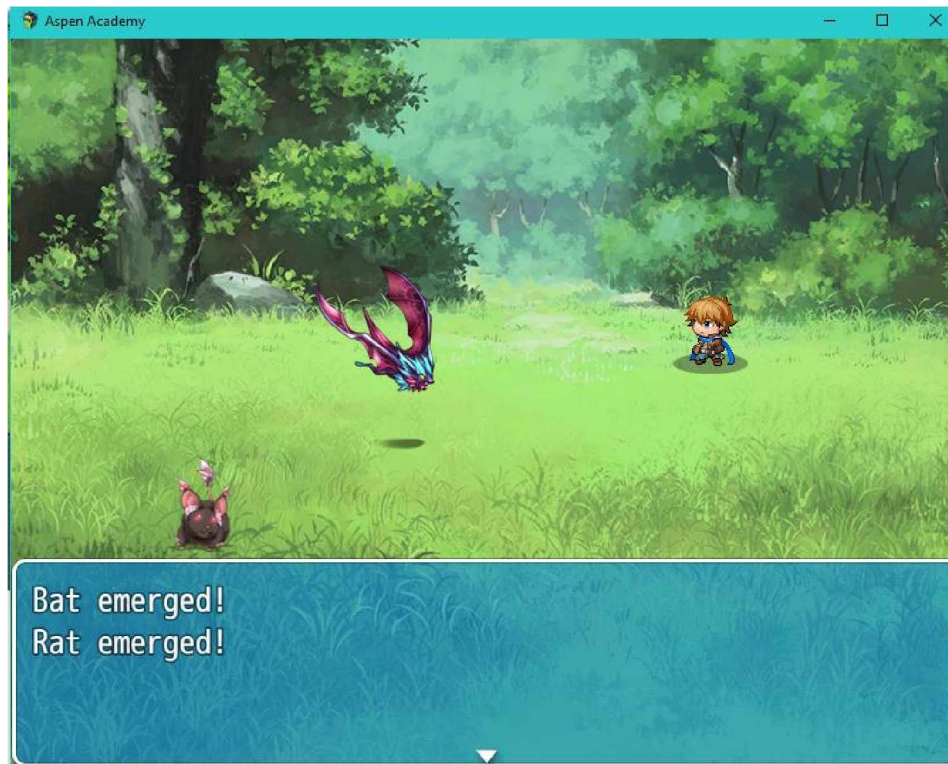
The brother asked the player if they could help gather ingredients for dinner. The player could then respond by being excited to help, "Of course Eli, I can't say no to my big brother", or with less enthusiasm, "I guess if I have to". Then Eli explained that he needs four vegetables: a cucumber, a radish, a cauliflower, and spinach. He also stated that they can be found in the forest to the east of the main town. This started the quest phase, or main task, and then the player could then have access to the forest east of town, Everpine forest (Figure 13), where the player came across an NPC they could talk to if they wish.

**Figure 13**

*Everpine Forest Screenshot*



If they talked to this NPC, he will explain how combat mechanics work in this game. In the story the forest has been becoming more dangerous recently as the creatures within it have become more agitated, which gives a smooth set up to introduce combat mechanics into the game. In Figure 14 you can see what the start of combat looks like.

**Figure 14***Everpine Forest Combat Screenshot*

During combat the player has the option first to fight or escape. If they chose to fight, they could either: attack with a weapon, use magic, guard, or use an item. After they finish combat it says that the player was victorious and gave them experience points and money (gold) as a reward.

The player had to explore Everpine forest in order to find the four vegetables needed for their quest. They were located in different areas of the forest and were shown on the map as a glowing symbol, as you can see in Figure 15 below. Unfortunately, I did not have the option to make the symbols actually look like the target vegetables, but in video games it is common for items you need to pick up on the ground be represented by a type of glowing symbol. However, if the player opened their inventory and look at their items, they could see images of plants (the

most similar to the target vegetables that I could find in the software), and there were written descriptions of the vegetables.

### Figure 15

#### *Item Collection Screenshot*



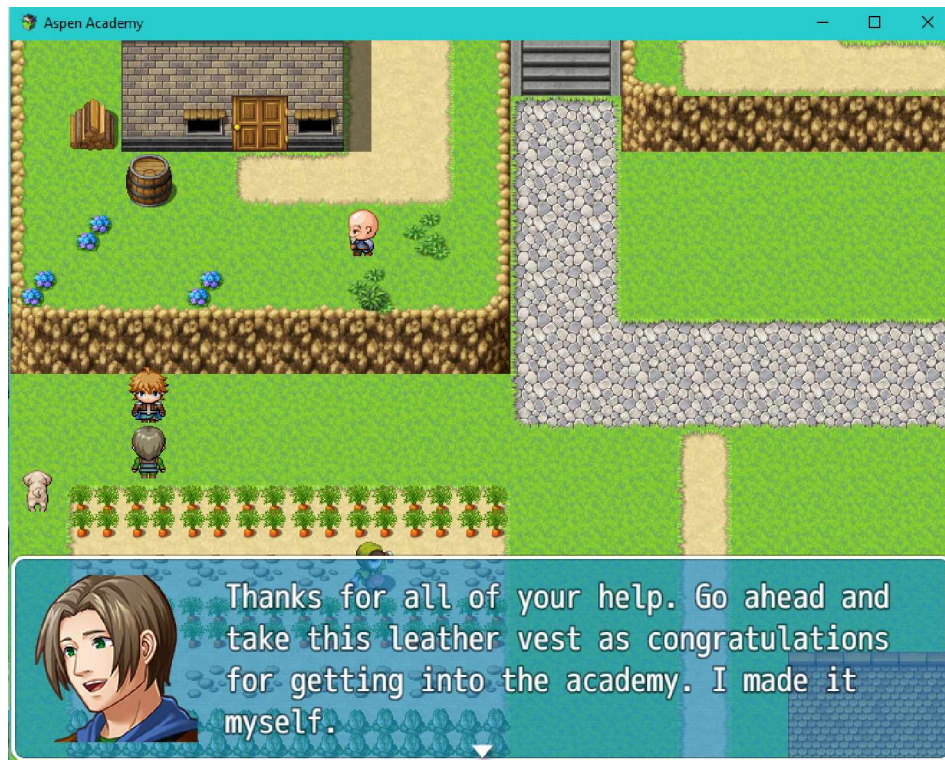
The player could technically gather one vegetable at a time and bring it to the brother in town, however the brother asked for the vegetables in a certain order due to the nature of how I created the quest in the game. I assumed that the player would collect all four at once, so the order in which the brother asks for them should not matter. The brother will ask if the player collected each vegetable separately, as you can see in Figure 16 below.

**Figure 16**

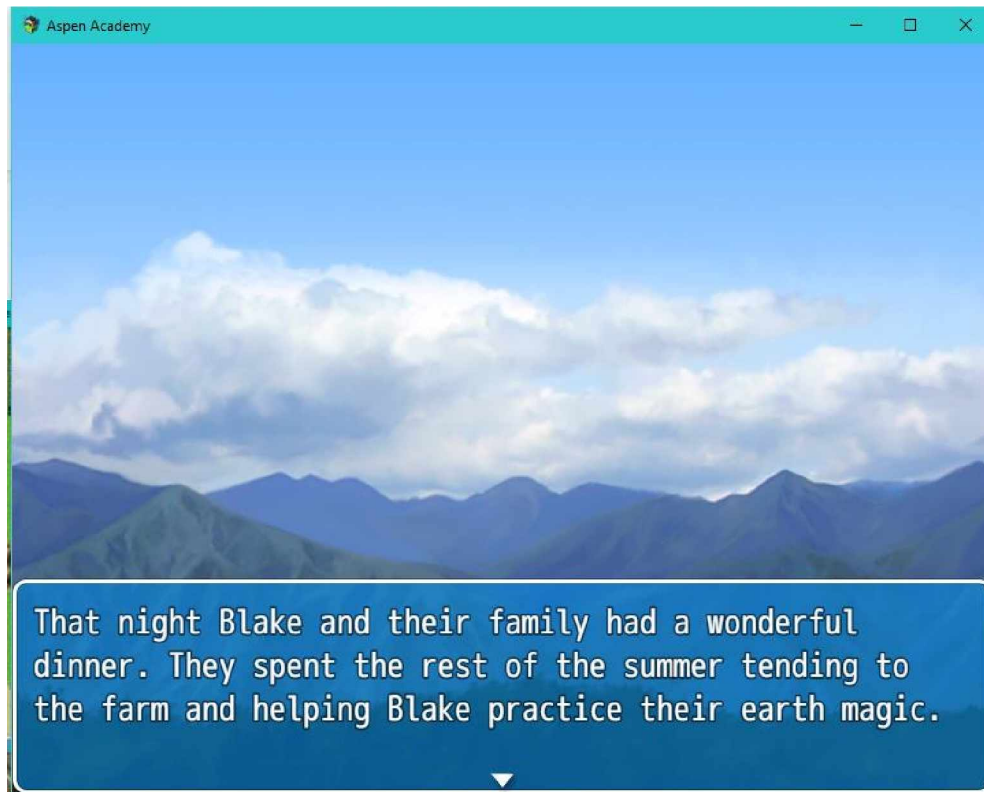
*Quest Turn in Dialogue Screenshot*



Once the player has given the brother all four of the vegetables it will trigger the quest completion phase, or the review phase, of the chapter. The brother then thanked the player for their help and give them a reward for finishing the quest, as shown in Figure 17.

**Figure 17***Quest Completion Dialogue Chapter 1 Screenshot*

After this dialogue sequence the chapter finished. It popped up a message to the player saying “Chapter 1 Complete”. From there the player was shown a transition scene with mountains, similar to the introductory dialogue scene, where it summarized what the player did next, as shown in Figure 18.

**Figure 18***Chapter 1 Ending Dialogue*

At this point the dialogue switched to show “Chapter 2 Begins” and it then explained the story setting for the next chapter. Each chapter from then on had a similar formula: introductory sequence, tutorial phase, main quest, and quest completion phase. At any point during the chapter the player was able to open the main menu, which looks like Figure 19.

**Figure 19***In Game Menu Screenshot*

*Note:* This shows in-game menu options and your players current health and mana status. Mana is the energy points needed to cast spells.

From this menu the player could look at what items they have collected, what skills they have obtained, equip different armor or weapons, check their status (for poison, knockout, etc.), look at in game options (volume and controls), save the game, or end the game and exit the game entirely.

The rest of the chapters follow in a similar manner. They have an introductory scene, followed by the pre-task/tutorial section of the chapter. From there the students could go on the quest/task phase, and when they completed the task, they saw the quest/task review phase of the chapter along with the chapter summary scene.



### ***Access and PC VS. Mac***

All of the participants had access to computers with internet access and enough space to download the game (it is approximately 196 MB). Overall, implementation for PC worked very smoothly. However, the Mac users encountered more issues trying to download the game. I believe that this was caused by an unfamiliarity with how to use google drive. Since the game files were so large, I was unable to email them directly even after zipping the files, so the default method of sharing the game was through sharing a google drive folder with all of the zipped files. To help combat the issues I created a document with instructions for how to download the game on both PC and Mac, it can be found in Appendix E. These downloading issues were eventually resolved and the participants were able to play the game. That was not the only issue however, as one of the participants utilizing a Mac was unable to save their game. After researching the issue, it sounds like this happens with RPG Maker MV when you do not make the game itself from a Mac computer. Sometimes you can fix this on the Mac that is trying to play the game by altering how the computer is dealing with the file permissions for the game files. Unfortunately, I was unable to test this due to not having access to the participants computer, and my laptop is a PC.

### ***Survey and Interview Results***

#### *Surveys*

For the surveys, a google form was created and sent to the participants after they completed the game. The questions were focused on their previous English learning experience, as well as their experiences with the game. Some sample questions include: have you ever played a Role-Playing Game (RPG) before, how often did you have to stop and look up vocabulary

words, and while playing this game how focused were you on the English Vocabulary? A copy of the survey can be found in Appendix F.

On average it took participants 2 hours and 26 minutes to complete the entire game. This works out to an average of approximately 18 minutes per chapter. This data is reassuring in that I created the game originally to take no more than 30 minutes per chapter so that I could implement the game chapters as homework assignments each week.

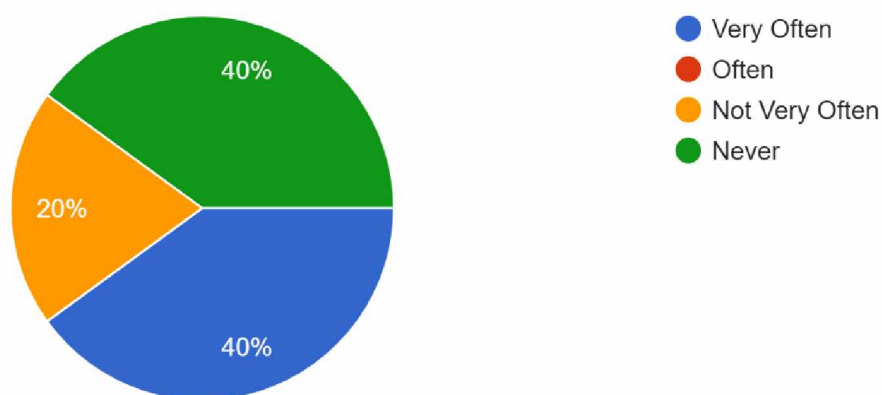
Overall, the participants were all “focused” to “very focused” on the English vocabulary within the game. As shown in the Figure 20 below, two of the five participants had to stop and look up vocabulary words very often. The rest did not, but one of the learners who answered “never” mentioned in their interview that there were still words they did not know in the dialogue, but they were able to figure out their meaning through the context.

**Figure 20**

*Frequency of Vocabulary Look-up*

How often did you have to stop and look up vocabulary words?

5 responses



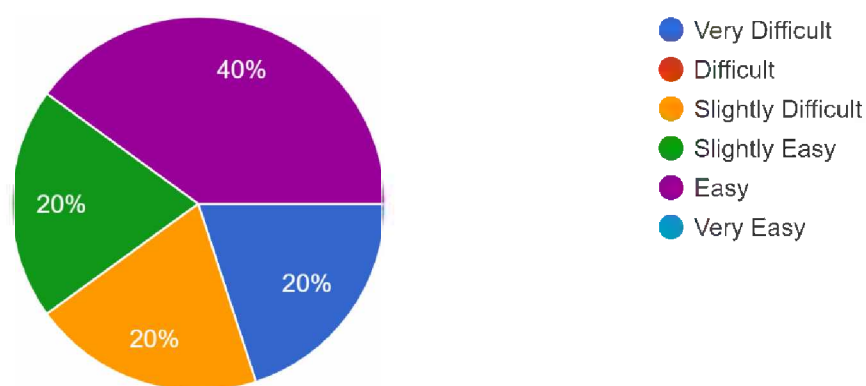
Since 60% of participants did have to stop and look up vocabulary words this means that they were adding another level of learning to their vocabulary acquisition. In Nation’s (2015) work he

states that “during extensive reading, vocabulary gains occur through guessing from context and through dictionary look-up” (p. 138), which means that at least 4 out of 5 participants were focusing on vocabulary through gameplay. This coincides with the results that show that the difficulty level of the dialogue in the game ranged from easy to very difficult, as shown in Figure 21.

**Figure 21**

*Difficulty of In Game Dialogue*

How difficult or easy was the dialogue/language to understand within the game?  
5 responses

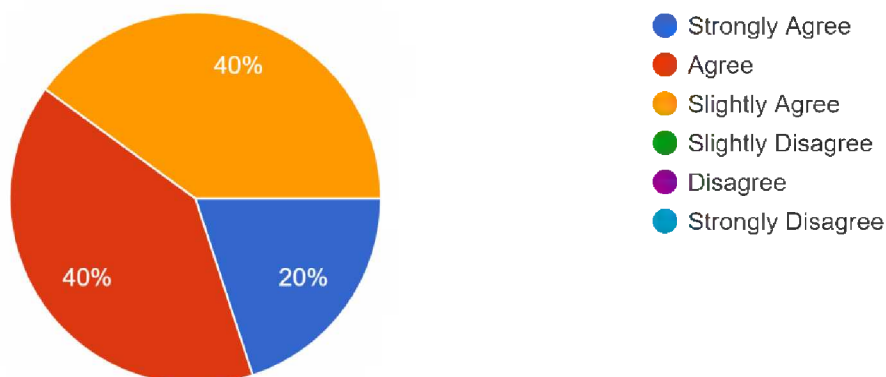


While they were playing all participants agreed that the game’s plot and environment aided in making the English language more immersive. Though this varied from slightly agree to strongly agree (Figure 22).

**Figure 22***Game's Plot/Environment Effects*

Did the game's plot and environment make your language learning more immersive?

5 responses

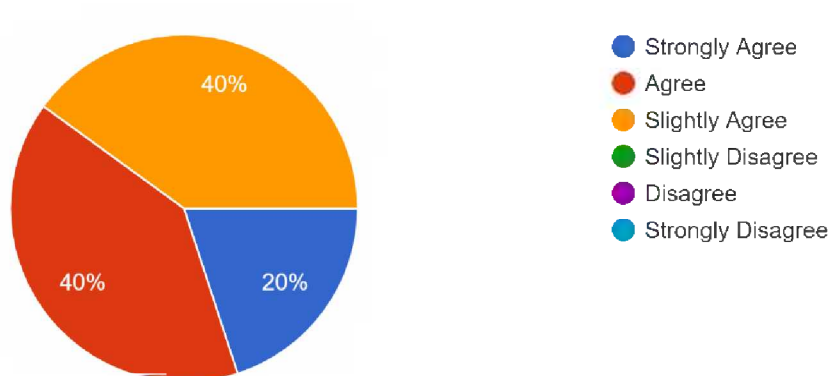


Along with the plot and environment, the participants agreed that the games' overall structure of being broken down into chapters helped with their gameplay and language learning. Though one participant suggested that one chapter felt like it had too much to do, so it may have been better to change that chapter into two separate ones. Overall, all participants agreed that playing the game helped improve their English vocabulary (Figure 23).

**Figure 23***Participant's Vocabulary Improvement*

Did playing this game help you improve your English Vocabulary?

5 responses



From the rest of the survey results it is unanimous that the participants all enjoyed the game and would recommend the game to other language learners.

When asked what the participants liked best about the game their responses varied. One participant mentioned “when I made the wrong choice, they told me the light [sic] one. And I like some missions. Especially, speaking with professors and to find some matters.”. This participant appreciated the fact that after choosing a dialogue option they were given the correct (right) answer in the feedback from the NPCs. For missions, the participant is talking about the quests, in this case they liked the quest where they went around the school and were introduced to all of the different professors. A second participant also mentioned that one of their favorite things was that there were two choices in conversations and that they had to choose the right one. Another participant mentioned “keep you focused and interested in the game!” as their favorite part about the game. There are no additional details, it does show that it helped that particular participant with having a higher motivation. Two of the learners mentioned that their favorite

part was the story. This feedback means that those learners were likely focused more on the game and therefore their primary focus was on meaning.

However, the participants did not like everything about the game. When asked about what they did not like, there were a few different responses. The first major points were that there should be a tutorial (either in a text file or in the game itself), and one of the Mac users was unable to save their game (and therefore could not complete the game). These are both things that if given more time I would have loved to implement and fix. In terms of non-gameplay related responses, one participant wrote that “I wanted to know what kind of pronunciation about character’s words”. This is due to the fact that the game does not have voice acting, where someone records the dialogue within the game. Another participant also mentioned that sometimes the games controls were confusing or not fully explained. I believe that was due to this participant playing the game on a Mac, where the controls are not always as intuitive. The last participant, however, said “no, nothing” in response to the question. Their answers were similar when asked about if there were any aspects of the game that they think could be improved or changed in some way. One participant wanted the character’s words to have sounds, and the other wanted instructions to pop up when there is an error. The first request is doable, but the second is not to my knowledge.

### *Interviews*

The interview was a semi-structured one with guiding questions. They were conducted over zoom using audio only. They were recorded using a laptop microphone and later transcribed. The three interviews averaged 15 minutes. The questions were targeted towards the learner’s experiences with the game. Sample questions include: what did you like best about the game, what did you not like about the game, how can we improve it? A copy of the full

interview debriefing protocol can be found in Appendix G. For this interview data I will use pseudonyms for all participants

The interview results have similar results to what was found in the surveys. All three interviews confirmed that the participants enjoyed playing the game and found it helpful to their English vocabulary. Participant Rachel, who does not consider herself a gamer mentioned “I’m not good at gaming. So, I think to find the answer is challenging but the story is very fun” which indicates that even though she found gameplay itself challenging at points she still enjoyed herself. Then another participant, Andre, who commonly plays RPG games like Dragon Quest, said that “for me the game was very nice and it was very fun and interesting”. This is a good sign in that it means that they were focused on meaning during gameplay rather than on specifically English vocabulary, making it more of a task.

Overall, the game did cause some issues for the learners but these were all due to gameplay elements and not the language within the game. One common issue was controls for the game, especially for learners who do not play games regularly. One participant mentioned that it was hard to figure out how to engage with objects and NPCs so he suggested that there should be a tutorial at the beginning of the game. This corresponds with what another learner experienced. He had been having issues with the controls on his Mac but after emailing him a control scheme he did not have any more issues. I did have a type of tutorial in the game, but it required participants to talk to some of the villagers to learn that information, which would not work if the learner does not know how to interact with things first. In future iterations of the game that would be rectified. There were also some comments about the appearance of items within the game, such as the samples they needed to collect of the four elements. One learner said that “the color of the yellow orb in the snowfield was very hard to see actually”. Issues like

that are fortunately very easy to fix, unlike some other bigger issues such as one participant faced.

The main problem participant Z pointed out was that he was unable to finish a quest. This was due to a game breaking bug within the game. He ended up restarting and playing the game up until that point multiple times, which speaks to his motivation to play the game. This bug was later fixed and a new copy of the game was sent to him. Z also noticed something within the game that was not mentioned by any of the others. In the game I added descriptions to different random items in the world so that they could click on them and get a description of the item. For instance, one of the benches in the lab at the school had a book on it. When the player clicked on that book it popped up a message saying “This looks like a professor’s research”. Then in the other lab there is a basket of apples that have the description “huh, these apples look a little odd” when clicked on. Both of these items are meant to help make the world feel more descriptive and are a common element in many RPG games. Most players, however, do not take much notice other than the excitement of being able to click on something and learn more about the environment. This participant though, thought that they were a part of a quest and did not know what they were supposed to do with the apples or the book. In this case they are meant simply as a kind of decoration in the game to help make it look like the professors are actively researching what is going on with the dark magic that the player is trying to help solve throughout the game.

In terms of the educational facets of the game, the participants had a range of experiences. For the participants that were interviewed, they all found the dialogue and language within the game to be easily understandable. However, two of those participants had been learning English for many years and had both studied abroad and taken ESL courses (including the one that this game would have been featured in). The last participant has lived in the United



States for more than 10 years and would also be considered to have an advanced English proficiency. Learner Rachel when asked about the language within the game said “I think it’s not hard but for the like beginners it might be hard to play” and even though she did not find it to be challenging she did say that “it is good practice for me”. Another participant, Andre, answered this question saying “sometimes a word was difficult to understand, I could guess the meaning or even I can skip the word to understand the whole conversation but there were several words that the encounter was a little bit difficult.”, he also admitted he did not use a dictionary but could see other learners possibly needing to. This correlates with what was seen in the survey results, some participants did use dictionaries and some did not. The participants that did have to use dictionaries would be considered closer to the proficiency level of the ESL classes if not slightly below. These data confirm that the dialogue and language difficulty of the game was written at the appropriate level for my target learners.

While the game may have been a bit too easy for Andre’s proficiency level, he did note that “We can learn the grammar things throughout the conversation”. Primarily he noticed that there were occasionally opportunities to choose a response when speaking to NPCs, and in those cases, he said that “I was not sure which one is correct. I probably used the both one in the different times, I did not really know which one is correct. So, in that part I learned some part of grammar things”. This means that even a higher proficiency learner was able to learn and practice grammar knowledge, and that the feedback from the NPCs helped him in his language learning.

Another interesting find was that Z and Andre both noticed that they were learning pragmatics while playing the game. In the second chapter there are multiple opportunities to respond to the professor’s introductions and some of them are less formal than others. In one

instance there is an elderly woman professor who the player meets, but there is an option to ask her how old she is. When Z chose to do that dialogue option he found "that's like kinda really understandable! Like oh okay. So, I learned it's not, it's not nice to ask, especially for a lady professor not nice to ask their age.". Then Andre in the same chapter noticed "we do not say what's up guy to your professor or teacher". This response shows that the players will notice smaller things like pragmatics even when they are not the primary focus on the game. While Z was unable to actually finish playing the game due to having a bugged copy of it, his overall thoughts were that "it would definitely improve their communication skills and how to paraphrase or how to reply to certain questions. So, you know it really helped in that manner". These were not the only things that the learners noticed.

Andre noticed three things that were related to how the game may be used in a classroom setting. The first is that he had suggestions for how it might be used in the classroom, since he felt that the vocabulary might be "kind of difficult to remember through game playing" alone. He thought that it could be useful to "in the classroom, if we use this game as a language teaching.... have the discussion after playing each chapter, what happened, what was interesting part for you something like that". These types of activities were exactly what I was hoping to do with my students over the course of this last year, but was unable to do so due to the pandemic. In my final reflections section, I talk about my original intentions for the game and they are very similar to what Andre suggested. The second thing that Andre noticed was that without having the extra classroom activities with the game, "I'm just curious how the other people, how many things they are remember about this game after long period" referring to the vocabulary they learned. This point is something that would have to be tested further in another project, where I would have some kind of post-test to determine if participants had long term retention of the

target vocabulary. The third thing that Andre noticed was that because of the nature of the gameplay, learners may not always learn as much as is hoped. It is possible for someone who is playing the game to not fully pay attention, as Andre put it “learning grammar and vocabulary could be very difficult playing games cause some people don’t pay attention to that kinda things”. This is both useful and also not useful. It is useful in the idea of using TBLT and having the game be a task, where they are focused on meaning instead of the target vocabulary. It might not be useful in the fact that a learner may not even subconsciously notice the new vocabulary and is too focused on the gameplay mechanics instead. Another possibility is that learners could technically get through the chapters by just “pressing yes yes yes could be games going on and on” as Andre mentioned. They could bypass the games language and manage to get through all the dialogue without actually reading it. I do not believe it is feasible to get through the game by doing this the entire time, as the dialogue is necessary to figure out where you need to go and what items you need to move onto the next chapter. This problem I find to be similar to assigning reading assignments or other homework assignments, it is always possible for a student to look up a quick summary of a book rather than doing the assigned reading. In that regard, I’m not entirely sure if it is something that can be fully accounted for.

### ***Implementation Reflections***

I believe the implementation went as smoothly as it could have for doing all of the project via distance. The main issues I ran into were primarily to do with accessing the game itself. Since the file size of the game was too large for email even when zipped, I opted to share it as a google drive folder. The player would then download the folder and unzip it. From there they can click on the game.exe file to play the game. I created instructions for the participants so they would know exactly how to do this, but some participants and playtesters still had issues. Part of

the problems they had were due to them playing the game on a Mac. If I were to do it over again, I would have included a video showing how to download the game on both a PC and a Mac, that way participants would have more than just written instructions. I would have needed to find someone with a Mac I could borrow or ask them to record the video themselves for that version. There are other ways to share the game with players, such as physical flash drives or by putting the game onto a website like Steam that sells video games and have my game be free to play. But in either case the participants would still have to download the game in some form. This is a common thing however, as I personally do not know of any video games for PC that you do not have to download first unless they are based in your browser. The RPG Maker MV software does technically have the ability to deploy the game so that it can be browser based but I had read forums that mention that it is much harder and more error prone than regular PC and Mac deployment.

For issues with playing the game itself there were two issues: saving and controls. In one case, a participant was not able to save their game at all. This is due to how Macs deal with file permissions and without the ability to physically use the laptop myself and mess with the settings I was unable to fix this bug. Then three participants and a playtester did have issues with the controls. Two used a Mac and two used a PC, so it was not tied to the operating system. The participant had issues overall with the game controls in general, and the playtester had issues with trying to change their character name in game. To combat this in the future I would create documents for both Mac and PC that show the respective control schemes for keyboard/mouse and send those to the participants along with the download instructions. I would also like to look into the option of creating a menu within the game that could show the control scheme as well so the participants would not have to open a separate document.

On the topic of in game menus, I also think I would have liked to create a menu in the game that acted like a quest tracker. That way if the player had to pause the game for any reason or became distracted with other parts of the game, they would be able to know what they needed to do next without having to talk to the specific NPC that gave them their quest.

If I were to implement this game for other language learners in the future, I think I would create a walk-through video that would at least showcase the first chapter of the game and show the controls. Some of the participants were not what I would call a “gamer” where they have experience with multiple different types of video games or like to play video games for a hobby. For these non-gamer players, they did not have a natural intuition as to what the controls and menus should be and where to find the information they needed. So, by creating the video it would be another added layer of explanation for “this key on your keyboard does X” or “if you want to do Y, press this key”. One participant asked if it would be possible to make the game playable through just using the computer mouse, which I found interesting because during my own playtesting of the game I was able to play the whole game using just the mouse already. In the future I would like to test the control schemes on laptops that are not made in America as I suspect that default control schemes may change depending on that factor. Another change I would like to make to the game as well is adding in voice acting for all of the dialogue within the game. This was originally one of my hopes for the game but it quickly became out of scope for the time I had to create the game. A lot of language learners I have worked with from Japan have all mentioned that they do not get enough listening practice when it comes to the English language. So, someday I would love to add that aspect to my game to help them get experience listening to native speakers of English.

While it did seem like there were a lot of issues, in the grand scheme of things these were common bug/playtesting issues that could have been hammered out early on with having more people playtest the game before implementation. But even though there were issues the participants seemed to all agree that the game helped them with their English Vocabulary. In a surprising turn many of the participants realized that there were pragmatic and grammatical feedback and really enjoyed it. If I were to work on my game again, I would add more opportunities for these types of feedback. It was also surprising to see just how much motivation the participants had towards wanting to play the game and increase their English vocabulary. The first participant who got a buggy copy of the game at first and was unable to beat the game continued to play it anyway:

it was fun. I mean honestly it was fun and that's why I kept on playing again and again and again. I still play that game, still trying to beat the level two. But then I get stuck on when I can't get past that, cause I can't find the professor 8 (laughing).

Another participant after finishing the game and survey asked if they could keep their copy of the game and continue to play it until they no longer needed a dictionary to play, to which I told them they could keep their copy of the game and continue playing as much as they liked.

### **Final Reflections**

In this section I reflect on my main takeaways on the design process and how this design process helps me understand the topics I touched on in my literature review. While my original intentions were much different, I would still like to share what I have learned by having learners play the game.

## *Intentions*

When I started this project, I hoped to implement it as a teaching tool in my ESL Academic Writing course. I purposefully made the game into eight chapters so that it be used as homework over eight weeks, and the students would have corresponding writing assignments that would go along with each chapter. Table 5 shows the potential writing assignments that would have been used if I had had students.

**Table 5**

### *Game Chapters and Corresponding Writing Assignment Ideas*

<b>Chapter</b>	<b>Corresponding Homework Options</b>
1	<p>This chapter takes place in the main character's home town and introduces the main character who has earth magic.</p> <ol style="list-style-type: none"> <li>1. Writing prompt: If you could have magic in real life, what kind of magic power would you want to have and why?</li> <li>2. Writing Prompt: write a paragraph that describes what your home town is like.</li> </ol>
2	<p>This chapter involves meeting all the professors at the school and learning about all the types of magic in this game.</p> <ol style="list-style-type: none"> <li>1. Writing Opinion gap activity: First have the students write about which school of magic within the game they find most interesting and that they would want to study more. Then pair up the students and have them compare/contrast which schools of magic they found interesting.</li> </ol>
3	<p>This is the chapter where the player joins an environmental club</p> <ol style="list-style-type: none"> <li>1. Group Poster/Advertising Activity: Split the students up into small groups and have them make a poster or create ads in general for the environmental club.</li> </ol>
4	<p>In this chapter the player gathers all the materials for testing.</p>

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	<ol style="list-style-type: none"><li>1. Writing Prompt: Write a fake diary entry from the main characters point of view and explain all the adventures they had to complete in order to gather all the samples for the professors.</li><li>2. Writing Prompt: lab report/general report style writing activity.</li></ol>
5	<p>In this chapter the player finds out who is behind the wildlife getting sick.</p> <ol style="list-style-type: none"><li>1. Writing Prompt: Practice writing a letter to a local government/representative to ask them to look into an issue.</li><li>2. Writing Prompt: Writing a business letter or email.</li></ol>
6	<p>In this chapter the player goes and fights the final boss.</p> <ol style="list-style-type: none"><li>1. Narrative writing, storytelling writing practice by writing from the main character Blake's perspective on what happened. They could tell the story of fighting the final boss and the journey it took to get there.</li></ol>
7	<p>In this chapter the player is able to distribute an antidote to the people affected by the dark magic.</p> <ol style="list-style-type: none"><li>1. Summarizing practice: writing a paragraph summarizing all that the player has done in the game so far.</li></ol>
8	<p>In this chapter the player is recognized for their efforts and they eventually become a researcher at the school.</p> <ol style="list-style-type: none"><li>1. Writing Prompt: write about what you hope your eventual dream job would be in the future (mirroring that the in-game character was able to pursue their passions as well).</li><li>2. Writing a cover letter for a job: imagine that you found an advertisement for your dream job, how would you apply for it?</li></ol>

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Originally the game inspired writing assignments were going to help supplement the topics covered in the syllabus over the semester, while also helping teach the students vocabulary from the TOEFL and IELTS tests that many are trying to prepare for. I also planned on using a small portion of a class period to help all the students download the game, make sure the game worked, and make sure that there were no bugs or errors in the game that might cause issues



(such as the issue participant Z had where he could not get past chapter two). However, I was having to help participants remotely and I could not help solve bugs or issues with downloading the game as easily. Thankfully issues regarding the chapter two bug, and issues downloading the game were solved, but it did take longer than it would have if the game were implemented in person. Even though the game was implemented via distance, my results show that the participants still thoroughly enjoyed the game and also found that it did in fact help with their English vocabulary learning.

Alongside the game I also planned on implementing a vocabulary journal that the students would use to keep track of new words that they learned. This journal would have the students write down any new words they find in the game, their definitions, an example of its use, and also if they wanted to include an equivalent word in their own native language. But with the distance implementation in the middle of a pandemic, I decided to omit the vocabulary journal for my participants.

### ***Vocabulary Acquisition***

I learned that using a digital role-playing game in a TBLT format could be a feasible way to teach students vocabulary based on students' experiences. My observations from the learners' experiences agree with Nation (2013): "As learners read they will meet words that they only partly know or that they have not met before. Each meeting provides a small opportunity to learn about the form, meaning and use of the word" (p. 2). Even one of my more advanced proficiency participants found that there were words they did not know in the dialogue of the game, but they were able to guess the definition based on context clues. Many of the other participants, though, had to stop and look up words in a dictionary while playing the game, which provides another level to their vocabulary learning. All of my participants agreed that playing the game helped

them improve their English vocabulary. This means that had I used this game in my writing class as I had intended, it is highly likely that it would have helped my students learn English vocabulary words.

It is possible that they may also learn words that were outside of the target vocabulary as well (since some participants even learned pragmatics from the game), but I am unable to test this at this time. A potential future research study would be to do a pre and post-test of the student's vocabulary, along with a free writing assignment to see more quantitative results of their English Vocabulary acquisition.

### ***TBLT***

This project showed that it is possible to format a digital role-playing game with a TBLT focus in mind. I found that the quest system translated well to the task cycle of TBLT. The participants all agreed that having the game broken down into chapters helped them with their language learning. This break down of chapters is what allowed me to create a main task/quest for each chapter and keep the participants focused on specific vocabulary during each chapter. So, each quest was essentially a task that focused on those specific vocabulary words. However, it could also be argued that the entire RPG itself could act as a single task. If someone were to play a normal COTS game in their target language that in itself could be a task, since it has a real-world application.

What this project also showed me is just how high of a time commitment TBLT can be. This is a common drawback for this teaching approach, "TBLT is still a relatively recent innovation—one whose adoption requires expertise on the part of course designers and classroom teachers, and a considerable investment of time and effort if it is to be successful." (Long, 2016, p. 28). This is true even in teaching contexts that are amenable to TBLT "there

remains the perception amongst preservice teachers that TBLT involves time-consuming preparations” (Douglas & Kim, 2014, p. 6). Also, in those contexts, Douglas & Kim explain that instructors will also need to be skilled in designing assessments since TBLT can be difficult to organize (2014, p. 15). It takes a lot longer to prepare materials, especially when you consider just how long the students will be interacting with them. In my case, the game took around 140 hours to create, but the longest it took a participant to beat the game was about 3 hours and 20 minutes. However, one participant did want to go back and continue replaying the game until they no longer needed a dictionary. So that could easily add up to many more hours, but in the grand scheme of things it still means that I had to do a lot of work for only a small portion of time on behalf of the students. However, if I had utilized the game as homework over 8 weeks, that does mean that the game would have lasted about half of a semester. The other half of the time commitment is that I still consider my game to be partially unfinished. If it were created to my ideals the game would also have voice acting so that participants could listen to all of the target vocabulary and know how to pronounce them. I ended up running out of time to implement that, but it could easily add a couple dozen hours of work just for recording alone, due to how many different voices would be needed.

### ***DGBLL***

One of the biggest things that helped me in my game design process was attending the CALICO Online workshop “Explore Games, Make Games and Game-Based Frameworks for Foreign Language Learning”. In this workshop the facilitators discussed design frameworks and then split us up into groups where we created our own mini text-based games with Twine. By participating in this workshop, I was able to get more experience with designing a game from scratch as well as learn tips and tricks for the design process. The biggest takeaway for me was

creating a map or flow chart of how you want the game to progress. That made it easier for me to visually see how the game would be broken into chapters and more easily plan which target vocabulary would work where. I highly recommend any teacher who wants to make a digital game for their students to try making a game in a software like Twine first, or at least try creating a short physical game. The other thing I learned was to keep notes of everything throughout the whole process as it makes it easier to go back and fix any bugs that might pop up during game creation.

Throughout the process of game designing, I found that there are many different ways that games can be used as teaching tools. My primary focus with this project was on vocabulary teaching, but I included some instances of feedback, similar to what was found in Cornillie et al.'s (2012b) paper, where NPCs respond to the player's choices and either correct them or react in different ways. The participants liked all of it, whether or not it was linguistic or pragmatic. This opens up another level of language teaching that could be input into a digital game. If I were to use this game again, I would go back and add more interactions with the NPCs that would allow the players to get more of the linguistic and pragmatic feedback.

On another hand, participants agreed that the games plot and story aided in their vocabulary learning. So, by creating a game where the target vocabulary feels natural the players were able to focus better on their language learning. I think it would be easy to adapt the game to different environments to teach different types of vocabulary for science, technology, engineering, mathematics (STEM), business, writing, or any other language topic a learner might want to focus on.

### *Language Teaching*

Unfortunately, due to COVID-19, I was unable to have any students this year. However, from my experience with my participants I think that this game would have gone over really well in my Academic Writing Course. The participants all had a wide variety of proficiencies but all seemed to enjoy the game, which is reassuring given that the students in the ESL classes here also tend to have a variety of proficiency levels. I think if another teacher would want to implement a digital RPG with their students should first try a simpler version of an RPG with their students first. My particular students enjoyed the D&D game I implemented with them, which meant that it is likely they would have enjoyed the digital RPG too. Some learners who are not technologically inclined may not like playing an RPG. It is also possible that the students might not consider playing a game as a legitimate method of learning a language, so prefacing it with research showing that it can help them with their language learning can help them become more open to the idea. Nonetheless, I believe that it is better not to just use the game as a standalone teaching material. By having more activities, writing prompts, and other language practice activities that can go along with the game, the students will be able to further their language learning and teachers will get more use out of the game.

Since the game takes such a large amount of time to make, I feel that it is important to get the most use out of the game as is possible. I believe I was able to create this game on my own over the summer partially due to the fact that I really enjoy creating stories and playing games. My experience with those things allowed me to create the game with less effort, and is the reason I was able to create such a game in only 140 hours. I am also the type of person who really enjoys exploring and learning new things. I had to learn how to use the software, how to design the game with a TBLT focus, how to write scripts for the dialogue using specific vocabulary

words, how to add background music in the game, and the list goes on. I was lucky in the fact that I found a YouTube playlist of tutorials for my specific software, which sped up my game creation immensely. But for many teachers that amount of time commitment is too high for a single teaching material, so in this case I would recommend creating a team with other teachers who could also use the game in their classes. That way you would be able to split up the work between scripting, design, story creation, making the game in the software, choosing target vocabulary or other target language areas, etc. It also helps to work with people who are familiar with video games and have them play-test the game to make sure that 1- there are not any game breaking bugs, and 2- the game flows in a way that makes sense for any kind of student who might play. All that said, I found the entire process incredibly fun and rewarding, especially given that the participants all seemed to enjoy the game and found it helpful in their language learning. But creating a game like this is not an easy task and is not for someone who is not willing to dive in and learn something new.

### ***Other Takeaways***

If I were to create this game again from scratch there are a couple things I would do differently. Firstly, I would have tried to find more people to playtest the game to make sure that there were not any game breaking bugs like what participant Z had to deal with. Secondly, I would love to add a lot more content to the game. This would come in the form of more mini quests, more dialogue, more opportunities for feedback, expanding the world lore, creating more writing activities to go alongside the game, and voice acting. I would love to make a fully fleshed out game that could aid my students in more areas than just vocabulary and writing, as many want practice in different areas like listening or reading as well.

I think the entire process went as well as it could have given the circumstances. The majority of the participants were able to play the game just fine and they ended up really enjoying the whole game. The fact that they thought that the game helped them with their vocabulary learning was a huge success. I believe that the combination of TBLT, the game's story and environment, and the target vocabulary melded well to create a successful well-rounded game. The participants were very focused on learning vocabulary throughout the game, which was what I had hoped for. They also noticed the linguistic feedback I had NPCs give, which was something I also hoped that they would take notice of and learn from. This was what I hoped would happen, as I based my dialogue and feedback on Rankin, Gold, and Gooch's (2006) paper that spoke about how it is important for NPCs to model appropriate use of vocabulary words.

The main issues I ran into were with the different computer operating systems, primarily Mac. In the future I would find a way to borrow a Mac or have a friend with a Mac playtest the game for me so that I could prevent issues like the inability for the game to save. There was only one other thing that a participant noticed that I did not expect and that was the descriptions of items in the world. As mentioned previously they are there to help make the game world feel more interactive and give them more opportunities to learn more. If I were in a classroom setting with my students, I would just explain that they are there for extra interactions in the game and are not a core part of the game. However, I feel that this is an uncommon issue for students that are familiar with video games/RPGs.

Lastly, I would like to emphasize that this is not a task to be taken lightheartedly. It takes a lot of dedication to create a video game, let alone create an entire game in the course of a few months. Typically, game development lasts years in order to fully flesh out a game and rule out

any potential bugs. That said, I feel that it is an incredibly promising and rewarding teaching material if implemented intentionally.



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## APPENDIX A - IRB Approval Letter



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### Institutional Review Board

909 N Koyukuk Dr. Suite 212, P.O. Box 757270, Fairbanks, Alaska 99775-7270

October 16, 2020

To: Wendy Martelle  
 Principal Investigator

From: University of Alaska Fairbanks IRB

Re: [1658125-1] Examining Vocabulary Acquisition through the Use of a Digital Role-Playing Game (RPG)

Thank you for submitting the New Project referenced below. The submission was handled by Exempt Review. The Office of Research Integrity has determined that the proposed research qualifies for exemption from the requirements of 45 CFR 46. This exemption does not waive the researchers' responsibility to adhere to basic ethical principles for the responsible conduct of research and discipline specific professional standards.

Title:	Examining Vocabulary Acquisition through the Use of a Digital Role-Playing Game (RPG)
Received:	September 14, 2020
Exemption Category:	2
Effective Date:	October 16, 2020

This action is included on the November 11, 2020 IRB Agenda.

*Prior to making substantive changes to the scope of research, research tools, or personnel involved on the project, please contact the Office of Research Integrity to determine whether or not additional review is required. Additional review is not required for small editorial changes to improve the clarity or readability of the research tools or other documents.*

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## Appendix B - Target Vocabulary Per Chapter

Chapter	TOEFL Vocabulary	TOEFL Synonyms	IELTS Vocabulary
1	Familiar Enhance Leery	Accustomed Emphasize Cautious	Radish Cucumber Cauliflower Spinach
2	Indisputable Primary Significant	Undeniable Essential Important	Extraordinary Fantastic Fundamental Responsible
3	Contribute Ambitious Community	Share Enthusiastic Neighborhood	Responsible Badge Foliage Greenhouse
4	Spontaneous Require Deviate	Impromptu Lack Differ	Measure Data Speculate Variable
5	Release Manipulate Exclude	Free Exploit Block	Sacred Tremendous Grim Immediate
6	Devise Evidence Primary	Arrange Clue Leading	Tyrant Unsatisfactory Withdraw Yield
7	Implement Vanish Expose	Carry Out Clear Bring to light	Irregular Indicate Locate Observe
8	Demonstrate Contribute Advocate	Exhibit Assist Encourage	Ceremony Gratitude Leadership Influence

## Appendix C - Sample Script:

### Professor Trent:

Good morning! Thank you all for your help, you helped **bring to light** what was actually happening with the magic emitter. Then you also **exposed** the scientist behind it too! The guards have taken away his research and won't let him do it again. In the meantime, I have been testing out a few new treatments and **observing** their effects. My research **indicates** that my antidote "ambrosia" can be sprayed on any **irregular** plants or animals that have been affected and the black magic will **vanish**. Then when everything has been **cleared** up things will grow and be happy once more. As for you three, I would like your help carrying out some treatments. I trust you three to **implement** it since you were the ones to speak with people in town. The people in town should be easy enough to **locate**, and then you can also give some to your parents as well. Here are 4 vials of Ambrosia that you can give to the townspeople and to your family. Please come back to me when you've given them all out.

VARIABLE = 4

Thank you so much! I'm glad you **located** everyone. Now the effects of the dark magic should **vanish** and **clear** up the whole mess. We should be able to **observe** the effects of the ambrosia within a few days. So unless anything else crazy comes up, you three are free to focus on your studies more.

**\*CH 7 Complete Switch = ON\***

**\*create event on map that will transfer them to the transition map when Switch CH 7 Complete is ON and turn on transparency\***

ELSE

It's important that we locate everyone affected and give them the ambrosia.

### NPC1: Ch 7 Switch = ON

- Hello again, have you found out anything?
- **MC:** we have actually! Professor Trent was able to create Ambrosia, a spray you can put on your plants to heal them. We're here to bring you some.
- Why thank you! This is great news! My greenhouse is saved! No more irregular growth and I can **carry out** my plan to give my parents the wonderful vegetables I've grown.
- **Lucas:** We're happy to help. Once you use the spray the effects of the dark magic should **vanish**.
- **CHANGE ITEM -1 ambrosia**
- **Variable +1**
- SSA -> oh my goodness this is going to be great!

### NPC2 Ch 7 Switch = ON

- Hi there.
- **MC:** Hi! We have something for your sheep.
- You have something to help them? I tried exercising with them and it wasn't going so well. What do you have? Is it easier to **implement** than exercise?

- **Rowan:** It is! It's called Ambrosia, it's a simple spray. Put it on your sheep and their symptoms will **clear** up.
- Thank you so much!! Now to go **locate** my sheep in the pasture.
- **CHANGE ITEM -1 ambrosia Variable +1**
- SSA -> My sheep are going to be so much happier!

#### **NPC 3 Ch 7 Switch = ON**

- Good to see you three again.
- **MC:** We have something to help save your crops!
- Really? I've been trying different tricks and **observing** them but nothing has helped yet. My research **indicates** that something with dark magic is affecting them.
- **Lucas:** Professor Trent at the Academy developed this spray, called Ambrosia. Once you spray your plants the effects of the dark magic will **vanish**!
- That's wonderful! I can't wait to try it. Thank you.
- **CHANGE ITEM -1 ambrosia Variable +1**
- SSA -> I can bring my crops to the festivals this year!

#### **Mother Ch 7 Switch = ON**

- Welcome home!! I'm so glad you could visit!
- **MC:** Hi mom! We were able to **expose** the work of Muddle Corporation and put a stop to their dark magic usage.
- I'm so proud! I hope you'll have something to help our crops, they've been very poor this year.
- **Rowan:** We do!
- That's great! My husband will know best how to use it and which crops need it most.
- **Lucas:** We'll give it to him then, thank you!
- 
- SSA -> YOu know you can come home to visit us anytime sweetie.

#### **Father Ch 7 Switch = ON**

- I hear you **brought to light** the work of Muddle Corporation! I'm glad you **exposed** their work so they can't **implement** anything else troublesome.
- **MC:** I wish we could have stopped them from carrying it out in the first place. But we do have something to help now!
- Really? What is it?
- **Lucas:** It's called Ambrosia, Professor Trent developed it, you just have to spray it on your crops that have been affected.
- **Rowan:** Any **irregularities** caused by the dark magic will **vanish**!
- That's amazing! Thank you all so much!
- **CHANGE ITEM -1 ambrosia Variable +1**
- SSA-> Keep up the good work at school `PLAYERNAME`>

#### **Eli Ch 7 Switch = ON**

- How's my sibling doing? Has school been treating you okay?
- **MC:** It's been really exciting actually. We were able to defeat Muddle Corporation and stop them from using their dangerous magic emitter!
- Did you actually fight them??
- **Rowan:** We kicked their butts!
- **Lucas:** We did it politely though! The Magecoast guards are the ones who really dealt with them.



- No way! That definitely sounds like an **irregular** school experience, I never did anything like that when I went to school. And I see you have badges too, those must **indicate** that you're part of the Environmental club too!
- **MC:** I'm glad you **observed** that! We are a part of the club.
- Well I'm proud of you **PLAYERNAME**.
- **MC:** Thanks big bro.

**Mia Ch 7 Switch = ON**

- Hi **PLAYERNAME**! I've missed having you here to play pranks on.
- **MC:** I bet you have. I haven't located any of your pranks yet thankfully but I'm sure you'll try to prank me before I leave huh.
- Maaaaybe.
- **MC:** Did you hear I got to fight the president of Muddle Corp?
- No way!
- **Rowan:** We helped too!
- **Lucas:** **Playername** couldn't have done it without us!
- When I go to school someday I'll have to do something even cooler than you!
- **MC:** I bet you will!
- **SSA->** Eli is gonna be jealous of how cool you are now!

**Old Lady Ch 7 Switch = ON**

- Hi there dearie. I'm happy to see you!
- **MC:** Good to see you too!
- What brings you to town?
- **Rowan:** We're visiting from the Academy and have an antidote with promising results that **indicate** that it will help the crops!
- That's wonderful! I can't wait to be able to use the crops to cook delicious foods here at my inn.

**Old dude Ch 7 Switch = ON**

- You're back!
- **MC:** We're bringing my father an antidote for the crops.
- That's great news! I was worried we wouldn't have many vegetables this year.
- **Lucas:** Well now you won't need to worry anymore.
- Thank goodness. My wife loves vegetables and is cranky when she can't have them.

**END SUMMARY**

That night **PLAYERNAME**, Lucas, and Rowan all slept soundly knowing that they were able to help save the plants and wildlife.

The next day there was to be an award ceremony congratulating them for their efforts.

**\*transfer player to New ceremony map\***

**\*Change transparency to OFF\***

**\*removed Rowan and Lucas as party members\***

## Appendix D - Sample Checklist for Coding into The Game

### Chapter 2:

- Ch 1 family dinner scene (ending cutscene for chapter 1)
- Vocab for chapter 2 and future chapters (went through all of the IELTS/TOEFL vocabulary lists and chose words that would fit the plot per chapter. Each chapter has 6 TOEFL words and 4 IELTS words).
- Ch 2 maps
- Ch 2 dialogue (script for the entire chapter, making sure to utilize the target vocabulary words at least 4 times each)
- Ch 2 intro start map (this is the map players are transferred to for a cutscene that starts chapter 2)
- Ch 2 new spells to learn as quest reward
- Make all Academy Teacher NPCs (non-player characters. This required custom designing their sprites (figures) within the game and setting walking paths/movement routes for them. ).
  - Light magic = Alina
  - Dark magic = Draven
  - Air = skye
  - Water = Trent
  - Earth = fern
  - Plant = Basil
  - Fire = Brenton
  - Animal = Animalia
  - Two random students (one male, one female) to make the castle seem more inhabited
  - A school nurse
  - A merchant working in the cafeteria
- Set up quest to go talk to each of the Professors from the Headmaster
  - This was done by using Variables. So, each time a student talked to a professor, they would get Variable +1, they needed a total of 8 to complete the quest. (this is not something that the player can see at all. It happens in the background coding of the game).
  - Each professor then needed dialogue to introduce themselves and explain their area of magic, and then they needed a self-switch to change their dialogue to something else so they did not continually introduce themselves. And then each was given a “variable +1”.
  - The headmaster was the one who gave the quest, so he needed dialogue to introduce and give the quest. Then he had to have a switch that when they have begun the quest, he says something like “you need to finish meeting all the professors”, and then when the variable did = 8 he would have quest completion dialogue.
  - Then the headmaster had to be given coding that would give the main player a new spell as a reward.

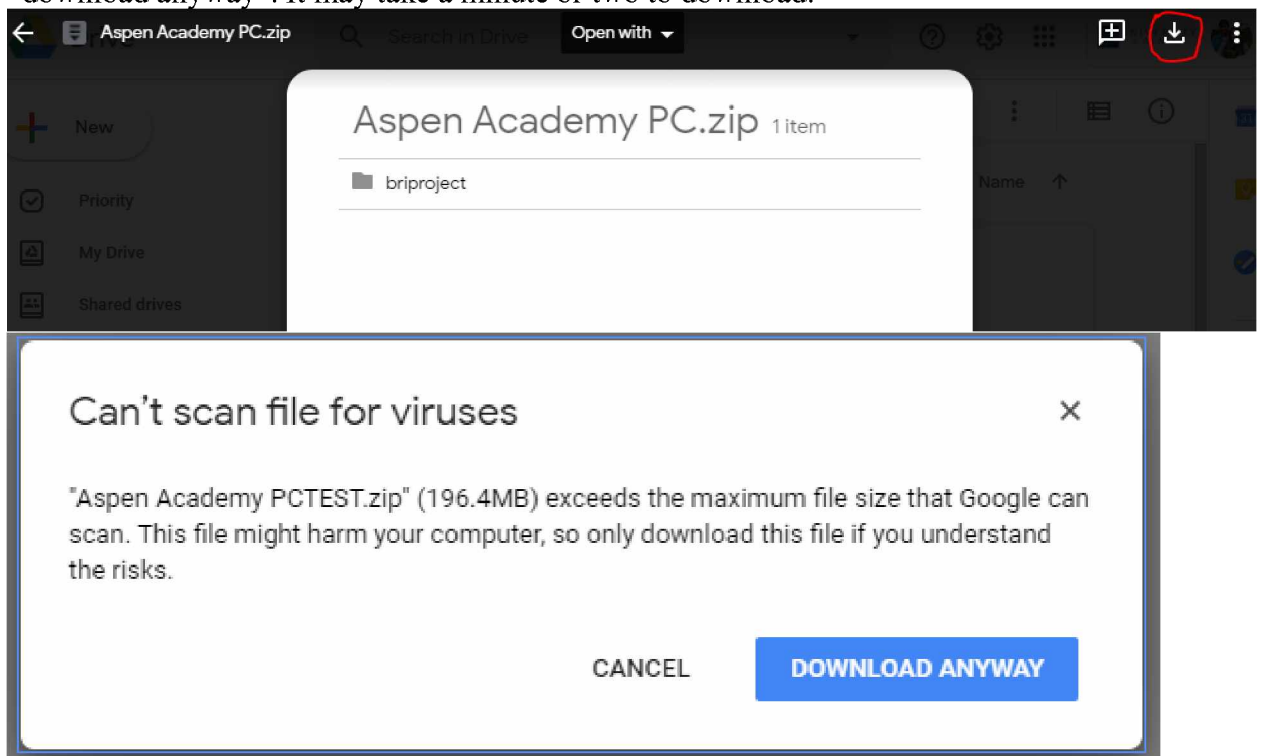
- Restrict areas,
  - The player is not allowed to leave the castle during this chapter.
  - Also made sure the doors led to the appropriate rooms and areas, and that you could go back to that same area from the room you moved to.
- CH 2 finish scene (required its own map and had post task dialogue summarizing the chapter).

This was one of the simpler chapters since it mostly just required a lot of dialogue. However, some chapters with combat or more maps required more work.

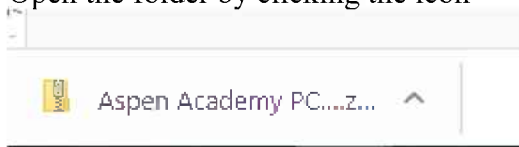
## Appendix E - Download Instructions

PC:

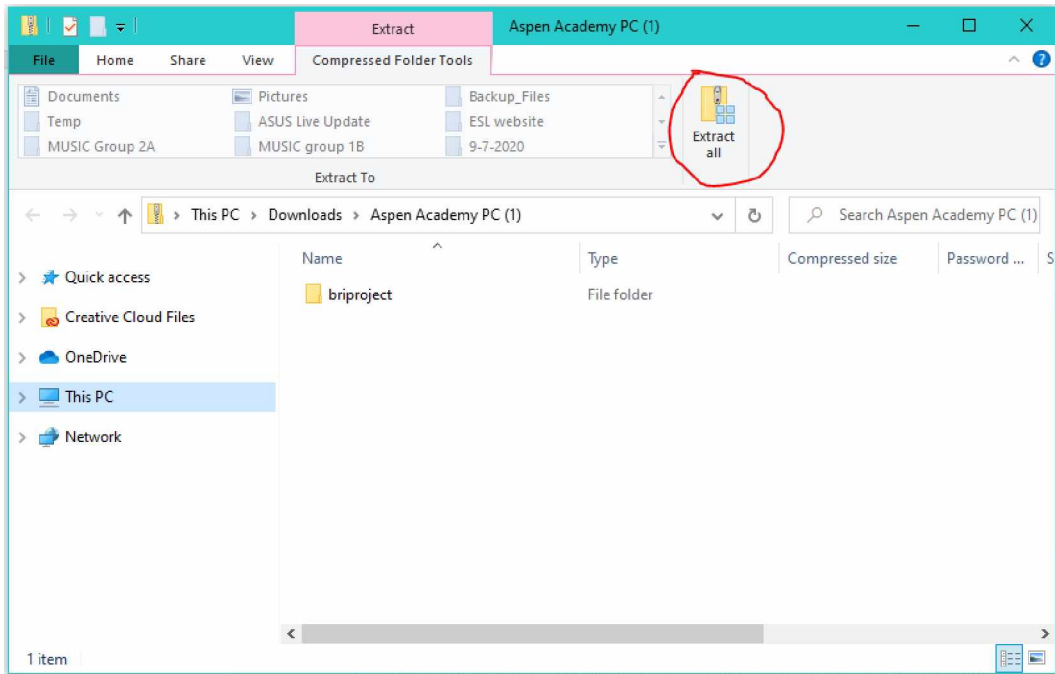
1. A zipped folder will be shared with you through google drive.
2. Download the folder by clicking the down arrow at the top right (circled in red in the picture below). It may say that the file is too big to be scanned for viruses, select “download anyway”. It may take a minute or two to download.



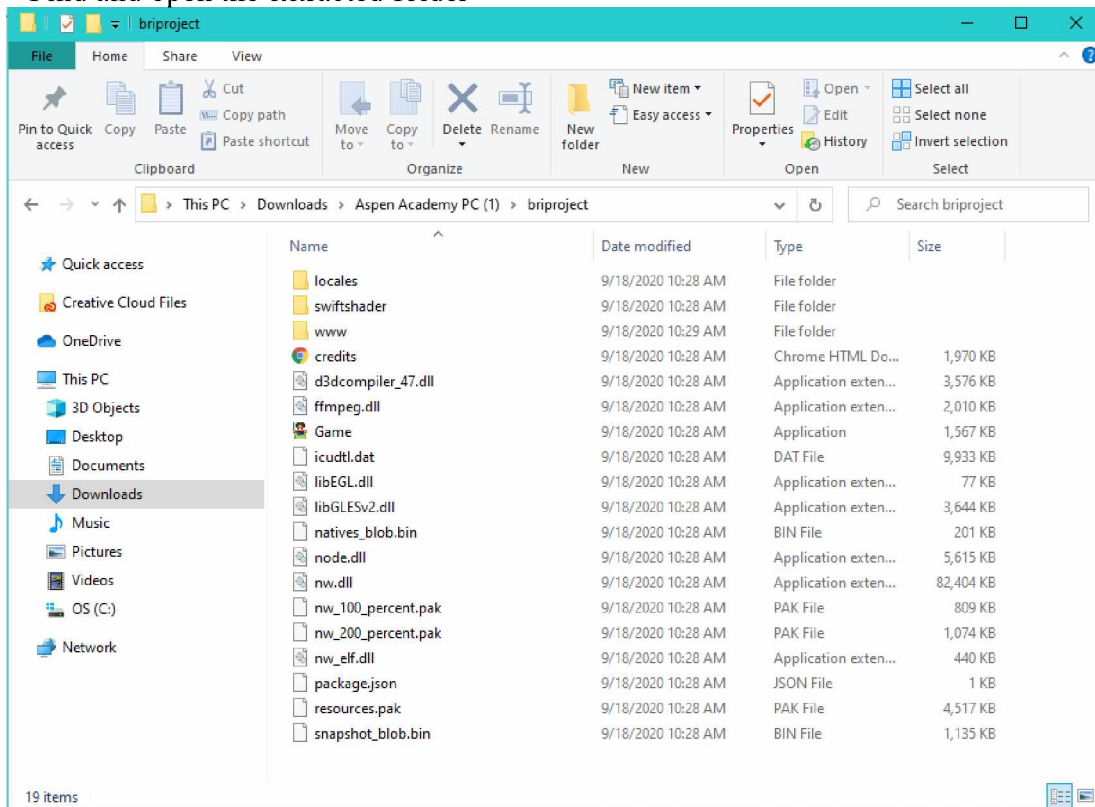
3. Open the folder by clicking the icon



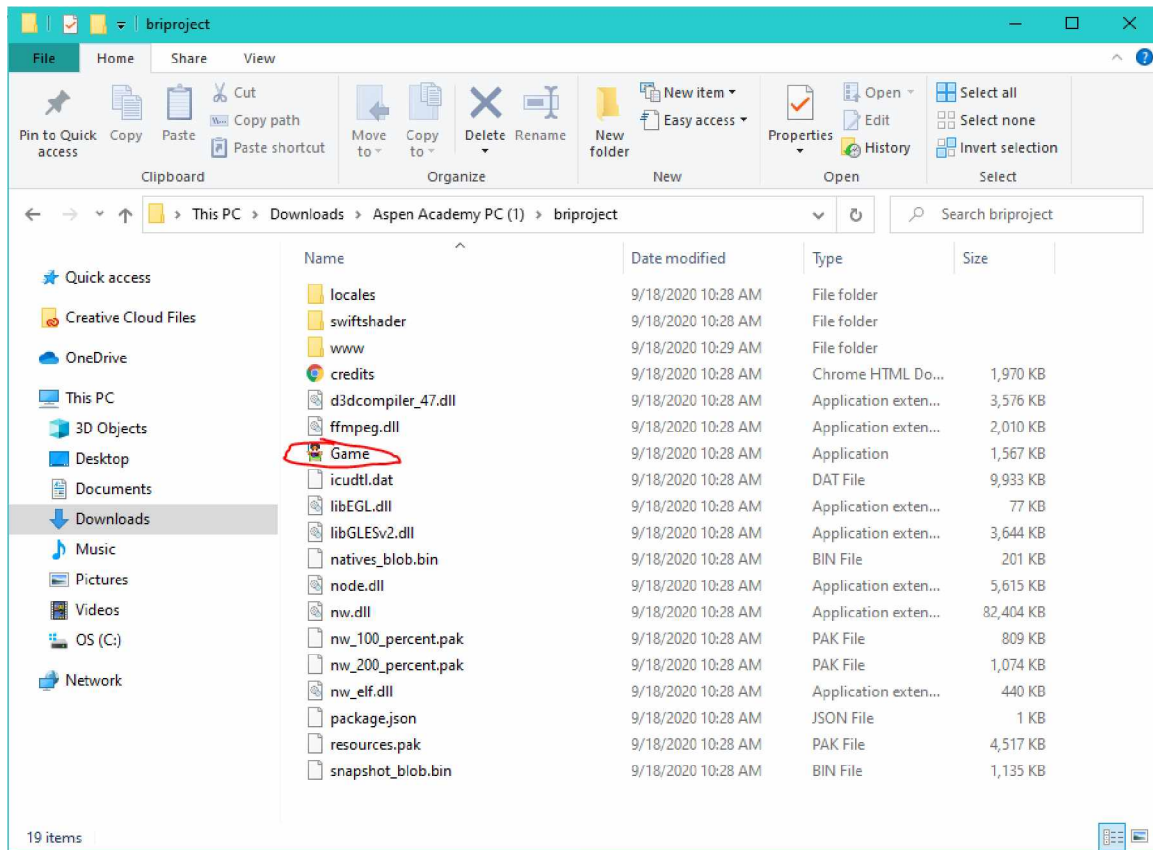
4. Unzip (or “extract all”) the folder



5. Find and open the extracted folder



6. double click the file “Game.exe” to open the game and begin playing.



### Mac:

1. A zipped folder will be shared with you through google drive.
2. Download the folder by clicking the down arrow at the top right (circled in red in the picture below). It may say that the file is too big to be scanned for viruses, select “download anyway”. It may take a minute or two to download.
3. Open the downloaded folder.
4. Unzip (or “extract all”) this folder
5. Find and open the extracted folder
6. Open up the folder and click the “Game.app” file to run the game.

## Appendix F - Survey Questions

Examining Vocabulary Acquisition Through Use of a Digital RPG: Post-game survey

Please Enter your name: *Short answer text*

What is your birthday? *Month, day, year*

Where do you come from? (City and Country) *short answer text*

What is your first language? (if you have more than one first language, please list all of them).  
*Long answer text*

Besides English and your first language(s), what other languages do you know? *Long answer text*

How long have you been learning/using English? *Long answer text*

Why were you interested in playing this game? *Long answer text*

Have you ever played a Role-Playing Game (RPG) before? *Yes, No*

How many hours a week do you usually play internet/video games? *Short answer text*

How many hours a week do you usually play internet/video games in English? *Short answer text*

What internet/video games have you played before? (list as many as you can think of) *Long answer text*

How long did it take you to complete the game? *Short answer text*

How often did you have to stop and look up vocabulary words? *Very cften, cften, not very cften, never*

While playing this game, how focused were you on the English Vocabulary? *Very focused, focused, not very focused, not focused at all*

Did you enjoy playing this game? *Strongly agree, agree, slightly agree, slightly disagree, disagree, strongly disagree*

Did playing this game help you improve your English vocabulary? *Strongly agree, agree, slightly agree, slightly disagree, disagree, strongly disagree*

Did the game's overall structure of being broken into chapters help with gameplay and/or your language learning? *Long answer text*

How difficult or easy was the dialogue/language to understand within the game? *Very d,ifficult, d,ifficult, slightly d,ifficult, slightly easy, easy, very easy*

How much would you recommend a game like this to other language learners? *Highly recommend, recommend, would not recommend, strongly would not recommend*

Did the game's plot and environment make your language learning more immersive? *Strongly agree, agree, slightly agree, slightly disagree, disagree, strongly disagree*

Was there anything you did not like about the game? *Long answer text*

What did you like best about the game? *Long answer text*

Were there any aspects of the game that you think could be improved or changed in some way? *Long answer text*

Would you be interested in having a short conversation with me about your experience playing the game? *Yes, No*

## **Appendix G - Interview Questions**

### **Debriefing Protocol**

*Note to IRB: These questions will serve as a starting point for a conversation about the participants' video game experience, and about the language learning survey. This conversation will occur after participants have played the game and completed the post-game survey.*

*The interviewer will ask follow up questions throughout the conversation.*

### **Introductory Protocol**

*Hi, my name is \_\_\_\_\_. I am a Master's degree student interested in learning more about using games in language classes.*

*Thank you for taking the time to talk with me today.*

*I would like to talk to you about the Role Playing game that you volunteered to play for this study. I would like to audio tape our conversation. Is that OK? Thank you very much for agreeing to participate.*

*I have planned this interview to last no longer than thirty minutes. During this time, I have several questions that I would like to cover.*

*There are no right or wrong answers, I am interested in your experience, ideas and suggestions. Remember that your participation in this interview is voluntary and that you do not have to answer any question that makes you uncomfortable.*

Sample Interview questions (semi-structured interview)

Tell me a little bit about your experience in playing the game.

Have you ever played a game like this before?

How did you like playing the game? Was it fun? Challenging? Easy or hard to follow? Why?

What did you like best about the game?

What did you not like about the game? How can we improve it?

How did the game make you feel? (anxious, happy, etc.)

If you have played other video games before, how did this one compare? Was it similar? Different? Why?

How did you feel about the dialogue and language within the game?

Was the language easy to understand? Difficult?

Did the language make the game harder to play?

Did you have to ask anyone or look up clarifications of words/dialogues?

How did you feel about the story in the game? Was it fun? Boring? Why?

How did you do in the game? Did you complete the game and finish all the quests?

Can I make the game better?

If you created your own game what would it be like?

What did you learn from playing the game?

In what ways has playing the game helped you with English?

Which elements were most helpful for learning English?

Which elements were least helpful? How could they be improved?