

Depression RPG: Weaving Teaching and Knowledge into Gameplay

by

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Abstract

The Black Dog is a Turn-Based Role-Playing Game (TBRPG) that uses story and a combat system to raise the players awareness about Major Depressive Disorder (MDD). According to the National Institute of Mental Health, MDD affects 6.7% of Americans as of 2016 [1]. The highest concentration of depressed Americans is between the age of 18-25. With depression being such a serious problem, creating engaging and effective methods to raise awareness of depression and its effects should be explored. Xia Wang's looks at how educating about depression can be an effective tool to help recover from depression because of the impact of stigma on those suffering with depression [2]. To help inform students about MDD and other closely related forms of depression, Junfeng Guo, Sean Welch, Kyle Baker and Aaron Segal designed and created *The Black Dog*.

The goal of *The Black Dog* is to raise awareness and create empathy in college students for the struggles depression causes and suggest some transferable strategies such as healthy eating and exercise, to assist with depression. The game attempts to provide information about depression through classroom dialog and character interaction, which the player will need to apply in combat. To assess the game's goals of raising awareness, thirty-five college students partook in a study. Overall, while most participants did learn from the game, the amount of learning and player engagement can be improved. The analysis of this data provides valuable information for future iterations of this game.

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1.Introduction

People have many misconceptions and much misunderstanding about depression. Many people think of it like a physical wound. Some common misunderstanding are that “Medication is a cure”, “If you are depressed you can’t be happy” and “You can’t be happy if you are depressed” [3]. Depression is a serious mental illness that can be thoroughly debilitating, and in some cases, can lead to suicide. According to the Center for Collegiate Mental Health in the 2015-2016 school year, 49% of students using counseling centers show signs of depression. 18.1% of students using the counseling center had depression as the primary concern, with anxiety being the most common primary concern at 22.7% [4].

With depression being such a wide spread issue especially amongst college aged students, understanding how to reduce its impact is important. Educating the public works two-fold. First, educating about methods to help combat depression will provide people with knowledge to help prevent and assists with their own depression. Second, educating about depression will help reduce both internal and external stigma, helping those struggling with depression seek help [2].

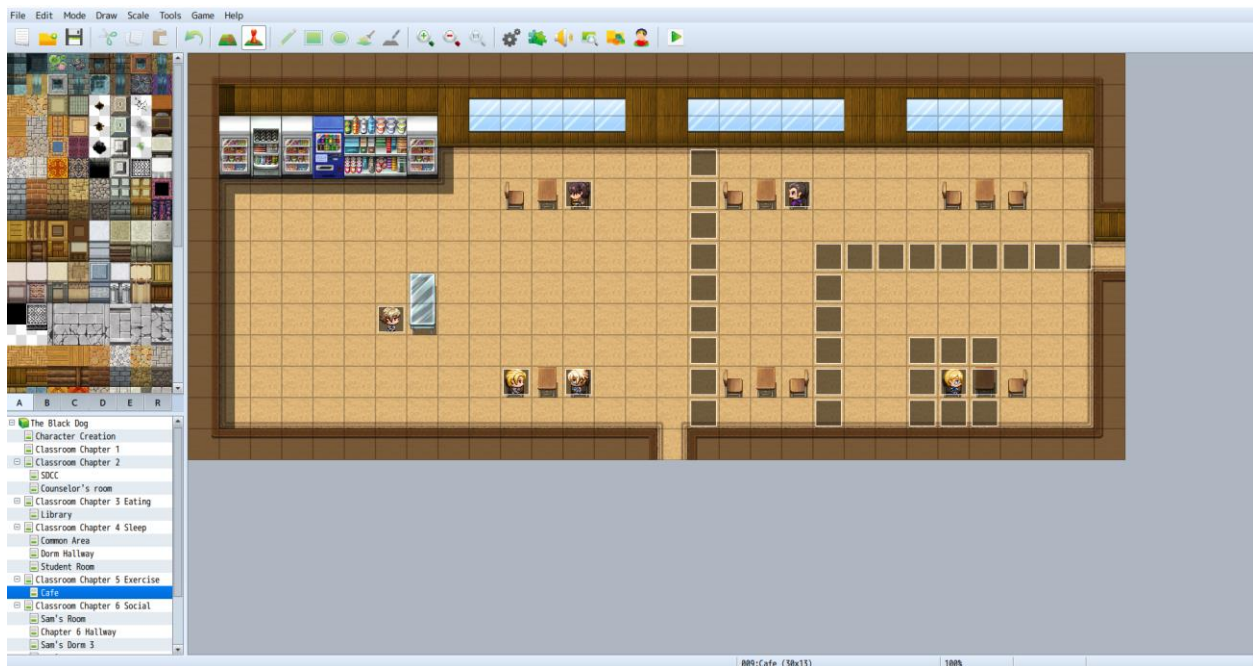
For The Black Dog to be successful, it needs to accomplish its design goals and education goals. For design goals, first, The Black Dog needs to be engaging and its educational content should smoothly blend with the gameplay. Second, the game needs to be easy and understandable to play, and third, the players should feel connected to their characters and the characters in the game to help create sympathy towards those with depression.

For educational goals, the primary goal is for the players to come away with a better understanding of depression and its impact on those suffering from it, such as a sense of hopelessness and low self-worth. The other goal is to provide players with methods to help

combat depression and understand why these methods are important such as how an irregular sleep schedule can make it difficult for your brain to control emotions.

In chapter 2, I identify important aspects of depression to incorporate into the educational goals of the game as well and look at education games in general as well as games that focus on depression. Chapter 3 outlines the methods for evaluating the games success as well as the development procedure and tools for the game. Chapter 4 identifies the design choice for gameplay and education. Evaluation methods and results are outlines in Chapter 5 and Chapter 6 and 7 identified the games successes, failures and takeaways from the development.

1.1 Development



***1-1** RPG Maker development view. Depicts the tools and art available as well as what tiles will cause an interaction, such as volume change and NPC interactions (gray squares)*

The Black Dog was built with RPG maker MV, using the tools provided by RPG maker as well as plugins designed by the community. From RPG maker, the dialog tree system, combat

system, and event manager are used. For plugins, character creator, name editor, desaturation filter and dialog display, are used to accomplish goals not accessible with RPG makers base program.

Character creation implementation is to help players feel a stronger connection with their in-game character [5], and in turn with the characters they come across in the game. Players can make a character that looks like them or make a completely goofy character that they enjoy playing. With a similar goal to character customization, players can choose their name, and the NPCs in the game will refer to the player character by said name to further enhance this sense of identification with their character.

1.2 Story

With the rising influence of depression on today's society, “The Black Dog” has been used as a metaphor for depression. This metaphor was made popular by Winston Churchill, but has no noticeable point of conception [6]. This metaphor plays a large part in the gameplay and inspired the name of the game, The Black Dog. The player is a first-year student in a psychology class. In the very first class, the Chloe, the professor assigns project partners. These partners work together throughout the course to help one another learn about mental concerns and depression. The player’s partner is Sam, an upperclassman who has worked in this area before.

Sam is a playable character that will accompany the player during their journey. The player’s first assignment is to learn about stigmas towards depression. Sam suggests that they head to the Student Development and Counseling Center (SDCC) to learn a little bit more. Soon after arriving, Sam and the player meet one of the counselors, Joe. After learning about different stigmas about depression, the counselor asks if Sam and the player are willing to help with

“Black Dogs” that are appearing on campus. These black dogs are real world manifestations of depression. The dogs are monsters that attack their depressed hosts, sucking out the host’s life as the depression gets out of control. Specific characters in the game who are strongly affected by depression have their own black dog manifestation that needs to be tamed for the time being. The only way to slay these monsters is to assist the hosts in defeating their own inner demons by using moves related to methods to combat depression. The player must go throughout the campus, helping as many people as possible.

As the game progresses, Chloe, the professor, will teach more about mental concerns and depression, as well as new methods to combat the illness each week. The players learn about the importance of healthy eating, sleeping, exercise and social interaction. After each class, the player and Sam will talk to their classmates to learn about their experiences and views about depression. For example, one of the classmates, Tami, is always worrying about her little brother. Tami will learn something new in class then immediately start wonder if her brother is eating well or getting exercise. As the game goes on, Tami becomes less worried about her brother, trusting that her parents are doing a good job to make sure her brother is growing up healthy. After talking to at least a couple classmates, Sam and the player will leave the classroom to help the teacher, study or pursue some other after-class activity. When doing so, players will come across a non-playable character (NPC) who is suffering with depression. Sam, the player and the NPC work together, fighting the NPC’s Black Dog in hopes of gaining some initial control over the beast. As the player reaches the final boss, it is revealed that Sam, who has been happy, excitable, and energetic, while helping the player through the whole adventure, is one of the most depressed characters in the game. In order to help, Sam the player must use all that has been learned to defeat the most challenging opponent yet.



1-2 Hunger Black Dog from "The Black Dog" Game

The player will need to use the knowledge they acquired from the class and practiced while helping people struggling with the related knowledge such as bad eating habits, to combat Sam's black dog and help Sam start to recover.

2. Literature Review

2.1 Depression and Mental Illness

Depression is a very serious condition affecting many people. To succeed in reducing the impact of depression of those suffering from it, people must be educated about depression, as well as understand how to help and alleviate its hold on its victims. One of the first things to know about depression is that there are many different types.

Nancy Schimelpfening's article, "7 Common Types of Depression" [7], goes over different types of depression and what separates them from one another.

Major Depressive Disorder (MDD), often referred to as clinical depression, is associated with symptoms such as lack of interest, depressed mood and fatigue that are persistent over a long period of time [7]. Seasonal Affective Disorder (SAD), is a subset of MDD because they share similar symptoms severity, however SAD is linked to seasons where it's more difficult to get exposure to recommended amounts of sunlight [7]. While there are many different types of depression each with different symptoms and methods for recovery, this game will focus more on the long term persistent MDD.

With MDD being the focus of the game, it's important to understand how depression affects people, how to combat depression, and negative stigma towards depression.

2.2 Combating Major Depressive Disorder

Some people think, if nothing bad happened, you can't be depressed, you cannot be happy if you are depressed, and that depression is something to be ashamed of [3]. These misconceptions create a stigma about depression and can put unneeded stress and pressure on people with depression, making it difficult for friends and family to help and for those afflicted to get help.

Emma Nagy looks at social intervention's ability to assist adults with depression [8]. Out of twenty-four participants, seventeen shows reduced symptoms of depression due to social interventions. Social interventions include, peer support, skill building, psycho-education, exercise and more. These interventions in and of themselves were not very effective in reducing depressive symptoms; however, applying multiple strategies and creating interpersonal connections has a positive impact on depression [8].

Xia Wang and colleagues look at how a stigma toward depression affects the ability for those with the illness to seek help. The paper's findings state, "the relationship between public stigma and an individual's attitude to seeking professional help was fully mediated by personal stigma" [2], meaning that both one's own view of depression, as well as the views of others, make it difficult for people who are suffering to ask for help. The same paper also suggests that to seek help, reducing or removing personal stigma can be a necessary first step.

Now understanding how stigma affects people with depression, finding tools and strategies to combat these stigma is an important next step. Two different methods, education and contact will be used to reduce stigma towards depression. Education provides information that proves the misunderstandings about mental health to be incorrect; and contact with people

who have depression has been shown to increase the effectiveness of education [9]. While reducing stigma toward depression can help with depression, there are other aspects that can help. Self-help/lifestyle changes, avoiding over-analyzing, exercise, sunlight, good sleeping habits, and human connection are all things that can help recover from depression [10].

Over-analyzing situations can be harmful because, over time, we extract all the useful pieces of information and start to focus on the negative aspects [10]. Reaching this point amplifies one's negative emotions and he or she withdraws [10]. These negative aspects are very dangerous for those with depression because it makes people more vulnerable to depression and it can trigger depressive episodes [10]. To avoid the backlash from over-thinking, people with depression must be aware of the over-thinking that depression can cause [10]; avoid high risk situations [10] and find ways to preoccupy one's mind with things like reading a book or watching TV [10].

Many Americans do not get enough exercise. While many people understand the importance of exercise for physical health, few understand that it is also important for mental health [10]. Sixty minutes of exercise three times a week can show drastic impacts on reducing anxiety and depression symptoms [11].

Sleep allows the brain time to repair itself, and without it minor damage can build up and have a big impact. Developing habits such as only using the bed for sleeping, going to bed the same time every night and avoiding bright lights at night can help improve sleep quality, allowing for more efficient brain repair [10].

Bright lights help combat depression by stimulating serotonin production within the brain which helps combat depression [10]. There is a great quality of light discrepancy between indoor lighting and outdoor lighting, where indoor lighting is at least 100 times weaker than outdoor

sunshine [10]. Light also helps regulate our internal clocks, and without the correct amount of light, our hormone levels and sleep schedules can be harmed, further increasing the importance of exposure to sunlight due to its connection to sleep. [10]. Light is very important for our bodies in order to keep them running smoothly.

Maintaining a connection with people is another under-appreciated factor in our overall health. We are born with a desire to be connected and to avoid isolation [10]. Depression makes these connections more difficult because our brain treats depression as it would treat the flu, trying to focus all energy on recovering [10]. Social withdrawal is common when experiencing depression. The withdrawal increases depression, creating a cycle of wanting to be alone because you are sick, which makes you sicker because you are alone [10]. It's very important to stay connected with people or animals when depressed because connecting is built into who we are.

2.3 Games in Education

Games have become a very popular pastime over the past four decades [12]. With the rise in game popularity, and their ability to engage the player, games are a promising technology to implement in future educational scenarios. Currently, there are multiple approaches to games and education, Gamification [13], Serious Games [14], Educational Games [15] and Game-Based Learning [16].

Gamification is the idea of taking game mechanics such as high scores, and applying them in non- game situations [13]. An example would be learning to tie shoes. Younger children could time themselves to see how long it takes for them to tie their shoes which would create competition either between other people or oneself to perform better than before.

Serious games and Educational games are closely related with the focus of the two types of games being the primary difference. Damien Djaouti [14], tries to get a somewhat concrete definition of serious games. Djaouti's research, identified common themes from different perspectives of what a Serious Game is and defines serious games as using peoples love for games to maintain attention for reasons other than just entertainment [14].

Educational games take things one step further. Similar to Serious Games, Educational Games are games that have another purpose other than enjoyment, but educational games need to have a much clearer educational goal than Serious Games [15]. Habgood looks at the difference of extrinsic vs intrinsic motivating in games [15]. A game was built with the specific goal of teaching devotion and evaluations were gathered to quantify the games ability to do so [15]. This specific goal and metrics to identify the game's success are what separate Serious Games and Educational Games.

If Serious Games are built without a defined and evaluated learning goal, then Game-Based learning is when there is a specific goal and evaluation method but a game was not built for the specific purpose [16]. MinecraftEDU®, is a slightly adapted version of Minecraft® where players can learn about things like wildlife conservation, chemistry and coding [17].

2.4 Depression Education Games

There are many ways that games can touch upon depression, such as empathy or education. Two games that take a similar approach are Depression Quest® by Zoe Quinn and Actual Sunlight® by WZOGI.

Depression quest was designed to address depression very literally. It does not try to sugarcoat the situation at all. The two primary goals of Depression Quest are: 1) to better educate people who have not dealt with depression, and 2) to help people who have, or are suffering with depression, understand that other people feel the same way [18]. In Depression Quest, players choose their own adventure. Players need to manage everyday things such as jobs, relationships, and illness while suffering with depression [19]. Players read about what the character is doing and eventually, they come across a choice such as “Agree to go” or “Say that you’re really just, not feeling well and can’t make it”. However, an interesting thing the game does is within that same prompt there is a crossed-out choice, “~~Shake off your funk and go have a good time with your girlfriend~~” [18].

It's an unseasonably warm Wednesday evening.

You've spent the past several hours at work. The past week or so you've found your job motivation flagging more so than usual; you've been in a fog practically all day today, simply going through the motions without realizing even what you've been doing half the time, and yet time seemed to be moving at half speed. You're so checked out that when your boss approaches you to tell you that it's dead and you can go home early it barely registers.

As you walk home, the streets hiss from the recent rainfall. You know that your significant other will be in classes until late, another couple hours at least. You briefly consider using this serendipitous solitude to catch up on that **project** that you've been working on haphazardly for the past few months.

As soon as you think about the work that awaits you at home you can feel the panic creeping in from the back of your brain, unbidden. All you can think about is how incredibly far behind you are, and the amount of work seems nothing less than insurmountable.

By the time you arrive home and change out of your uncomfortable work clothes the stress is weighing down on you like a heavy, wet wool blanket. Your computer seems to be staring you down from your desk. You want to sit down and work but the mere thought of trying to work sends your stress levels flying; more than anything you feel suddenly and absolutely *exhausted*, and feel a strong desire to simply hide in bed.

Do you...

~~1: Order some food, grab a drink, and hunker down for a night of work.~~

2: Reluctantly sit down at your desk and try and make yourself do something

3: Turn on the TV, telling yourself you just need a quick half hour to unwind from work

4: Crawl into bed. You're so stressed and overwhelmed you couldn't possibly accomplish anything anyways.

You are depressed. Interaction is exhausting, and you are becoming more and more withdrawn.

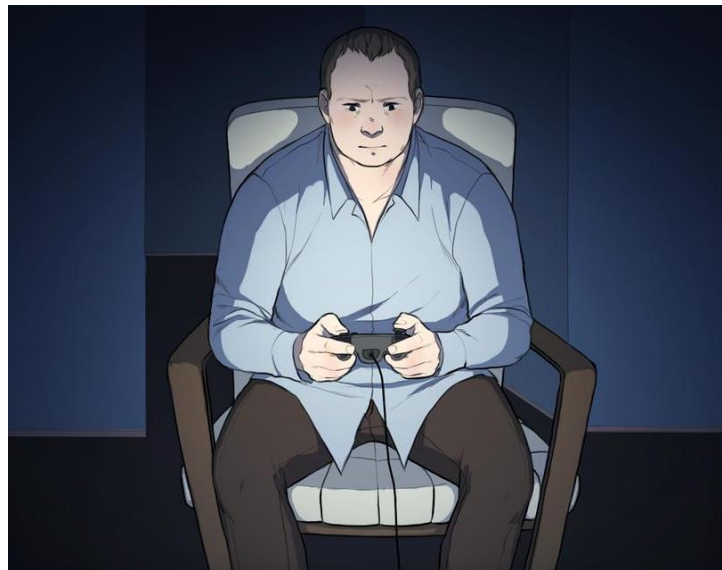
You are not currently seeing a therapist.

You are not currently taking medication for depression.

2-1 Game play from Depression Quest, the player reads the text then makes decisions to progress the story [18]

In Actual Sunlight®, you play as a character named Evan Winter who struggles with every day activities, like getting out of bed in the morning due to depression. As you play, you continue to do the same mundane things over and over again each day. The game touches upon real struggles that depression can cause such as isolation and loneliness. Evan feels like he doesn't deserve to have company, avoiding sitting next to people or even being near someone because he doesn't feel like he deserves these social interactions. The game makes these issues

and Evan very relatable. This connection makes the player root for Evan even at the smallest of victories.



2-2 Screen shot of Actual Sunlight® depicting the art style and tone of the game [20]

While Depression Quest® and Actual Sunlight® makes a direct connection with depression, games like Elude® by GAMBIT Game Labs take a more metaphorical approach to depression [21]. Elude® is a platform game where the player tries to jump higher and higher. To do so, the player needs to walk close to birds to re-energize the player, allowing him or her to jump higher than normal. Players need to keep finding these birds to stay energized or “Happy” so they can make it past the tree line into the sky where the mood is much happier. However, as the game goes on, it gets harder and harder to stay energized, making it harder to break the tree line, and eventually, the player starts falling to the ground, falling underground. This gameplay emulates the struggle of depression, expressing the highs and lows and shows how it can get harder and harder to stay happy and be productive.



2-3 Screen shot of Elude® gameplay [21]

One final notable approach to depression in games is a game that helps alleviate some of the impacts of depression. Flower® developed by ThegameCompany in 2009 was designed to soothe players with a positive experience [19]. In flower, the player controls a gust of wind, rushing through grass and past flowers. As you go through flowers, notes play that complement the music and environment. There is no score system or leaderboard. The player explores the levels the way they want. While the game wasn't designed with depression in mind, it has been found to help people cope with depression by soothing the player when they most need it [22]. Elements from these three games will be incorporated in my game to different degrees to help create an engaging game to educate about depression in a safe manner. While these are games that touch upon depression, it's important to understand how games can affect depression.



2-4 Flower® Gameplay Image [22]

Key design goals were chosen to imitate aspects of these games. Depression Quest® and Actual Sunlight®, inspired me to try and tell a story about someone who is struggling with depression in hopes of having the player sympathize with said character so to have a better understanding of how depression. Elude® emphasized the importance of using metaphors throughout *The Black Dog* to help reinforce ideas and teaching goals. And lastly, Flower® brought to light the impact that sound and art can have on a game's overall feeling and how those two aspects can accomplish their design goals.

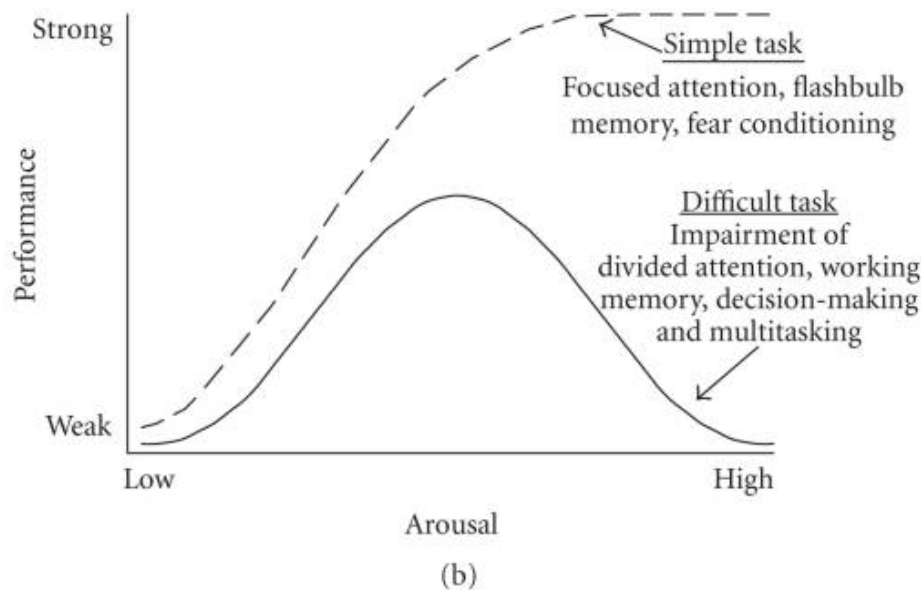
3. Teaching

The primary inspiration for this game comes from Habgood's *Motivating children to learn effectively: exploring the value of intrinsic integration in educational games* [15]. The idea behind this study was to test how much students learned and enjoyed learning based on how the educational content was incorporated into the game, intrinsically or extrinsically. In the study, 2 groups of children would take two different versions of a math education game. In the game, players would come across skeletons and to defeat them you need to solve math problems. In group 1, the extrinsic integration group, when students come across a skeleton, the game screen shifts to a math problem. In group 2, the intrinsic integration group, when students came across a skeleton, students would choose an attack which is connected to numbers that the skeleton can be divided by. The study concluded that not only did the students in group 2 learn more but they enjoyed the experience more. With these ideas in mind, I wanted to take some more learning strategies and apply them into the game, such as belonging and excitement.

A sense of belonging increases motivation to learn and decreases distraction [23]. Students who feel like they don't belong are less interested in learning than other students and become more distracted. Aguilar's research finds that social belonging drastically improves performance in minority college students [24]. There are two methods to change a person's sense of belonging. One can change the person's perception of their belonging or change the environment to help them belong more. If I was a teacher, I could either reach out to individual students to better understand them more to create a better relationship between us, so they feel like they belong in the classroom. I could also try to promote understanding and

acceptance in my classroom so that the students themselves emit this sense of belonging with all of the students in the classroom. Changing a person's view will be much more difficult without confrontation. I would need to interact with each and every person who will be playing *The Black Dog*, and create a connection between us so they understand my goals and intentions with this game. Environment building is the better choice in this situation because I can design choices such as character creation and good interactive character dialog can accomplish this in the game. The story and characters are written to make the player feel like an important part of the world, which will in turn make the players more invested in the game world/story and how they progress.

Excitement increases mental stimulation/arousal, which increases focus and how much is retained [23]. A study reviews research about the impacts of strong emotions such as excitement on attention, performance, memory and their benefits [25].



3-1 *Effects of stress, anxiety and motivation on simple vs complex tasks [25]*

Since this game has been designed to create an engaging environment in which to learn, increased excitement should improve the educational experience based on the graph above.

Multiple aspects of the game will try to excite the player. Story will play a part in immersing the players. If players are engaged and excited to continue the story, they are more likely to remember the information the game is trying to convey. The desaturation and music play a part as a metaphor for depression. They both help to create a sense of exploration and urgency due to the mystery behind them. The combat system and learning new moves is also a point of excitement for those who are interested in that kind of gameplay. The game starts off slowly, allowing the player to become accustomed to the gameplay and story. During chapter three, players will come across NPCs struggling with depression. Players start to notice the music getting softer and softer when they encounter certain characters, preparing them for their first combat encounter. After completing combat, which is ideally engaging, in the next chapter all the color is slightly de-saturated, creating a sense of mystery and wonder in the player.

Competence comes into play in combat. Each combat is very similar to the previous with the exception of the type of Black Dog and the moves available. So, when players enter the second fight, they should feel confident in their ability to succeed. This is especially important for the final boss fight. That tends to be more difficult than earlier combat since it requires all the black dogs a player fought earlier one after the other. Players should feel more confident with their ability to win because they have defeated all of these dogs previously.

While not completely related to the previously mentioned motivations, after every victory in combat, the NPCs who were helped will tell the player how grateful they are, explaining their struggles and how it was difficult to break their normal behavior patterns and seek help. Every NPC will make it clear that the process is not over, but they understand where to go and what to do to get help. They are on their way to healing, and in the process socially rewarding players for their help.

4. Methods

The intent of this project is to apply iterative design methodology to a serious game about raising awareness for depression. The goal of this thesis is to design an engaging roleplaying game that creates a space where players can learn about the struggles depression can cause as well as some methods to help with depression.

4.1 Participants

WPI undergraduates were gathered using WPI's participant pool SONA (Psychological Sciences Participant Pool). Undergraduates were chosen due to the age range, 18-25, having the highest concentration of depression in the United States [29]. SONA is a tool for students, at WPI in this case, to sign up for surveys. Students select a survey available to them, and then choose a time to take the study. Students will either meet at a predesignated location for the study or go to an online website. In this case, WPI student participants were given an online link after the pre-test to download the game. Thirty-six students took the survey. No prescreening or selection process was used to gather specific participants for the survey. The lack of prescreening was chosen to see how anybody would react to the game as opposed to specific people. If only participants with who struggled with depression played the game, the game might have been good at providing more information to those with depression but wasn't a good entry point for those who know nothing about it. On the other hand, if only people who have never dealt with depression played the game, the game might have been enough to start to raise awareness but provide nothing new to those who are or have dealt with depression. Since the game was designed for those who do and don't know about depression, preventing one group from playing the game could drastically skew the success of the game.

4.2 Procedure

After completing the first half of the survey, participants were asked to download the game on to their own computer. The game can be played with keyboard and mouse. Once the game is completed, the participants would complete the survey and then get credits for participating in the survey for class.

5. User Story

In this section we will follow the gameplay experience of Alec. As Alec plays the game, we will outline what he does as well as the intended goals for the said actions.

5.1 Character Creation

At the start of the game, Alec will quickly get instructions about how to play the game, either with the keyboard or the mouse. Soon after, Alec will come across a character creation screen. Ale is required to pick aspects from body, all facial traits and clothing, but could leave



5-1 Character creation screen. Players have many choices to make the character they want.

the other parts empty. The importance of character creation, as stated earlier is to allow Alec to feel a stronger connection with his avatar in game and then the characters he comes across as he is playing.

5.2 Getting Settled

After character creation, Alec will find his avatar in a class room. Here the teacher in the classroom introduce Alec and his classmates about the psychology class, setting the scene for the rest. After the quick introduction, the teacher will assign class partners for homework and projects and Alec will meet his partner, Sam. The screen will then fade to black.

5.3 Introduction

After the fade to black, Alec will find his avatar in class again. This time the teacher will talk about mental concerns in general, going over things like misconceptions and stigma and how it can negatively affect those with a mental concern such as depression. This chapter is important because it starts to address negative views about mental concerns, which have a known impact on those with depression [2], [9].

After the lecture, Alec can walk around and is required to talk to at least 2 of his classmates. The purpose for this is to allow Alec contact with those who's lives have been touched by depression in one form or another [9]. Alec can decide to talk to more students if he



5-2 The player is talking to Tami, a classmate about the unintended pressures on people with depression.

wants to but will be prompted by Sam to proceed after the requirement is met. If Alec follows Sam, they will proceed to the SDCC. Here Alec will be able to interact with NPCs who have been more directly affected with depression and eventually be called to the counselor's office where Alec and Sam will be asked to help with the physical manifestation of depression outbreak on campus.

5.4 Depression coping strategies and application

For the sake of brevity, chapters 3-6 will be grouped together due to the similarity in structure, and the different strategies to help with depression were laid out in section 2.2.

In chapters 3-6, the teacher will talk about strategies to help elevate the impact of depression on someone suffering from it. After the short lecture, Alec will once again walk around talking to some of his classmates understanding their views, opinions and experiences with what was talked about in class. After talking to classmates Alec will be able to talk to his teacher, in chapter 3, and go to the library with Sam to help the professor out.

Once in the library, Alec will have control of his character, allowing him to interact with objects and character. After a short while, a new character that was not accessible earlier will appear on screen. As Alec gets closer and closer to this new character, the music slowly fades until the music cuts out completely. The music here is trying to set the feeling and convey messages to Alec like how Elude® uses metaphors to convey feelings and ideas [16].

After talking to this new character, Alec will start to feel that something might be wrong with this character until all of a sudden, this new character's black dog will appear and combat will start.

Once combat starts for the first time, the teacher will quickly explain to Alec that he needs to use moves related to what was learned in class today to combat the black dog. Alec will be fighting alongside Sam and the NPC he was talking to earlier to not only weaken the black dog, but also keep the NPC healthy.



5-3 Screen shot of the first fight with the black dog

After successfully defeating Jill's black dog, Jill will thank Alec and start to seek help for her depression. This process will repeat, Alec will learn new tools, fight someone who is struggling with said tools and then help them. Every new chapter, the entire game will slowly get desaturated until the final chapter where everything will be completely grayscale to emulate a sense of impending doom and hopelessness.

5.5 The Final Test

After completing the 4 depression strategy chapters, Alec will come to chapter 7, the final exam. Alec's character will appear in the classroom as the teacher is handing out tests. The teacher walks up to Alec and asks if he knows why Sam is missing. Not knowing, the screen fades to black as Alec and his classmates take the test. After the test, Alec talk to his classmates

asking if anybody knows why Sam could not make it into class today. While nobody knows, everyone is still worried, and Alec decides to go check up on her.

As Alec walks towards Sam's room, he hears her talking criticizing herself about all the strategies' learned in the classroom. As Alec knocks on Sam's door, Sam cries "Help" and Alec realizes his happy, helpful, and cheerful project partner is someone who has been struggling with depression the most, trying to convey they you can still act all these things on the outside but still struggle with depression, and educate about that misconception.

Alec will then need to work with Sam to fight all the previous black dogs encountered throughout the game, using the correct move against the hunger dog, or the social dog to be the most effective. After successfully taming the dog for now, Sam thanks Alec and is much more open about receiving help and using the helpful strategies' Sam has learned.

6.Evaluation

This section will go over the evaluation methods to determine if the games design and education goals were met. To reiterate, the design goals are to have its educational context be smoothly integrated into the gameplay, the game needs to be easy to play and understand and the players should feel a connection to the characters in the game.

For educational goals, players should come away from the game with a better understanding of depression as well as an understanding of methods to combat depression.

To evaluate the success of the game, participants were asked to take a pretest, play the game, then complete a post-test. The purpose of the pretest is to gain an understanding of what the participants think before they play the game to see if their opinions were changed or if they learned anything during their gameplay. Questions include “Have you ever experienced symptoms of depression?” or “How educated do you feel you are when it comes to depression and mental concerns?” (See Appendix A). No questions required answers if the participant did not feel comfortable answering them. Participants would go to a online survey connected to the WPI SONA participant pool. Participants would answer multiple choice questions as well as text responses.

After the pre-test, players are able to download the game and play it at their own pace over the span of a week. Players can complete the game in one sitting or over multiple periods based on their desire and time restrictions. In general, the game takes about thirty to ninety minutes to play, depending on how comfortable a player is with the type of game as well as how in depth the player’s choices when interacting with the characters through dialog.

The post-test was used to gather qualitative data. The participants were asked to evaluate many different aspects of the game from enjoyment to educational value. Participants were asked

questions like “What part of the game did you enjoy the most?” “What part of the game did you enjoy the least?” and “How much did you learn about depression/ mental concerns?” (See Appendix B-F).

6.1 Pre-test

The pretest questions are as follows, “Have you ever experience symptoms of depression”, “Have you ever been diagnosed with depression”, “How educated do you feel you are when it comes to depression and mental concerns”, “What do you associate with depression and mental concerns”, and, “Do you play video games? These can range from console (Xbox, PlayStation, Nintendo), computer or phone”.

Each question in the pretest was used to gather metrics that could possible affect the outcomes of the post-test to help I identify possible patterns and shortcoming for different demographics. All the pre-test questions purpose will be quickly touched upon in this section.

Question 1-3 were used to get an understanding of the participants experience with depression. This was intended to be used to identify the game effectiveness depending on the participants comfort and understanding of depression. The game could be very effective at creating sympathy and empathy in those who don’t know much about depression but not effective to those who are well versed in depression concepts.

Question 4 was to gather specific ideas associated with depression before the game to see if some of these ideas changed after gameplay.

Question 5-6 (6 asking about how much participants play video games if they answered yes to question 5), are used to help identify engagement patterns in the posttest. Maybe this game

is very engaging to those who don't play video games often as opposed to those who do play video games often who did not find the game as engaging.

6.2 Post-test

Questions in the post-test were used to gather information on the game engagement as well as its ability to educate the players as well as where and how these areas can be improved. The questions are, "How much did you enjoy the game", "What parts of the game did you enjoy the most", "What parts of the game did you enjoy the least", "Did you feel a connection between you're character and the characters in the game", "What helped you feel connected", "Why didn't you feel connected to the characters in the game", "Did you feel rewarded after helping the characters in the game", "Did you sympathize with the characters in the game", "Did the game change your opinion about depression/ mental concerns", "How much did you learn about depression/ mental concerns", "Why do you think you didn't learn anything from the game", "Please list some of the biggest things you learned about depression/ mental concerns", "Do you think you will apply what you learned in real life", "Check all aspects that enhanced your learning experience", and, "What other aspects enhanced your learning".

Questions 7-9 were used to understand the players enjoyment of the game, what succeeded and what inhibited the players enjoyment of the game.

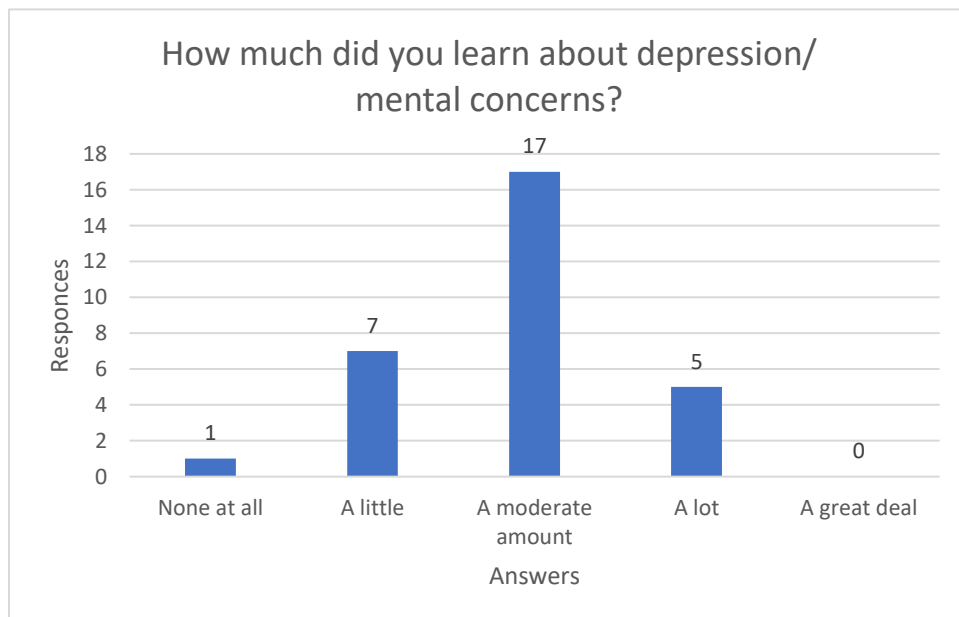
Questions 10-14 (Question 12. Why didn't you feel connected to the characters in the game) were used to evaluate the dialog between the character and the NPCs in the game. The dialog was used to provide details about depression as well as create likable characters that provided different views of depression and how it affects them.

Questions 15-22 (Question 21. If participants answered other for question 20) helped identify the games ability to educate and raise awareness of depression and mental concerns as well as what aspects of the game were more successful than others.

6.3 Results and Discussion

After the completion of the game and survey, answers were gathered and saved on WPI Qualtrics where the data could be accessed and analyzed. The data from the evaluations provide valuable insight about the strengths and weaknesses of the game, indicating what areas of the game need more work than others.

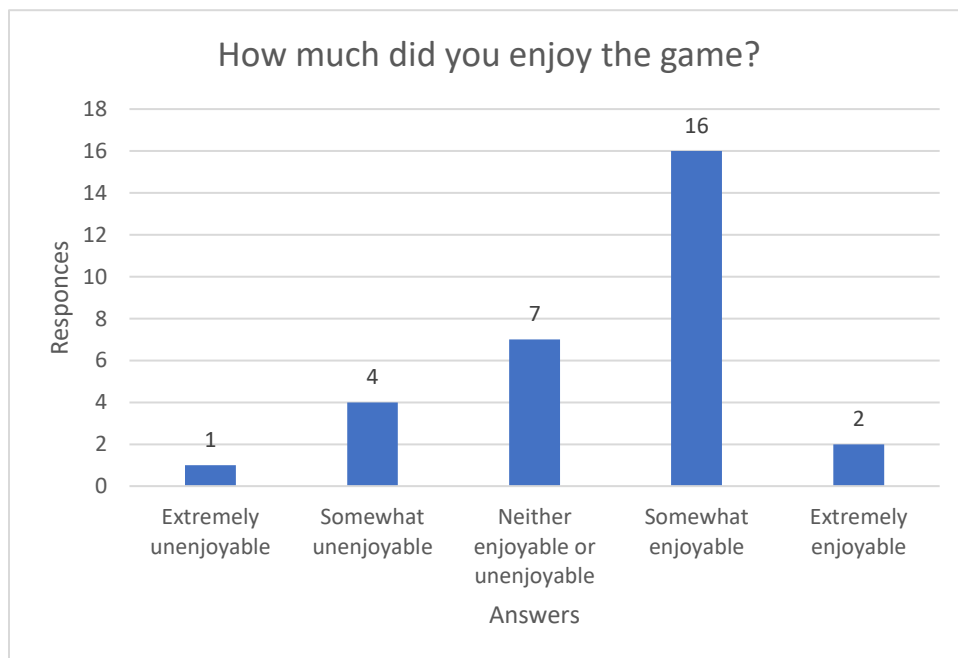
While the game does have much room for improvement, the game shows signs of starting to accomplish its goal of educating and raising awareness about depression. 96% of the participants said they learned at least a little bit with the majority, 56% saying they learned a moderate amount.



6-1 How much did you learn about depression/ mental concerns?

When looking at this question in terms of how educated the participants felt they were when it comes to depression and mental concerns, 100% of the participants who said they were “Somewhat educated”, “Not very educated”, or “Not Educated” replied that they learned at least “a moderate amount” about depression and mental concerns. Of those who answered, “fairly educated, or “Very educated” in the pre-test, only 60% of them said they learned “a moderate amount” or more. This suggests that the game has a stronger impact on those who know less about depression than others. This suggests that the game is more effective for those who know less about depression. This information can be used in two different ways. Either the game needs to do a better job at further educating those who already have an understanding of depression/ mental concerns, or, the game can be refocus on its initial success and target those who don’t know as much about the topic.

While the game does shows signs of educating the players, if the game is not engaging, the contents of the game could just as easily and most likely more effectively be taught in a classroom setting.



6-2 How much did you enjoy the game?

Out of the 30 responses, 60% of the players found the game enjoyable to some extent with most of this group saying the game was “Somewhat Enjoyable”. This suggests that the game is moving in the right direction for engagement, but it’s more important to look at the other 40% that did not enjoy the game and even more important found the game unenjoyable. Out of the 40% who did not enjoy the game, the least enjoyable parts of the game were game direction and dialog.

The comments about dialog were related to how direct it could be at certain points of the game. During the classroom section of each chapter, the teacher would talk about subject X or Y and talk about its important when combating depression. Teacher dialog was the longest dialog in the game since it was trying to provide the player with the intended strategies to combat depression.

The three main issues with the game were dialog (26%), Combat (26%) and game progress (15%). When suggesting changes to these issues, it's important they not be drastic because while people did have issues with these, there were still people who liked these aspects of the game (see Appendix D). The main comments about dialog involved how long some of it was and how unnatural it felt at times. The classroom setting is most likely the biggest cause of these critiques. In order to provide the player with the required information and context, the classroom setting required a lot of text. However, the classroom dialog, while it did provide educational value, might have ended up hurting the gameplay experience. To combat this, breaking up the teacher segment of the classroom is clearly the solution while still providing the necessary information. The initial classroom segment could only go into slight detail about the topic, and when the player gets into combat, the moves that can be used would have more educational information in the description. This will prevent the classroom setting from being too

long while also giving the players resources to learn more if they are interested since most of the long monologues are in the educational chapters.

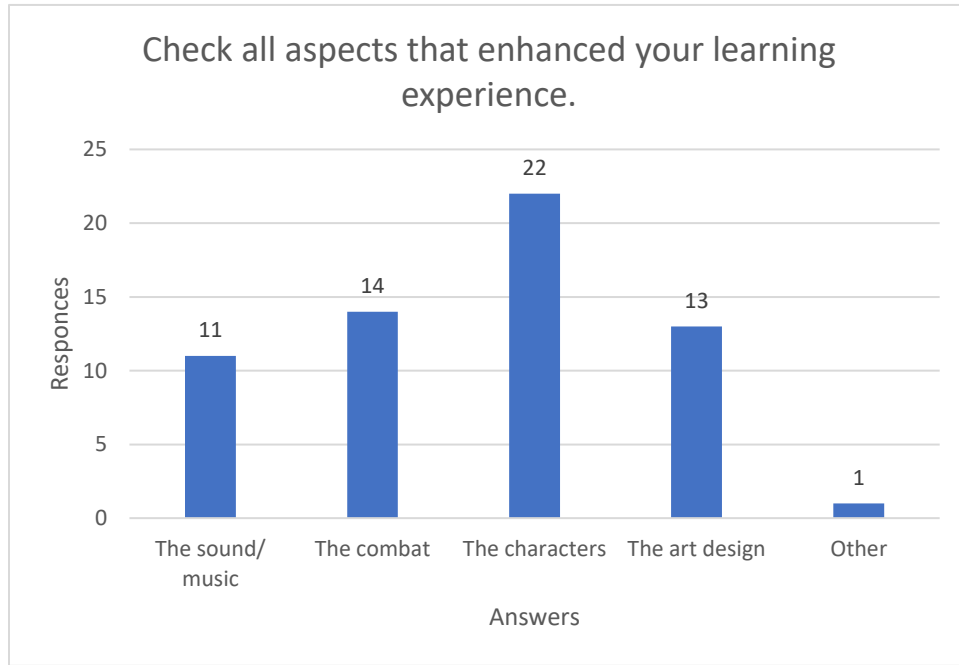
Combat is a slightly easier fix. Originally, it was a design choice to make the combat longer and more ambiguous as to when the player would win. These design choices were meant to act as a metaphor for depression and how it is a long process and it is unknown when it will end. This choice backfired and made one of the defining aspects of the game, the integration of the combat and educational goals, a hinderance for the engagement. The intended combat metaphor can be conveyed through dialog while the combat is shorter and the victory condition is clearer. With combat being clearer, it can be more difficult since the player has more information to work with which could also solve another concern some of the participants had with combat that it was too easy.

For game guidance, players seemed to want to interact with the world at their own pace, which the game mostly does, while also wanting to have clear goals, which the game lacks. For every educational chapter, the teacher will talk about the topic and then be busy for a short time. To progress, the player needs to talk to two classmates, before talking to the teacher which will allow them to progress if the player is ready. However, there was never any indication that the teacher was ready to talk. To solve this, after the player has unlocked the ability to talk to the teacher again, the teacher can in dialog let the player know she is ready whenever the player is. This will allow players to decide if they want to progress with the story or talk to more classmates. The players already have this choice, but are unaware that it exists. Similarly, whenever players talk to a NPC who is struggling with depression, they will automatically go into combat after the dialog is over. This was another issue because some people still wanted to talk to other people in the environment. Upon completing a dialog with the depressed NPC,

players can receive a prompt asking if they are ready to proceed with the chapter. If not, the player will exit the conversation and be allowed to move around again. When the player is ready to go into combat, they can go back to the NPC and choose the option to go into combat. These two changes should provide players with necessary exposition, allowing them to interact with the characters in the game at their own pace.

Participants were asked to list some of the most significant things they learned during their experience with the game. One notable theme among the responses was a higher focus on the topics of the first couple of chapters compared to the last chapters. Around 57% of the responses mentioned some aspect from the first two educational chapters of the game while only 10% mentioned items from the second two educational chapters. This discrepancy can be explained in a couple of different ways. First, it's possible many players did not end up completing the game. Gameplay was not monitored due to the varying length of play times, reaching as high as ninety minutes depending on how in depth the player wanted to get with the NPCs. Second, it's possible that the game got repetitive over time, causing players to become less attentive to the content. Third, the content in the first two educational chapters could be less widely known than the content in the second two educational chapters. With no responses in the post-test about the game being repetitive over time, it's safe to assume that player experience was not the cause for the drastic educational topic difference. 32% of the answers were related to opinion changes towards depression.

After looking at what participants learned, it's important to understand what parts of the game they enjoyed as well as what parts of the game enhanced the players' learning experience. Students were asked to check all aspects of the game that enhanced their learning experience.



6-3 Check all aspects that enhanced your learning experience.

The characters ended up being the most influential part of the game, with 63% of the players saying the characters in the game helped the most. When looking at answers from “What part of the game did you enjoy the most?” it’s seems that the NPC characters were relatable and enjoyable to talk to for many. There were some comments about the classroom setting, but those seemed to be more about the learning than the dialog (See Appendix B for list of responses for “What part of the game did you enjoy the most?”).

With the characters being the most influential part for many, it’s important to understand how to take this relatability and apply it elsewhere. One possibility it to shift some of the teacher dialog away from the teacher and try to spread it to the students in the classroom. This would ideally help the teacher feel more natural and less of a lecture, while also allowing for more interesting dialog with characters which were already a strong point. For example, the teacher

could just give a quick overview of the topic, and the students in the class can add to the information in their unique and relatable way.

7. Postmortem

Through the successes and failures of *The Black Dog*, the process provided valuable learning experience for game development and educational game development.

7.1 What went right

RPG Maker MV was definitely the right choice for this game. With the core of the game being character interaction and combat, RPG maker MV provided easy to use tools to create compelling characters and edit and add to the combat system. RPG maker MV's event system provides many tools to create in game events that can range from moving to a different room to dialog with a character. The most commonly used event in the game was dialog between characters. The dialog system allowed for easy dialog tree implementation, allowing player decisions as well as dialog gates that preventing the player from progressing unless the correct conditions are met. With the assistance of plugins, the engine's capabilities provided many valuable additions to improve the experience. Desaturation played a large role in setting the mood for the game. As the player progresses, the entire game loses color until eventually all color is lost. With the use of a desaturation plugin, a simple filter was applied to the game whenever it was needed. Things like character creation and volume changing also played important roles in the game that were easily implemented using plugins.

Two of the larger aspects of the games shows some success for the first iteration of the game suggesting that, with further work, both the combat system and the character interactions can be powerful tools to educate in this game. The goal of the NPCs was to create relatable

characters that helped players learn about depression through the eyes of others, such as the day-to-day effects of coffee and how it can negatively affect a person. For many, the characters were interesting and engaging to interact with. Combat served a similar goal, providing an engaging method to apply what is learned during the game. Players were intrigued by the combat and believed it had potential if its shortcomings were improved upon.

RPG Maker also provided an invaluable NPC creator tool. This allowed me to create generated images for the NPCs in the game. All of the choices the players have for character creation, I had for NPC creation such as hair style and color, clothing, eyes, and more. This saved an immense amount of time creating different character, allowing me to put more effort into writing and other areas of the game.

7.2 What went wrong

As lead designer and team leader during the project, more research should have been done before the building of the game started to help smooth out the production. I had very little experience with team leadership on this scale. My primary experience was with class group projects that would take a week or so to complete as opposed to designing a game for seven months. While there were deadlines scheduled for the project, I should have been more on top of these deadlines with my teammates and myself. During meetings, if I noticed something was slower than expected, I could have put more effort into understanding why this assignment was taking longer than it should have. Then I could have addressed the issue and ideally provided insight and help to my teammates. This would help them get back on track, producing what was asked of them.

To help perform this task better, more meetings should have been held, and missing these meetings should have had more consequences. At the start of the project, we had two team meetings and a project meeting with the professors per week. The team meetings happened less often as it became more difficult to meet up. To compensate for this, asking for quick online meetings could have helped this process, even communicating via email would have been beneficial. This would have given me more opportunities to evaluate the progress of the game and more chances to assist if it was needed.

Pre-development research should have been done for the engine. While the base capabilities of the engine were fairly understood, the ability to expand beyond the base engine was not well understood. Certain things like desaturation and character creation took up more time they needed to. For desaturation, a plugin was discovered where one could saturate individual tiles in the game. Once found, this approach started to get implemented immediately, but after a couple of chapters, it was clear that this method took too long to implement and had its issues. After further research, however, another plugin was found that accomplished exactly what we wanted in one line of code. Things like naming the player character and creating the player avatar had similar issues, where one initial solution ended up having problems, and after further research, better and more powerful plugins were discovered.

There are key elements of the game that can be improved to increase the overall ability to teach. There were issues with the dialog, combat, and the progression through the game.

The primary concerns about dialog were the amount and how some of it didn't feel real. For dialog density, the primary strategy would be to distribute some of the classroom information to other aspects of the game. One possibility would be to weave some of the information into classroom dialog. The primary educational information would be provided by

the teacher in the game. However, more supportive information can be provided by the students in the classroom. The player gets the important baseline information that exercise can help with depression and a little bit about why. Talking to the classmates will provide more information about why this is the case and present strategies to include exercise in their lives. The player will need to go through the classroom dialog, but if they are not interested in the topic at hand, they can avoid reading more than they want. For unnatural dialog, this can be solved by doing more research about natural dialog as well as making sure each character has a defined personality. Sam, the main character, has more detail about who the character is, thus providing a better structure for dialog.

Combat's biggest struggles ended up being a design choice. The fights were intended to be long and have no indication when they were complete. This was to act as a metaphor for the struggle people with depression go through. However, it ended up taking away from the experience. This struggle can be indicated by making combat shorter, but seems like it would take much longer. Making an individual attack from the player only deal a very small portion of the black dogs health, and making the health loss visible, and understandable could portray the metaphor of a long and difficult struggle. However, the player would only need to hurt the black dog a little bit to win the current encounter. Combat length can easily be changed by adjusting certain values in the code and. Plugins were tested during development to depict the enemy's health. Some participants also said that the combat was too easy. This is most likely due to how scripted the combat is. The black dog will always deal damage to the NPC who is struggling, meaning the player knows exactly what the Dog's actions will be. So if a player is experienced with this kind of game, it makes sense that this choice would make the game easier. Adding different moves for the black dog that are related to how depression affects its victims could

provide for interesting combat choices while still requiring the players to apply what they learn in combat.

Many players ended up having some issues with how they progressed because it was either unclear when they could move on or when they were forced to move on. This can be quickly fixed by adding triggers in game that provide information to the players, allowing them to understand what to do next. For class, after talking to two of the classmates, the teacher could call out, indicating that the teacher is ready whenever the players are. For combat, before starting dialog with a depressed NPC, a choice box can indicate that the player cannot return after starting dialog. Players can then choose to enter combat or talk to other characters before progressing.

The purpose of evaluation was to understand the success and failure of this game to educate the players. For the pre-test, questions were asked to get the players' experience with depression and games. This information would ideally be used to identify patterns for the results. For example, maybe players who have struggled with depression before learned less from the game. The "Do you play video games?" question was worded poorly. The goal was to understand if this kind of game was an effective game type to use. Maybe it was too hard, not clear or had other issues. If this was the case, maybe people who play these kinds of RPGs had a better time. The game could be designed to be tailored more to the beginner.

In the post-test, the goal was to try and understand what changed in the players as well as what facilitated this change. The primary inspiration for this game was the combat's integration with education. The other learning strategies were well known and documented. However, I ended up asking more about those methods that I did the combat. If I were to do this again, I would ask a couple of questions about the other methods with a much stronger focus on the

impact of the combat to learn more about its strengths and weaknesses. Also, better communication with my readers would have helped the evaluation process greatly. My focus almost completely on the design and development of the game, and because of that, I ended up not reaching out to advisors who would have added invaluable advice to the evaluation of the game.

Connected to my primary focus on development of the game, I did not clearly define education goals at the start of the project. I just wanted to educate about depression without deciding on a focus demographics, such as, people with or without depression. This meant that I tried to educate both parties when very different techniques and educational topic would need to be employed depending on the group. Because I didn't define my educational goals until later on, it was difficult to identify if the game was a success or a failure.

7.3 What will be done differently

For a first educational game, while not perfect my any means, shows promise and clear strategies and tools to apply in future works. While, most of the students said that they did learn from the game, how much each student learned can be drastically improved. To further improve this and future games, much can be applied from this learning experience. Some of these lessons are, to define education and design goals earlier on, and, create and test core game mechanics earlier on to identify their faults.

In future projects, much more research will be done for the game in different areas. As mentioned before, a better understanding of RPG Makers capabilities would have made certain aspects of the project such as animations easier to implement. Art is another area where more

research should have been done. The art style was pixel art with the intent of creating a disconnect between the game and real world. Not only did this conflict with the goal of helping the player understand and empathize with depression, but not research was done to back this idea. This idea came from personal experience, where I am drawn to less realistic art styles because, if done well, I focus more on the in-game world. Research should have been done to see the impacts of art style and then try to acquire assets that fit said style.

In future iterations, different aspects of the game would have had higher/lower production priority. The most notable change would have been the combat system. The initial focus of the game was to build all of the levels without combat before flushing out the combat system since the combat system could be applied to all of the levels with little hassle when compared to creating a whole level. While the implementation aspect of this is still true, since the battle system was implemented toward the end of development, the system had very little playtesting compared to other aspects. This posed problems because one of the main aspects of the game ended up having issues, such as being too long and being too easy. If the battle system was implemented earlier and tested more often, this core mechanic in the game would have been better flushed out and ideally more engaging.

More testing should have been done earlier in the game. After at least one chapter was complete with all aspects such as dialog, combat, music, and desaturation, testing should have been done for that single chapter to get feedback on all of the elements that would be present throughout the game. Things like the issues with the combat system as well as others would have popped up earlier and more could have been done about them.

As stated previously, team management ended up being a problem. Certain deadlines were not met, and there were misunderstandings of what was needed. To help this in the future,

more and different types of meetings could be help. First, short update meetings could be help either every day or every other day online. Group members would call in to a online video call service, such as google hangout or other similar tools. In these short meetings, group members would update the group on what they are working on and how its going. This allows group members as well as the team lead to understand if things are moving smoothly and allow feedback and help if needed. Then 1-2 larger meetings can be held in person. This allows the group members to display the progress of their work to help ensure that everybody is producing quality work.

Overall, the development of *The Black Dog* provided invaluable learning experience for game design, educational game design, and leadership. For game design, I now better understand the importance of identifying the key features of the game and where to focus efforts on said aspects of the game. For educational game design, I understand to define strong learning goal early on. This can set the path for design choices and goals as well as how the game can be evaluated. With the clear and defined learning goals, the definition of success can be more clearly outlines when creating games like this. Lastly, for management, I will more effectively communication and organization goals and plans to future teams. Having a set and organized system for work and clearly communicating those ideas to party members allows for not only smoother development but makes it easier to understand where things are behind schedule and how to help solve those problem.

For a first educational game, I am very proud to have had such a large role on the development of *The Black Dog*. While nowhere near perfect, there are many signs of success to come with more iterations and work put into the game.

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Appendix A: Q-4. What do you associate with depression/ mental concerns?

- Isolation, little to no communication with others, over eating, not eating enough, sleeping to much/little.
- Mood swings, sudden onset of sadness and/or loneliness
- Lack of motivation, eating issues (overeating, undereating), sleep issues, suicidal ideation
- Anxiety, social restrictions, sadness, loneliness, therapy, support, self harm, darkness
- Poor judgment, moodiness, low self-esteem, high-self-esteem,
- With depression specifically, lethargy, loneliness, and a lack of will to live.
- In terms of symptoms, I think of lack of motivation or drive, wanting to do things but finding that you can't get out of bed, lack of energy, feeling insignificant or small, suicidal thoughts, and general lack of confidence.
- Compromised judgement
- Abnormal sleep, not a good appetite, fatigue, suicidal thoughts, therapy
- Under-reported, friends, stigma
- Myself- I have PTSD and other anxiety/depression related issues
- quiet
sadness
- Sadness, helplessness
- Low energy, feeling hollow, and not feeling motivated as you were before. You are just not you.
- Therapy, sadness, medication
- Dark colors, sad people
- Lack of interest, dissociation, seclusion, stress, inability to sleep, inability to feel motivated
- Isolated, stress, irrational actions
- Lack of motivation, unsociable, self loathing
- Too much sleep, not enough sleep, loss of appetite, isolating oneself
- sadness, empty feelings, not being able to sleep, loss of interest in activities and eating too much or too little
- Difficulty spending time with others, sadness, self doubt
- irritability, therapy, trouble sleeping, suicidal thoughts, anxiety, loss of interests
- An overwhelming feeling of sadness and having less interest in life. People with depression may have problems sleeping and eating (it could be too much or not enough). People with depression feel like they are never going to get over it. For some people it comes and goes.
- Low energy, not wanting to accomplish anything, suicidal thoughts, retreating from socializing
- feeling like you can't do anything about you (emotional) situation, which spirals into continuous negative emotions more than you would have when "normal"

- Decreased interest in old hobbies, academics, and social life. Increased or decreased appetite and sleep. Periods of extreme happiness and sadness.
- Feeling down, mood swings, suicide

Appendix B: Q8 - What parts of the game did you enjoy the most?

- The fighting part was the only enjoyable part.
- The fight with Sam's dog because it required you to remember the previous enemies
- Learning the tidbits of knowledge, defeating evil creatures
NON-BINARY CHARACTER!!!!!!
- Similarities to Pokemon.
being able to interact with other characters and responding.
Customize-able character.
Connection to issues first year students face
- The way the characters in the game is relatable to me as a WPI student.
- Designing my character.
- I liked the different special moves featured in combat, and how they corresponded to what we learned in class.
- It used an engaging way to present information
- Fighting the black dogs
- Interacting with each character
Fighting the dogs
- When the teacher explained depression it was interesting and was new information I did not know.
- The combat was enjoyable enough.
- I enjoyed that I could choose what I could say to that one character.
- As someone with depression, I appreciated its portrayal. I believe it will make other people more sympathetic to it.
- I enjoyed making my own character and interacting with other AI in the world
- The learning
- Walking around and exploring different rooms
- It was very educational and in a familiar & enjoyable format
- moving around, and interacting with the space and characters.
- The structure of the game
- The graphics and how I felt a connection to my character
- I really liked the characters and the concept about the black dogs
- I enjoyed the classroom setting.
- I like the style of the game and the music. It really looks and feels like you are playing a real game. It draws me in and keeps my attention. I like the colors and how it also tries to teach you about mental health issues.
- The idea that the combat was part of dealing with their depression.
- would have liked the "battle" parts against the black dog, but there was an error and i had to quit

- Decent interface and character design.

Appendix C: Q-9 What parts of the game did you enjoy the least?

- A lot of dialogue made me lose interest.
- The combat wasn't really challenging
- That we were fighting dogs :(
- Some of the content was very boring.
The content was informative but not really fun.
The battles were very long, and I couldn't tell how much health the black dog had left
- The mini-game does seem to make the entire premise of addressing depression by "defeating it" rather than controlling it the best that one could.
- Not being able to talk to other characters if I found the person with a black dog first.
- I thought that interactions between students could be more realistic at times, but otherwise it was fine.
- Some of the text was long and tedious
- Having to wait to talk to the professor at the beginning of each day
- Moving, Conversations didn't feel natural
- I felt like it was hard to understand what to do next.
- All of the dialogue the player has to click through.
- I did not enjoy that there was no progression and I was confused whether it was a bug or because the game was unfinished or if that was the point of the game.
- N/A
- When we were fighting the dogs, the special attacks we were supposed to use were inconvenient to get to, since they were under special, and not just attacks, but that's a minor thing.
- How long it took to defeat the dog. Seemed kinda unnecessary. It was also hard to get a grasp on the controls and what I was supposed to be doing. Making that more clear would have been helpful
- Playing the game without really knowing what to do
- The combat was a bit tedious
- Reading everything each of the characters had to say when it was mostly the same, I didn't know who any of the characters were because there were no names assigned when they spoke, and the walls were a bit glitchy. Also, there were times where I didn't know how long I'd have to wait for the next task.
- Nothing
- nothing
- I found the combat turn system a little confusing
- The character selection seemed unnecessary to the overall game.
- It seemed a little weird to have random characters that look like they do not fit with the story. For example, one of the characters looked like a ship captain but was talking as if he was a student. The dialogue had a few typos and didn't always feel natural. Other than that I do not particularly dislike anything about the game itself.

- It was very point blank about the message at the beginning so I really couldn't relate. It made it feel like someone was purely trying to tell me about depression instead of showing.
- Could have made moving easier with the keys instead of a mouse click. Dialogue would sometimes cutoff in the text boxes making it harder to read.
- The dialogue did not seem genuine

Appendix D: Q11 - What helped you feel connected?

- Similar problems I'm facing.
- The name
- I'm depressed and could identify with a lot of the struggles that some of the characters were feeling
- Giving the characters names and working on school projects with them
- The narratives each character in the game
- The other characters talking about normal college stuff.
- What some of the students said was relatable to my personal experiences.
- Talking to others
- Sam constantly being there and the others being thankful after I helped them with their dogs
- Having a customized character
- The interpersonal interactions between characters
- Designing my character, and then spending so much time with Sam helped me feel connected
- I empathized with alot of the characters
- All of the different dialogues
- The other players talking to me and introducing themselves.
- The main character seemed to care about their friends

Appendix E:Q12 - Why didn't you feel connected to the characters in the game?

- There were grammatical mistakes in the text which turned me off.
- They did not speak or act very realistically.
- It seemed way too cheesy and cliché.
- The animations made it hard to connect and it didn't seem very real.
- They did not seem real to me. They were very generic and did not show much personality.
- They all felt very one note.

Appendix F: Q18 - Please list some of the biggest things you learned about depression/ mental concerns.

- Certain foods can have a negative affect on your body and mood.
- I learned that some of the things we try to do to help mental concerns end up doing more harm than good
- I knew most of the things, but really I learned most about eating healthy foods.
- Sleep deprivation or too much sleep are common signs of depression or other issues
Eating healthy and exercising can help make you feel better about yourself
Those who suffer from depression don't have a choice, they may not have even had a event that caused the depression.
- Everyone is a victim of depression and sometimes the person that seems the most cheerful is the one that is affected the most. Never ever create a situation where the victim blame themselves.
- I didn't realize that a mess-up sleep schedule could cause depression, I thought it was a symptom of depression.
- I already knew that exercising and getting a good amount of sleep were ways to combat depression, but I didn't know that getting sunlight helped.
- Diet and lifestyle can also have an impact on depression
- A good night sleep helps reduce depression.
- Eating healthy and sleep can help people with depression/ mental concerns.
Depressions/mental concerns can manifest in different ways.
People don't have to me quiet or isolated to be depressed.
- I did not know that depression could make it hard to fall asleep, I just thought people with depression were tired and slept all the time.
- Well, I knew most of the information presented in-game already, but if I hadn't, I suppose learning that actually seeing the light of day was important would have been big.
- I personally did not learn anything. The descriptions in the game are basic things that one can read on a website.
- To be honest, I didn't learn a ton because they were things I am already aware of, as someone who struggles with mental health. However, I think people who don't have depression can learn how to be more supportive through this game.
- -exercise is biologically important if you want to feel better
-something as simple as going out in the sunlight can help you fight mental illness
-way more students than id want to think so have mental illnesses
-you shouldnt compare a mental illness to a physical illness
- The different ways you can take care of your body to help you not feel depressed
- Lack of sleep is a large part of depression, not getting enough sun and being exposed to a lot of light before bed
- -get exercise
-eat right
-sleep right
-go outside every once in a while
- Sleep is a large factor
- I had already know a lot about depression, so I didnt learn anything new

- I learned more about the dietary part of mental health and the importance of offering help to people
- Learned about the stigma around depression and mental concerns
- A person does not need to have something bad happen to them to become depressed. Also, saying to someone that it does not seem so bad can actually be hurtful rather than helpful.
- Depression is not feeling sad, Depression is a mental block
- -diet is important
- -depression is when u feel negatively for a long period of time for no apparent reason
- Sleep plays a major role in health and depression.
- More on sleep and diet and how it affects depression