I. PROJECT TITLE: METEMP|SYCHOSIS: A ROLE-PLAYING GAME TO AID THE LEARNING OF GRADE 6 PUPILS

II. PROJECT TEAM: Memetendo (12 ICT 2 Group 1)

	Name	Position
1	Marc Jassper Abeleda	Research Editor
2	Noriel Achero	Director/Concept Design, Story, Illustrator, Music, Voice Actor, GDD Coordinator, Research Coordinator
3	Bryan Jay Aquino	GDD Editor
4	Jerwin Castillo	Research Editor, Voice Actor
5	Geydel Casupanan	GDD Coordinator, Content Creator, Voice Actor
6	Hannah Condada	Co-Director, Illustrator, Scenario Design, Voice Actor
7	Karl Dexter Deguzman	GDD Editor
8	Marc Charles Nelson Echavaria	Research Editor
9	Jon Lawrence Felipe	Illustrator, Producer, Voice Actor
10	Justin Gaspado	GDD Editor
11	Mary Grace Lacanilao	GDD Editor
12	Angelo Gerard Mallari	Lead Programmer, Voice Actor
13	Khen Shen Nabora	Illustrator
14	Chris Margareth Nana	Research Coordinator, Content Creator, Voice Actor
15	Joshua Nicolas	Research Editor
16	Ronan Soriano	Assistant Programmer, Voice Actor
17	Emmanuel Valenzuela	Director/Concept Design, Story, Illustrator, Character Design, Voice Actor, GDD Coordinator
18	Jeremy Ashley Viray	Research Editor

Fig. 2.1

III. NAME OF SCHOOL: New Era University – Main Campus

IV. CONTEXT AND GOALS:

Many people especially students, are being attracted in the hobby called gaming. Grade Six pupils are often attached to video games, such as Fortnite, Minecraft, Roblox, etc. they tend to disregard their studies. So, in order to balance it, the game developers inserted Logical and educational problems in games even though games can enhance once person abilities. According to Peña-Miguel Noemí and Sedano Hoyuelos Máximo, using educational game can also be very efficient in a way that if the pupils had the proper tools, they can almost do everything that can benefit to their studying without taking any dangerous and expensive risk. Educational Games is spreading widely in our society. Many game developers use this way in order to make games into much more useful by Peña-Miguel Noemí and Sedano Hoyuelos Máximo. The game developers also made sure that the Grade 6 pupils will be captivated in the game METEMP|SYCHOSIS visuals. It is because Visuals can stimulate and excites a player when playing a game (The Role of Visual Learning in Improving Students' High-Order Thinking Skills, 2016). The main goal of this study is to use the emerging interest of the Grade Six Pupils in terms of gaming, to change the negligence of their studies and to improve their learning while having fun with the cooperation works of researchers and game developers.

V. ESTIMATED PROJECT COST:

Description	Price
Labor	150,000PHP
Miscellaneous Expenses	50,000PHP
Total	**200,000PHP**

Fig. 5.1

The developers conceived and created the game within 3 months of work time. There are multiple positions such as Programmer, Illustrators, Composers, Voice Actors, etc. According to glassdor.com, the average salary of a game developer in the Philippines is PHP30,000/month. Since the developers of the game METEMP|SYCHOSIS are amateurs when it comes to developing, the 10 developers only demanded to have a PHP 15,000 salary each for the 3 months of working time. The Miscellaneous Expenses consists of the equipment, electricity, etc.

VI. AREA(S) OF INTEREST:

The researchers' area of interest is mainly focused on the field of education and game integration. It is common among students to experience boredom when required to learn new information. Education systems are rarely enticing especially when there's no exciting aspects for a student to enjoy. Most of the time books, papers, and presentations loaded with a lot of letters and words are not enough to pique a student's curiosity, resulting in lack of enthusiasm in learning participation.

Educational video games are effective tools for developing educational skills like critical thinking, motor skills and understanding of information. This type of method to impart knowledge breathes life into education as it transforms learning into an enjoyable thrilling game without boring lessons. Students assimilate and retain information even if they do not notice it. It also boosts a student's motivation if they feel immersed in the story as their success is rewarded with extra lives, new levels, medals, etc. It captures and keeps their interest in learning. Thus, creating an effective

educational game can improve a student's strategy, leadership, creativity, focus, visual memory, response time, and encourages self-immersion and participation in Learning.

VII. DIRECT BENEFICIARY/COMMUNITY OF INTEREST

The target audience of the Educational Game "METEMP|SYCHOSIS" are the Grade six pupils for the reason of their current curriculum has the four major subjects (English, Math, Science, and Filipino). This will be able to help them learn something while practicing their logical and critical thinking skills while enjoying.

Grade Six pupils are often attached to video games, such as Fortnite, Minecraft, Roblox, etc. they tend to disregard their studies. So, the developers developed a game that would merge their studies and their interest in video games. As a result, METEMP|SYCHOSIS is introduced. An Educational Game with contents and quest about English, Math, Science, and Filipino.

The developers hope that the game METEMP|SYCHOSIS will encourage the pupils to study while having fun.

Teachers will help to facilitate the teaching and enhancement of pupils in critical thinking, problem solving, interaction, creativity, teamwork, and good sportsmanship skills.

The result of this study can serve as a basis for further study about educational games. The result will also give an idea about "METEMP|SYCHOSIS" game for the benefit of future researchers.

VIII. RATIONALE:

As the world shift into a more modern and practical time, many people who has the skill to manipulate the technologies that we have into a more useful tools, some of them developed many games, but not just a game but they coded the game into much more useful hobby and they inserted the game category called "Educational Games". Many people, especially teenagers, are attracted to the hobby called gaming, many gamers spend their time and usually neglect their studies. So, in order to balance it, the game developers inserted Logical and educational problems in games even though games can enhance once person abilities the game developers made sure that the gamers will still learn something through online or offline gaming.

As the technology progress the game developers used this chance to include some advance games that the students use in order to progress more on their studies, for example the gadget called Virtual Reality Headset or VRH can project first person games and you being the main character, the medical students use this chance in order to practice very dangerous biology operations. Simulations also became popular not only to some gamers but also to the students who wants to become future pilots, by using Airplane simulators the student will be able to practice piloting and maintaining the plane in a most efficient way. But the most common way that the developers use is called Game-Based Learning (GBL) where they include educational topics in the instructions, quest, or missions of the games. Game-Based Learning helps gamers to harness not only their technical skills but also their intellectual skill in a very creative way.

The game that developers developed will undergo the test called beta test, the beta testers will grade and evaluate the game based on their own perspective and opinion. This will help the Game Developers Identify if the game that the researchers developed will be useful in the near future. The researchers will also be able to identify some or many major issues and bugs that the game may contain.

The proposed game "METEMP|SYCHOSIS" consists of four levels and a boss stage with a series of different difficulties and with a content of four major subjects of Grade Six Level. With the use of the four major subject content of the game, we could aid learning not just in one subject but also other subjects as well. It also uses a variety of different art styles to catch the attention of the target audience. With the use of different background music of the game, it can give mood and motivation to the players. And the different modes of the game (per level) will give the players interaction that could adjust and improve their critical thinking skills.

IX. STATEMENT OF THE PROBLEM:

This study will help us to understand and evaluate the effectiveness of the proposed game with the participation of subject teachers from Elementary at New Era University IS. Thus, the researchers would like to address the following research question and problems:

1. What is the perception of Grade six teachers towards METEMP|SYCHOSIS as an aid to learning in the following terms:

    1.1 Visuals

1.2 Background Music

1.3 Interaction

1.4 Content/Topic

2. What aspect of the game needs more development?

X. PROPOSED TECHNOLOGY/SOLUTION TO THE PROBLEM:

The researchers and the game developers developed an Educational Game to cope and to encourage Grade Six Pupils to study while having fun. The game was entitled "METEMP|SYCHOSIS" a game consists of 4 levels with different game modes and different difficulty. Every level consists of different subject contents of English, Math, Science, and Filipino. The game has pixelated art and smooth art, to encourage the players to continue playing, and has original music composed by the game composer.

Since the developers have a wide but simple variety of choices, we decided to include and merge all of our ideas. The game is a 2Dimensional perspective that will include four levels and a bonus boss battle level that will going to run floor by floor representing the levels with different difficulties, it will also include different kinds of game modes for example: Puzzle, educational, and quest games that will have an educational topic related to the general knowledge of Grade six level (English, Filipino, Math, and Science). The game was inspired by the anime called "Sword Art Online".

The following are the levels and description of the game mode:

Level 1 –

Description: Level 1 (Mathematical Maze)

Player's Objectives: Find Reign Descartes and escape the maze

Reward: Life Refill

Major Gameplay: Maze

Enemies: Corrupted Monsters

Level 2 –

Description: Level 2 (Library Duel)

Player's Objectives: Solve Shakespeare's Riddle

Reward: Life Refill

Major Gameplay: Click Game Quiz

Enemies: William Shakespeare

Level 3 –

Description: Level 3 (Scout's Riddle)

Player's Objectives: Help Powell in finding the constellations in the sky

Reward: Life Refill

Major Gameplay: Click Game

Enemies: None

Level 4 –

Description:	Level 4 (Castle Chase)
Player's Objectives:	Follow the scream while passing by the obstacles
Reward:	Life Refill
Major Gameplay:	Platform Game
Enemies:	Lava Obstacles

Boss Battle –

Description:	Boss Battle (METEMP|SYCHOSIS)
Player's Objectives:	Save Sychosis and Alfheim from the cruelty of Metemp
Reward:	Fang Necklace
Major Gameplay:	Hard Platform Text Array
Enemies:	Metemp

The objective of the game is that the players need to complete all the quest needed every level for them to finish the game the way they wanted.

These objectives to finish the game also need to be considered:

- Get out of the maze

  To find the sister of Rene Descartes and to get the key item that will lead and help Xavier and Fox Spirit to proceed at the next door.

- Defeat William Shakespeare

  To give them permission to proceed at the next quest and then he will give Xavier a refill of hearts that can help them at the next level.

- Hunt the stars

  Help Baiden identify the stars in the night sky while staying for the night at the camp.

- Find the scream

  Follow the scream that you heard while talking to simoun.

- Defeat Metemp at the castle

  Overcome obstacles on the way to Metemp's castle. In order to defeat Metemp, the player must answer and complete the words and riddles presented.

The following are the game specifications needed to play the game "METEMP|SYCHOSIS":

Game Engine

In our game, the engine we used to do this was Adobe Flash CS6. We used the engine Adobe Flash CS6 because of what we studied in our subject Computer Programming.

Platform

In our game the platform we used is Personal Computer also called PC.

Operating System

Windows 7,8,10 and MAC are the operating systems that can enable or play the METEMP|SYCHOSIS game.

Packaging Art

Fig. 10.1

Splash Image

Fig. 10.2

Icon

Fig. 10.3

Level 1

Fig. 10.4

Level 2

Fig. 10.5

Level 3

Fig. 10.6

Level 4

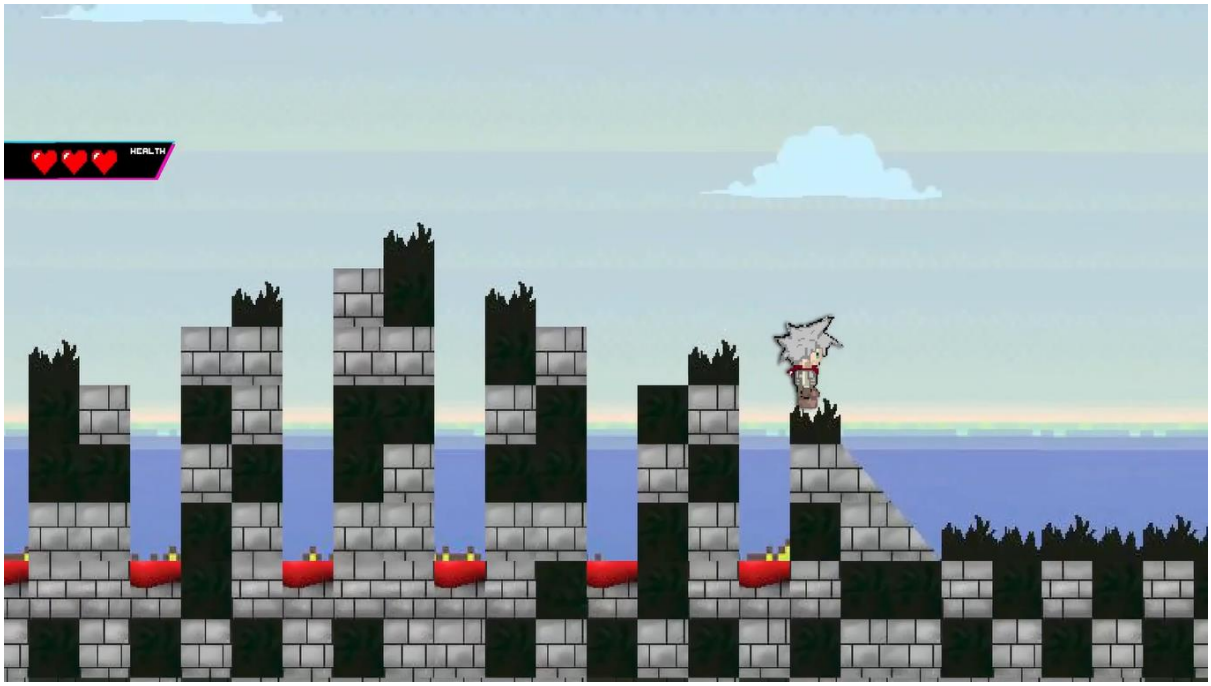


Fig. 10.7

Boss Battle

Fig. 10.8

XI. TECHNOLOGY VALIDATION:

The foundation of the game METEMP|SYCHOSIS is scrutinized and inspected through various software applications with the main usage of Adobe Flash CS6 as per required by the students' computer programming professor. The game development team also use Adobe Photoshop for image presentation elements, Medibang Paint Pro for the art pieces, Tiled for laying out the maze/platform tilesets, Finale 2014 for the music propietary composition, and FL Studio to mix and harmonize the pieces by the music composers. Through the said software the game went a process of investigation by observing how the game follows the flow of the implemented codes and how the game proceeds through different levels ranging from level 1 to boss battle.

For Analyzing the Interactive Segment of the game (Levels, Cut scenes, Decision-Making, Codes, etc.):

-The correctness and smoothness of frame-by-frame transition trialed to see whether the assigned number inside the code section is accurate and leaps to the specified frame.

-The segregation of layers per element went observation to confirm readability and comprehensibility of arrangement.

-The Interactive buttons and letters is tested to confirm precision of scene transitions.

-The Compiler Error Section of Adobe Flash CS6 is used put to use in order to attempt and Fix the bugs encountered.

For studying and classifying the visual segment of the game (Character design, Scenery, Loading screens, buttons, etc.)

-The Character's anatomy and color palette combines with the ambiance of the game's scenarios.

-Medibang Paint Pro and Adobe Photoshop is used to create and illustrate art masterpieces that will be featured inside the game.

-Finale 2014 and FL studio is used be utilized to produce music pieces that blend well together with the setting of the game METEMP|SYCHOSIS.

The Validation and Authentication of the tools used for the whole project is essential in granting the presenter adequate time and variety of instruments to bring the game to life and present the final project design/prototype successfully and so to speak, will be bug-free.

Data and Results:

The content of this chapter are the data gathered from the respondents through online forms for the research paper entitled "METEMP|SYCHOSIS: A ROLE-PLAYING GAME TO AID THE LEARNING OF GRADE 6 PUPILS". The following are the data interpreted by the researchers, each question are then presented in bar graphs.

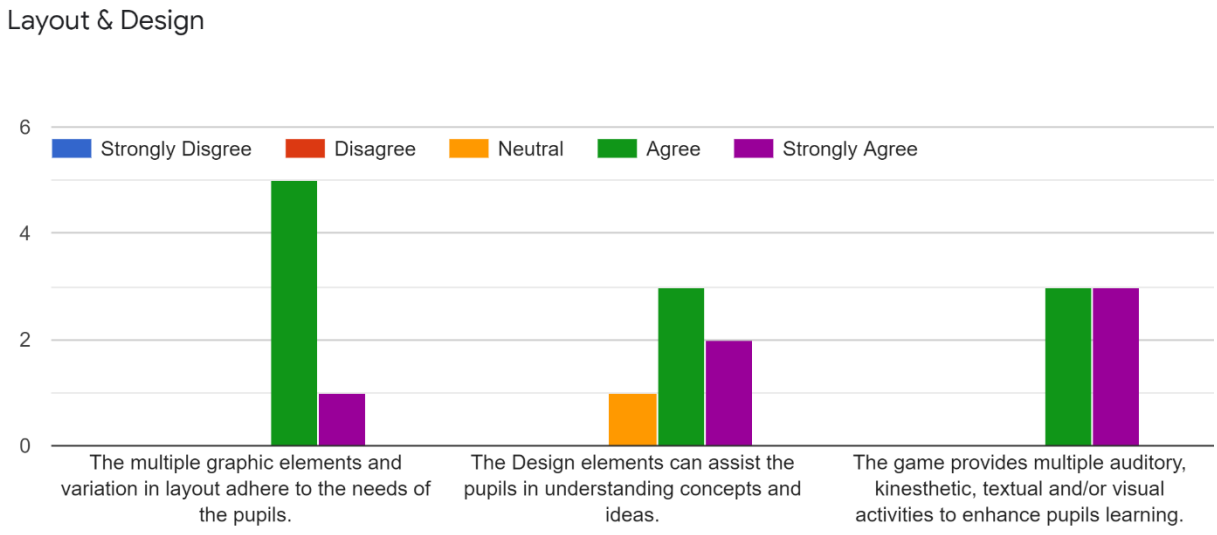


Fig. 11.1

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Results
Question 1	0	0	0	5	1	4.17	Agree

Fig. 11.2

Out of 6 respondents, 5 of them answered Agree while the remaining 1 respondent answered Strongly Agree. Therefore, they all agreed that the multiple graphic elements and variations in layout of the game METEMP|SYCHOSIS will help the pupils of their needs.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Results
Question 2	0	0	1	3	2	4.17	Agree

Fig. 11.3

Out of 6 respondents, 1 answered Neutral, 3 of them answered Agree, while the remaining 1 respondent answered Strongly Agree. Therefore, they are agreed that the design element can really assist the pupils when it comes to understanding concepts and ideas.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Results
Question 3	0	0	0	3	3	4.5	Strongly Agree

Fig. 11.4

On the third question, 3 out of 6 respondents answered agree, while 3 answered strongly agree. The mean on this question is 4.5. Therefore, the result on the third question is that they strongly agree that METEMP|SYCHOSIS provides multiple auditory, kinesthetic, textual and/or visual activities to enhance pupils learning.

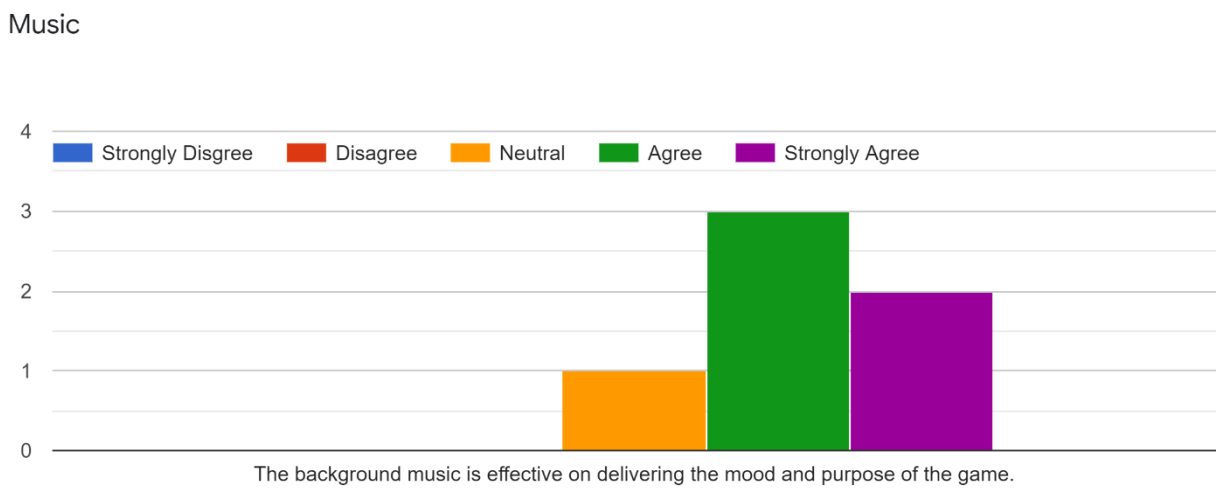


Fig. 11.5

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Results
Question 4	0	0	1	3	2	4.17	Agree

Fig. 11.6

On the forth question, 1 out of 6 respondents answered neutral, and 3 answered strongly agree, and 2 answered strongly agree. The mean on this question is 4.17. Therefore the result on the forth question is that they agree that the background music of the METEMP|SYCHOSIS is effective on delivering the mood and purpose of the game.

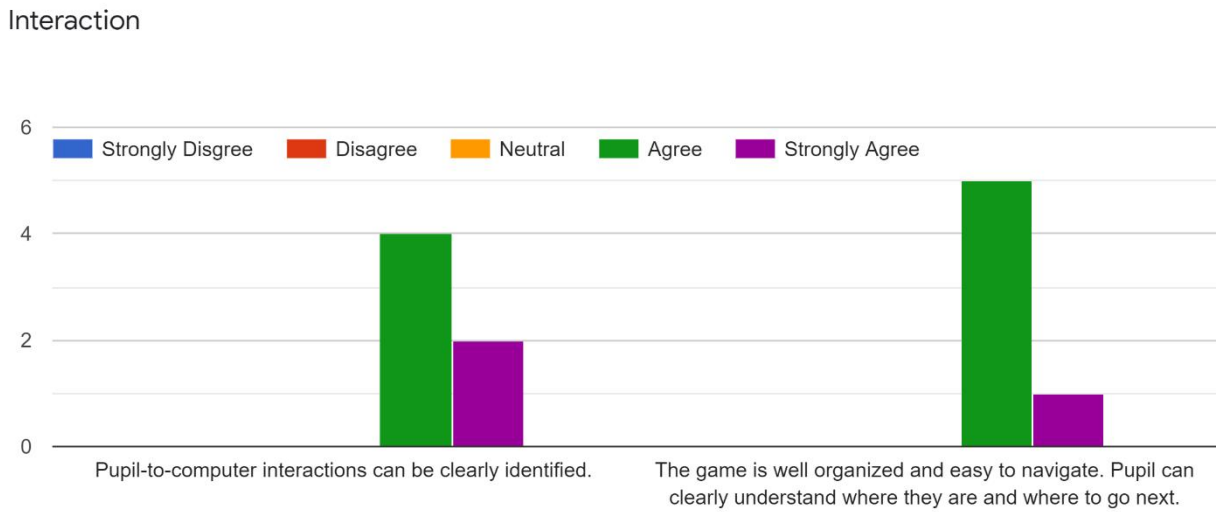


Fig. 11.7

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Results
Question 5	0	0	0	4	2	4.33	Agree

Fig. 11.8

Out of 6 respondents, 4 of them answered Agree, while the remaining 2 respondents answered Strongly Agree. Therefore, they are agreed that pupil-to-computer interactions is clearly identified.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Results

Question 6	0	0	0	5	1	4.17	Agree

Fig. 11.9

On the sixth question, 5 out of 6 respondents answered agree, and 1 answered strongly agree. The mean on this question is 4.17. Therefore the result on the sixth question is that they agree the game METEMP|SYCHOSIS is well organized and easy to navigate. Pupil canclearly understand where they are and where to go next.

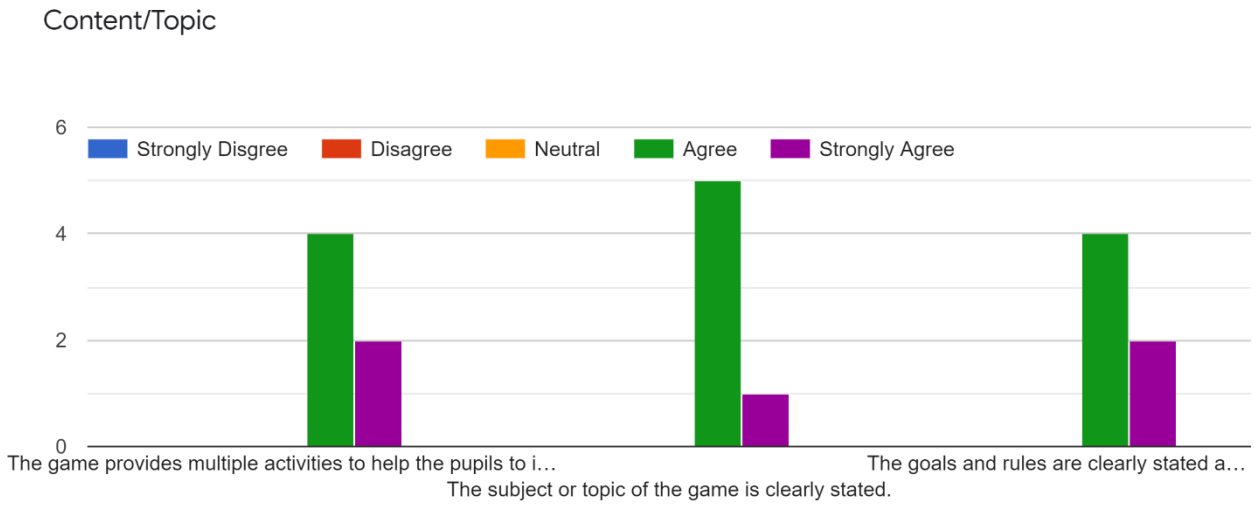


Fig. 11.10

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Results
Question 7	0	0	0	4	2	4.33	Agree

Fig. 11.12

Out of 6 respondents, 4 agreed, while the other 2, strongly agreed. Meaning that respondents agreed that all of the goal and rules are clearly stated and it helps the pupil know and have the appropriate knowledge to complete the game.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Results

Question 8	0	0	0	5	1	4.17	Agree

Fig. 11.13

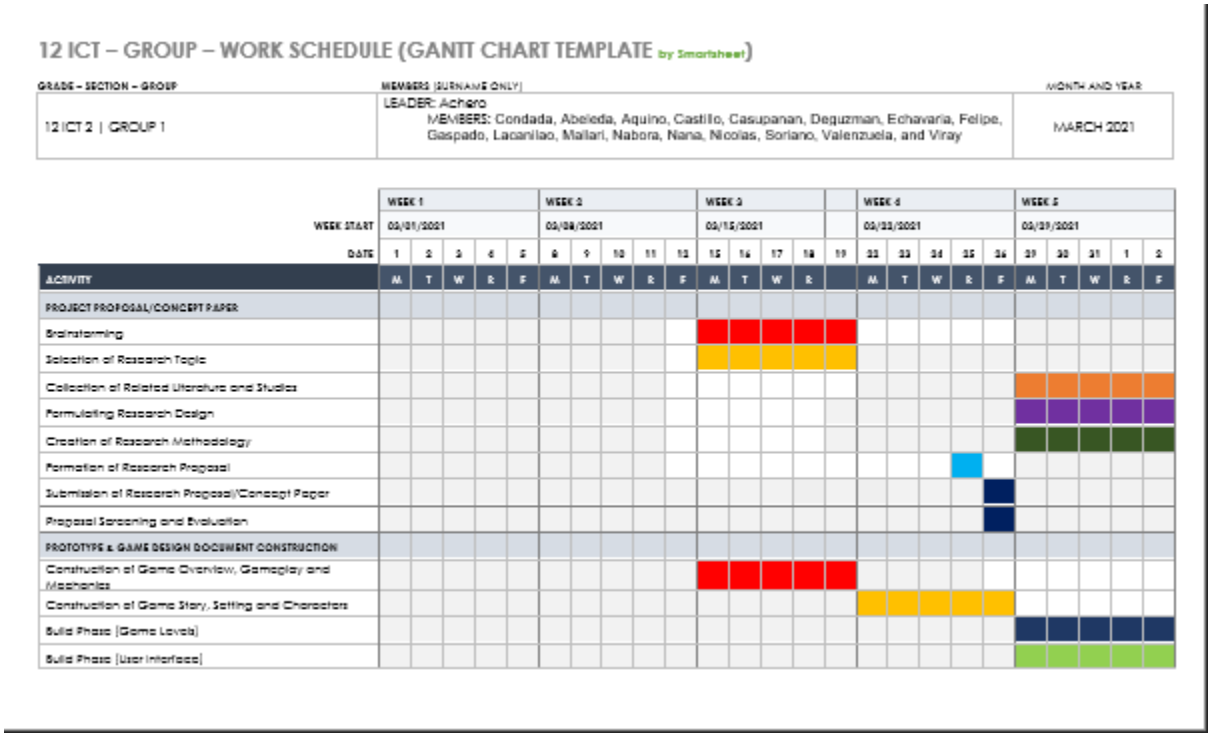
Out of 6 respondents, 5 simply agreed while 1 of them strongly agreed, with the overall result of all respondents agreeing that the game's topic is clearly stated.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Results
Question 9	0	0	0	4	2	4.33	Agree

Fig. 11.14

Out of 6 respondent 4 of them are answered Agree while the 2 remaining respondent answered strongly Agree Therefore they agree that all goal and rules are clearly stated and it will help pupil to know and be able to accomplish the game.

XII. PROJECT SCHEDULE:

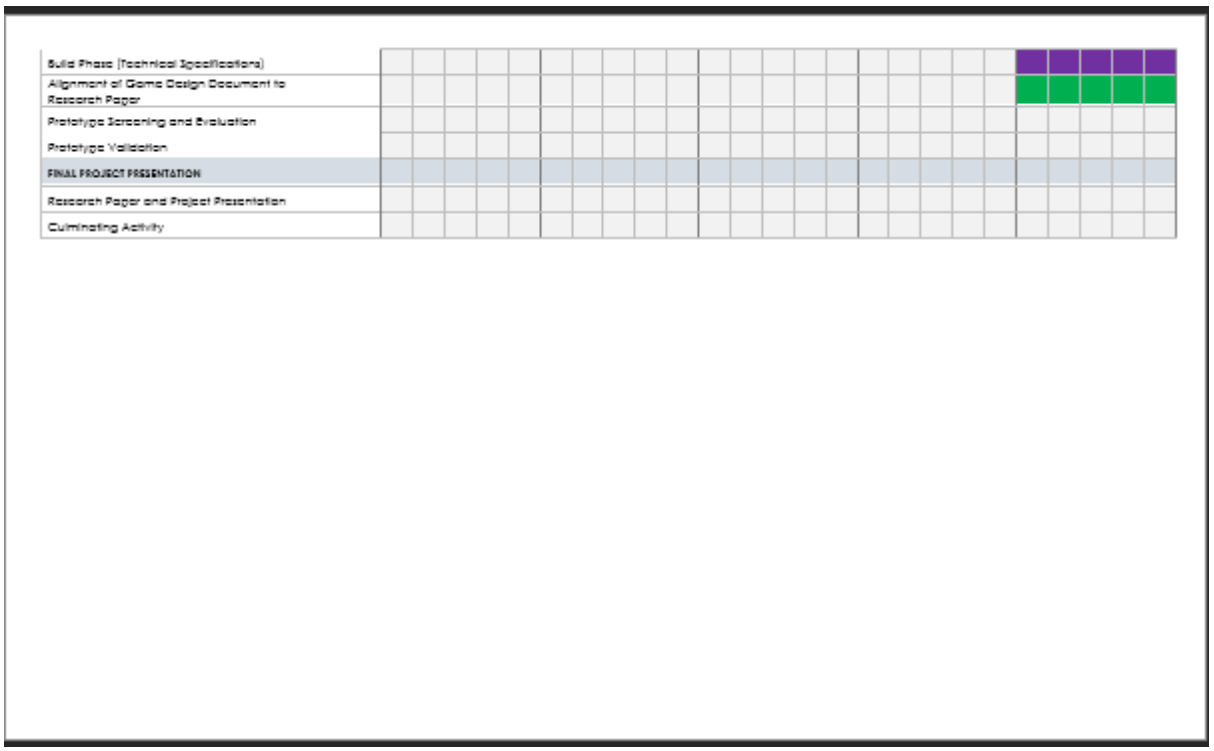


12 ICT – GROUP – WORK SCHEDULE (GANTT CHART TEMPLATE by Smartsheet)

GRADE – SECTION – GROUP	MEMBERS (SURNAME ONLY)	MONTH AND YEAR
12 ICT 2 | GROUP 1	LEADER: Achero MEMBERS: Condada, Abeleda, Aquino, Castillo, Casupanan, Dequzman, Echavaria, Felipe, Gaspado, Lacanilao, Mallari, Nabora, Nana, Nicolas, Soriano, Valenzuela, and Viray	MARCH 2021

	WEEK 1					WEEK 2					WEEK 3					WEEK 4					WEEK 5				
WEEK START	03/01/2021					03/08/2021					03/15/2021					03/22/2021					03/29/2021				
DATE	1	2	3	4	5	8	9	10	11	12	15	16	17	18	19	22	23	24	25	26	29	30	31	1	2
ACTIVITY	M	T	W	R	F	M	T	W	R	F	M	T	W	R		M	T	W	R	F	M	T	W	R	F
PROJECT PROPOSAL/CONCEPT PAPER																									
Brainstorming																									
Selection of Research Topic																									
Collection of Related Literature and Studies																									
Formulating Research Design																									
Creation of Research Methodology																									
Formation of Research Proposal																									
Submission of Research Proposal/Concept Paper																									
Proposal Screening and Evaluation																									
PROTOTYPE & GAME DESIGN DOCUMENT CONSTRUCTION																									
Construction of Game Overview, Gameplay and Mechanics																									
Construction of Game Story, Setting and Characters																									
Build Phase (Game Levels)																									
Build Phase (User Interface)																									

Fig. 12.1



Build Phase (Technical Specifications)																										
Alignment of Game Design Document to Research Paper																										
Prototype Screening and Evaluation																										
Prototype Validation																										
FINAL PROJECT PRESENTATION																										
Research Paper and Project Presentation																										
Culminating Activity																										

Fig. 12.2

12 ICT – GROUP – WORK SCHEDULE (GANTT CHART TEMPLATE by Smartsheet)

GRADE – SECTION – GROUP	MEMBERS	MONTH AND YEAR
12 ICT 2 GROUP 1	LEADER: Noriel Ochoco MEMBERS: Hannah Condada Marc Jassper Abeleda Bryan Jay Aquino Jerwin Castillo Gerubel Casumanan Karl Dexter Deguzman Marc Charles Nelson Echavaria Jon Lawrence Felipe Justin Gasgado Mary Grace Lacanilao Angelo Gerard Mallari Khen Shen Nabura Chris Margareth Nana Joshua Nicolas Ronan Soriano Emmanuel Valenzuela Jeremy Ashley Viray	APRIL 2021

	WEEK 1					WEEK 2					WEEK 3					WEEK 4				
WEEK START	03/01/2021					03/08/2021					03/15/2021					03/22/2021				
DATE	5	6	7	8	9	12	13	14	15	16	19	20	21	22	23	26	27	28	29	30
ACTIVITY	M	T	W	R	F	M	T	W	R	F	M	T	W	R		M	T	W	R	F
PROJECT PROPOSAL/CONCEPT PAPER																				
Brainstorming																				
Selection of Research Topic																				
Collection of Related Literature and Studies																				

Fig. 12.3

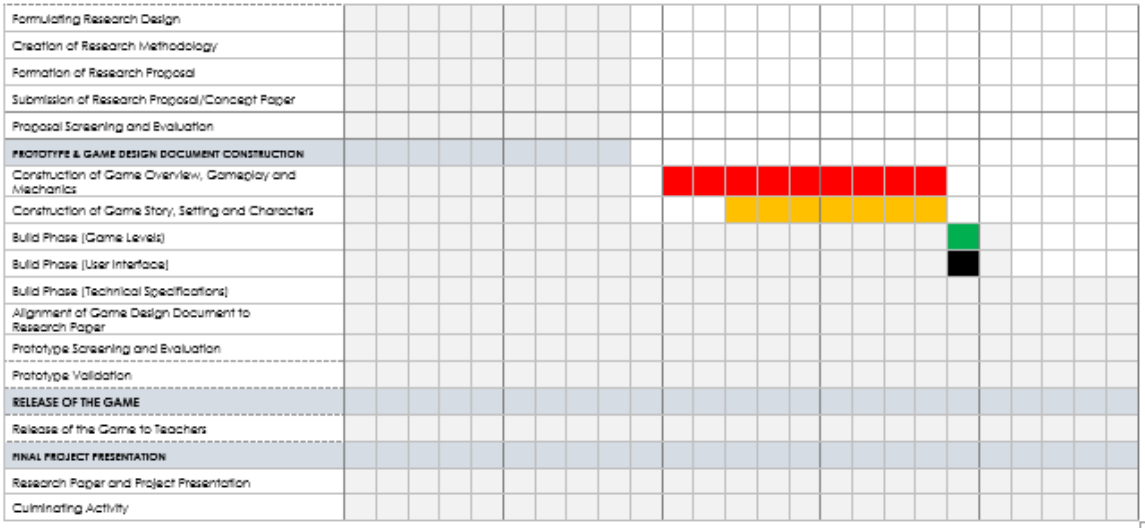
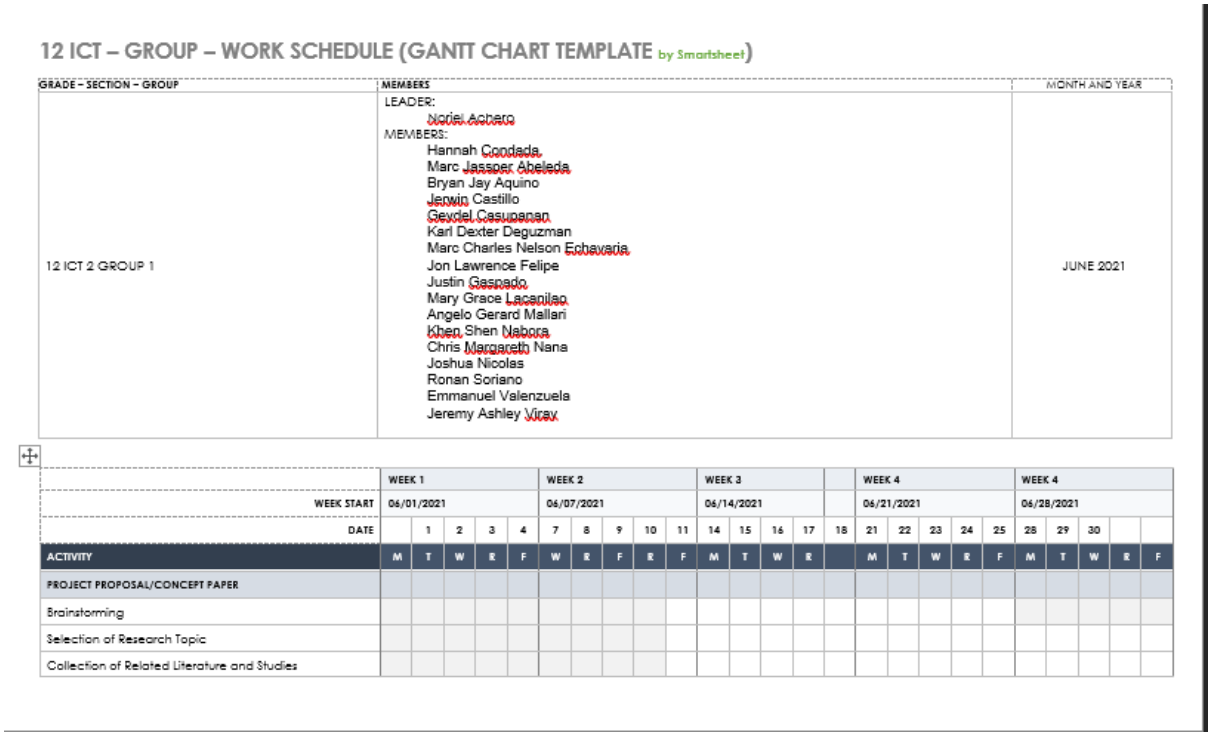


Fig. 12.4

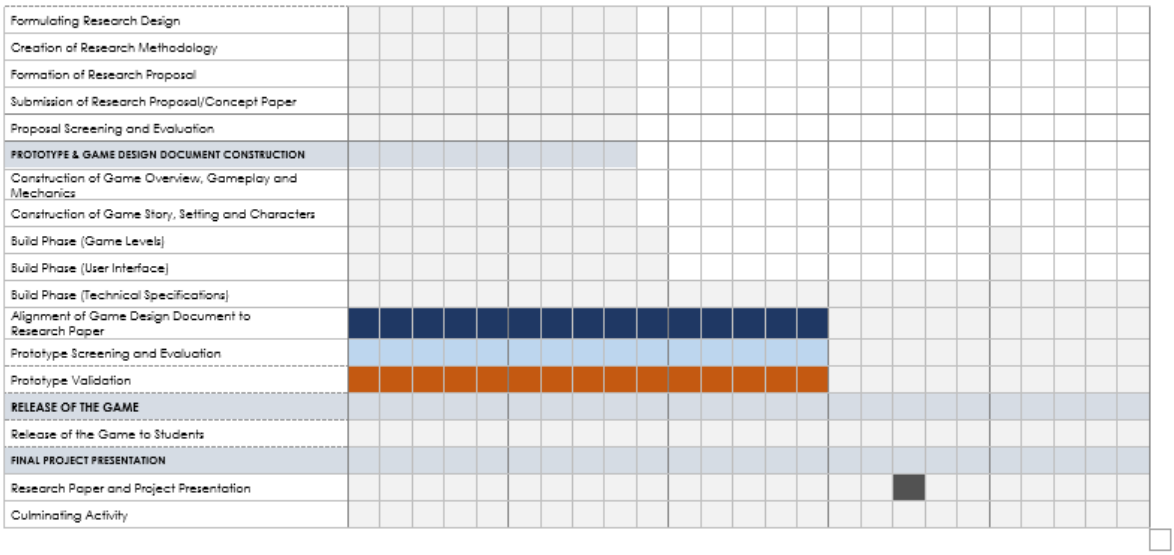


12 ICT – GROUP – WORK SCHEDULE (GANTT CHART TEMPLATE by Smartsheet)

GRADE – SECTION – GROUP	MEMBERS	MONTH AND YEAR
12 ICT 2 GROUP 1	LEADER: Noriel Achero MEMBERS: Hannah Condada Marc Jassper Abeleda Bryan Jay Aquino Jerwin Castillo Geydel Casupanan Karl Dexter Deguzman Marc Charles Nelson Echavaria Jon Lawrence Felipe Justin Gaspado Mary Grace Lacanilao Angelo Gerard Mallari Khen Shen Nabora Chris Margareth Nana Joshua Nicolas Ronan Soriano Emmanuel Valenzuela Jeremy Ashley Virav	JUNE 2021

	WEEK 1					WEEK 2					WEEK 3					WEEK 4					WEEK 4				
WEEK START	06/01/2021					06/07/2021					06/14/2021					06/21/2021					06/28/2021				
DATE		1	2	3	4	7	8	9	10	11	14	15	16	17	18	21	22	23	24	25	28	29	30		
ACTIVITY	M	T	W	R	F	W	R	F	R	F	M	T	W	R		M	T	W	R	F	M	T	W	R	F
PROJECT PROPOSAL/CONCEPT PAPER																									
Brainstorming																									
Selection of Research Topic																									
Collection of Related Literature and Studies																									

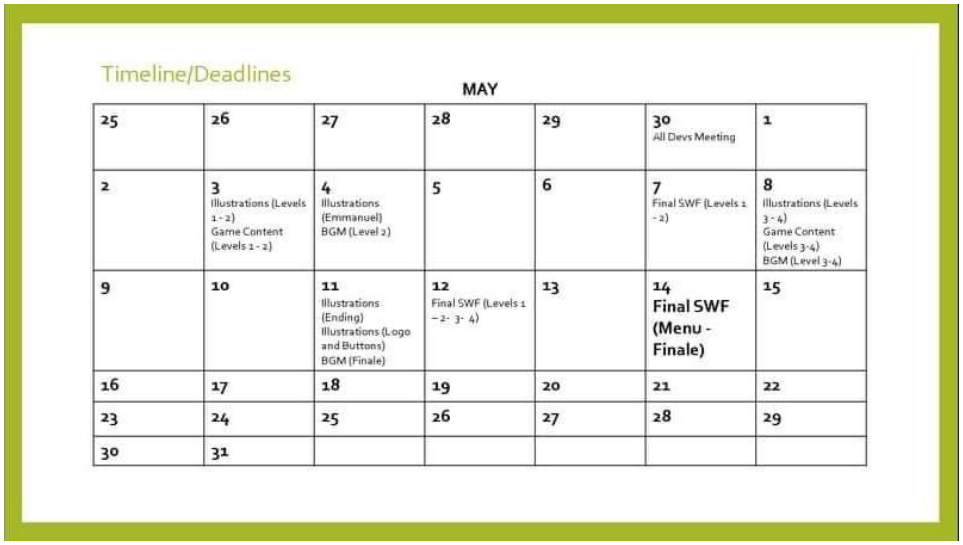
Fig. 12.5



Formulating Research Design	
Creation of Research Methodology	
Formation of Research Proposal	
Submission of Research Proposal/Concept Paper	
Proposal Screening and Evaluation	
PROTOTYPE & GAME DESIGN DOCUMENT CONSTRUCTION	
Construction of Game Overview, Gameplay and Mechanics	
Construction of Game Story, Setting and Characters	
Build Phase (Game Levels)	
Build Phase (User Interface)	
Build Phase (Technical Specifications)	
Alignment of Game Design Document to Research Paper	
Prototype Screening and Evaluation	
Prototype Validation	
RELEASE OF THE GAME	
Release of the Game to Students	
FINAL PROJECT PRESENTATION	
Research Paper and Project Presentation	
Culminating Activity	

Fig. 12.5

Game Developers' Schedule



Timeline/Deadlines

MAY

25	26	27	28	29	30 All Devs Meeting	1
2	3 Illustrations (Levels 1 - 2) Game Content (Levels 1 - 2)	4 Illustrations (Emmanuel) BGM (Level 2)	5	6	7 Final SWF (Levels 1 - 2)	8 Illustrations (Levels 3 - 4) Game Content (Levels 3-4) BGM (Level 3-4)
9	10	11 Illustrations (Ending) Illustrations (Logo and Buttons) BGM (Finale)	12 Final SWF (Levels 1 – 2- 3- 4)	13	14 **Final SWF (Menu - Finale)**	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

Fig. 12.6

XIII. REFERENCES

Gentile D.A., Gentile J.R. Violent Video Games as Exemplary Teachers: A Conceptual Analysis. J. Youth

Adolesc. 2008;37:127–141.

McDougall J., Duncan M.J. Children, video games and physical activity: An exploratory study. Int. J. Disabil.

Hum. Dev. 2008;7:89–94.

Ni Mhurchu C., Maddison R., Jiang Y., Jull A., Prapavessis H., Rodgers A. Couch potatoes to jumping beans: A

pilot study of the effect of active video games on physical activity in children. Int. J. Behav. Nutr. Phys. Act.

2008;5:8.

Murphy E.C.-S., Carson L., Neal W., Baylis C., Donley D., Yeater R. Effects of an exercise intervention using

Dance Dance Revolution on endothelial function and other risk factors in overweight children. Int. J.

Pediatr. Obes. 2009;4:205–214.

Maddison R., Foley L., Ni Mhurchu C., Jiang Y., Jull A., Prapavessis H., Hohepa M., Rodgers A. Effects of

active video games on body composition: A randomized controlled trial. Am. J. Clin. Nutr. 2011;94:156–163.

Cole H., Griffiths M.D. Social Interactions in Massively Multiplayer Online Role-Playing Gamers.

Cyberpsychol. Behav. 2007;10:575–583.

Gentile D.A., Anderson C.A., Yukawa S., Ihori N., Saleem M., Ming L.K., Shibuya A., Liau A.K., Khoo A.,

Bushman B.J., et al. The Effects of Prosocial Video Games on Prosocial Behaviors: International Evidence

from Correlational, Longitudinal, and Experimental Studies. Pers. Soc. Psychol. Bull. 2009;35:752–763.

Greitemeyer T., Osswald S. Effects of prosocial video games on prosocial behavior. J. Pers. Soc. Psychol.

2010;98:211.

Backlund, P. and Hendrix, M. (2013). Educational games - are they worth the effort? A literature

survey of the effectiveness of serious games. In Games and Virtual Worlds for Serious Applications

(VS-GAMES), 2013 5th International Conference on.

Joe Todd , (2020) Video games can add to kids' learning during COVID-19 pandemic