

# HOW CAN VR TECHNOLOGY HELP PEOPLE GAIN A BETTER UNDERSTANDING ABOUT DYSLEXIA

## Overview & Objectives

This study examines the focus of research progress in dyslexia worldwide and psychological and technological intervention in dyslexia and reflect on the limitation of study on raising public awareness.

The purpose of this study:

1. summarise the mental depression and anxiety people with dyslexia encounter caused by misunderstanding by the general public about dyslexia
2. explore the impact and popularity of digital game-based learning in public
3. design a VR game as an approach for mitigating the phenomena of lack of self-disclosure of dyslexia and misconceptions about people with dyslexia in the educational environment by motivating the public to learn about dyslexia through the popularity and influence of gaming culture and VR technology. As a result of the study, there is a general design of VR games for educating people about dyslexia according to examinations and research methods.

## Some Facts about dyslexia

Dyslexia is a life-long learning disability that is characterized in deficits of reading, spelling and writing. It is neurobiologically different in patterns of left parietotemporal areas of functional brain which is in charge of comprehending written and spoken language compared to normal readers. Dyslexia is considered to be two types: developmental and acquired. Developmental dyslexia is generally considered to be a genetic condition, inherited through your genes. Acquired dyslexia can be caused by a brain injury. Since the study of dyslexia started earlier in Western countries, most people from countries with languages that use logograms (languages using different characters other than alphabets) believed that dyslexia would not affect their reading, writing and spelling. However, there is growing research that confirms that dyslexia is independent of language spoken.

Yu Yao University of York 2022 scholar

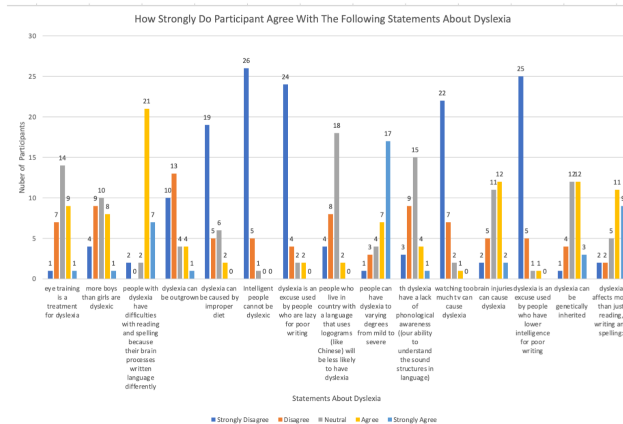
Brief about Design of Game

## Methods & Results



### • Questionnaire: How much do you know about dyslexia

It was selected for this study to examine what degree of understanding and misconceptions in public perceptions has about dyslexia, and the factors that intervened participants to learn about dyslexia.



In result, that most of participants have learned about dyslexia from knowing people with dyslexia as well as have been diagnosed themselves as dyslexic and from educational institutions like schools and universities. Based on that, the result of test in the knowledge base is not as reliable as representation of average level of knowledge about dyslexia of public perception.

### • Semi-structured Interviews with experts in study of dyslexia for suggestions of what can be included in the Game

- portray people with dyslexia of both weakness and strength
- , bringing up a board spectrum of dyslexia in varying degrees of difficulties in language skills beyond phonology
- simulated experiences of people with dyslexia for players to learn how it causes inconvenience in real life

Name of Game: Deslyxia Mthy

Genre: First-person puzzle video game for players

Intro: Players are given clues from different types of dyslexic NPCs through conversations. By completing their tasks through interactive activities, and intimate exploration in scenarios to put together a storyline or find specific items requested by NPCs. The level of difficulties of scenarios are matched with severity levels of people with dyslexia from mild to severe, as well as associated with design of scenarios.

Mechanism: players will learn what their final goals for pass the level from conversation with NPCs as a beginning. The goals can be as easy as going friend's house for requesting a file that player needs to find or as hard as detecting a full storyline of what this NPC have experienced through progressive development of tasks for clues. As the level adds up, there is also increase in mechanism of the game.

there will be more requested tasks of finding clues sequentially through exploration of players in the situated space, and interactivity with dyslexic NPCs for analyse the clue and obtain the hints for the next clues.

