

# The Necessity and Future Challenges of Video-Based Learning

— From the Perspective of Students with Mild Dyslexia —

## 1 WHAT IS DYSLEXIA

### Main Difficulties of Dyslexia

Difficulty with reading & writing (decoding/encoding), letter confusion (b/d/p/q), and comprehending sentences.

A variable developmental disorder that appears by age three and is characterized by impairment to the ability to form normal social relationships by impairment to the ability to communicate with others and by stereotyped behavior patterns

Visual Perception in Dyslexia

## 2 INTRODUCTION

Dyslexia tendencies → Reading textbooks is difficult  
 → Use YouTube to study (sound + visuals help understanding)  
 Problem: Videos don't match textbooks → Confusing!

## 3 PREVIOUS STUDIES

- Video / multimedia → **beneficial for students with dyslexia** (Knoop-van Campen et al., 2020) <sup>1)</sup>
- Narrated text + visuals → **better learning than text alone** (Ginns, 2005) <sup>2)</sup>

Why isn't there an official video textbook?

## 4 MY APPROACH

- 1 Asked textbook company about video materials
- 2 Tried making educational videos with AI

## 5 RESULTS

### 1 From Contacting Publishers

Lack of money & staff  
 Videos are not officially recognized  
**Uncertain demand**  
 → Hard to produce

### 2 From AI Video Creation

Errors found  
 → AI output lacked accuracy



Is that true?

Figure 1  
 Percentage of second-year students at Konko Gakuen High School who may have dyslexia

Survey Method : 10-item dyslexia checklist for 2nd-year students. Scoring 7 or more items = likely to have dyslexia

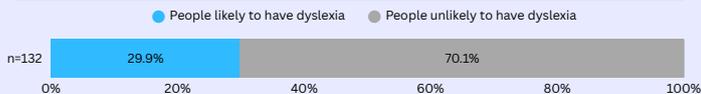


Figure 3  
 Percentage of students who use videos when studying



Figure 5  
 Percentage of students who would want to use textbook-aligned video materials if they were available

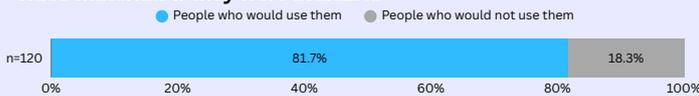


Figure 2  
 Awareness of dyslexia among students

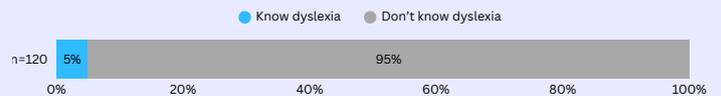


Figure 4  
 Percentage of students who find videos (such as Study Sapuri or YouTube) difficult to use



Figure 6  
 Readability: UD Fonts vs. Mincho Fonts



## 6 CONCLUSION

- About 30% may have dyslexia tendencies, but awareness is low
- About 80% say UD fonts easier to read

### Discussion 1

Many may not realize their traits, and some rely on videos because reading is difficult

- Many students study using videos
- About 20% of students find existing video learning materials difficult to use
- About 80% want textbook-based videos

### Discussion 2

There is demand for textbook-based videos

## 7 NEXT CHALLENGE

### 1 Increase awareness of dyslexia

- Promote awareness at school and local elementary schools
- Request teachers and publishers to adopt UD fonts

### 2 Share the need for educational videos

I want to create a society where everyone can recognize their own learning traits and study in the way that works best for them.



<sup>1)</sup> Knoop-van Campen, C. A. N., Segers, E., & Verhoeven, L. (2020). Effects of audio support on multimedia learning processes and outcomes in students with dyslexia. *Computers & Education*, 150, 103858.  
<sup>2)</sup> Ginns, P. (2005). Meta-analysis of the modality effect. *Learning and Instruction*, 15(4), 313-331.

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