

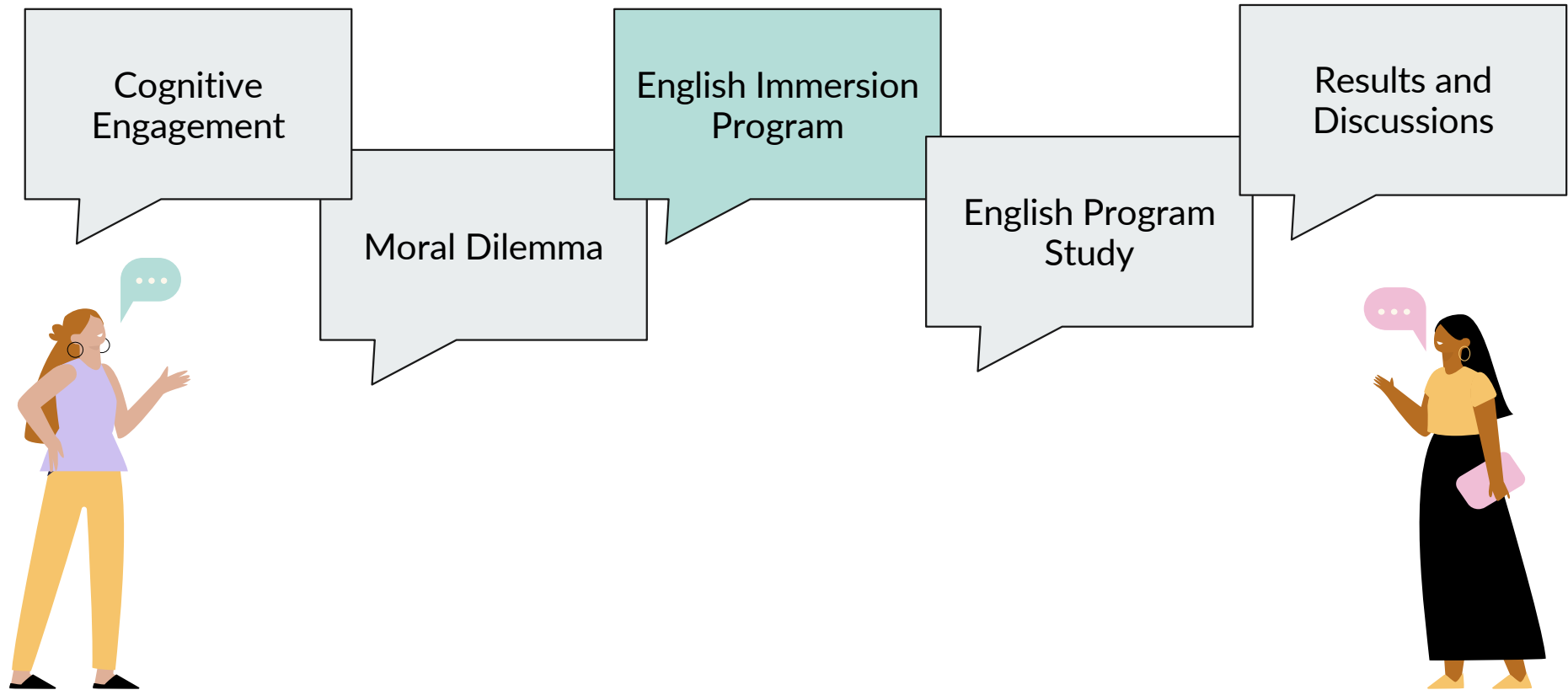
# Cognitive Engagement of Japanese High School Students During an Immersive English Language Program

Miyuki Rachel Oshima, Iou-Shiuan Chou (Angela),  
Nozomi Ando (Grace Wilson), and Professor Yasunori  
Morishima

International Christian University



# Overview



# Cognitive Engagement

**Cognitive Engagement:** *“a psychological state in which students put in a lot of effort to truly understand a topic and in which students persist studying over a long period of time.”* (Rotgans & Schmidt, 2011)

- Increase learning motivation and academic achievements (Sinatra et al., 2015).
- Increase critical thinking (Lv et al., 2022) and deep cognitive processing (Liu et al. 2015).



# How do we measure Cognitive Engagement?

- Motivation and participation during activities (Appleton et al., 2006)
- Autonomy or Self-Regulatory Strategies (Rotgans & Schmidt, 2011, Green, 2015)
- Time and effort spent (Rotgans & Schmidt, 2011)
- Critical Thinking
- Comprehension Levels



## Moral Dilemma Discussions & Debates

Moral Dilemma discussions involve topics (*empathy, logic, decision making*) that **increase cognitive investment**.

- *Cognitive investment increases cognitive engagement.*
- Debates **increase critical thinking** in L2 (Rashtchi & Sadraeimanesh, 2011)
- Arguments and counter-arguments **increase L2 proficiency** (Majidi et al., 2020)
- Moral dilemma discussions **increase reading comprehension** in L2 (Zea, 2007)

Moral dilemma discussions/debates can increase **cognitive engagement**

# Immersive L2 English Language Program

- Native Environment (3 coaches)
  - 3 in person & 6 online (4 months)
- **Reading Assignments**
  - Reading Reviews & Discussions
- Moral Dilemma **Discussions & Debates**
- **Final Group Debate (Script)**



SUN	MON	TUE	WED	THU	FRI	SAT
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

# Regular Sessions

Each session: (Participation) 90 minutes

1. English warm up activity [10 min]
2. Reading review questions [20 min]
3. Reading topic **discussions** (moral dilemma issue) [20 min]
4. Moral dilemma debate topic **discussions** [30 min]
  - o [15 min] in small groups and [15 min] with everyone



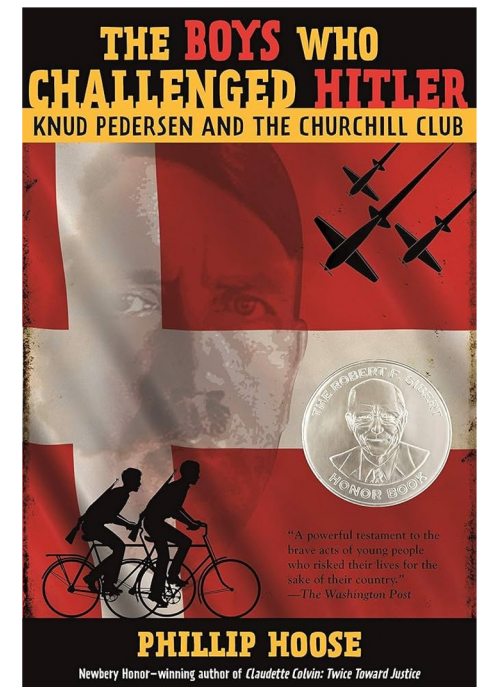
# The Boys Who Challenged Hitler

This book is an award winning non-fiction book written by Phillip Hoose

It covers the adolescence of Knud Pedersen and the Danish Resistance group he helped create during WWII called the Churchill Club .

→Why we picked this story:

- Themes of moral dilemmas that occur during war time
- The characters were of similar age (middle ~ high school) when they formed the resistance group
- Reading level (Young adult literature)





## Final Acting Debate

- 2 weeks to create and complete a script of a moral dilemma debate based on the book.
- 20 minutes to act out the debate script they created, 10 minutes for Q&A

Ex: “Is killing the German soldier appropriate or justified considering the Churchill Club’s situation and goals?”



## Current Study

Aims to increase **cognitive engagement** during English (L2) learning by using **moral dilemma reading assignments, discussions and debates.**

**Hypothesis:** Moral dilemma reading assignments, discussions and debates will **increase** cognitive engagement and increase L2 comprehension.



## General Methods

Participants: 20 Japanese high school students

Materials: “The Boys Who Challenged Hitler” by Phillip Hoose

Procedure:

- 9 activity sessions (3 in-person, 6 on-line)
  - Activities: Reading assignment, class discussion, and final debate.
- Interviews were conducted after the program

## Interview Method

12 out of the 20 students were interviewed in pairs

- 30-minute semi-structured interview in Japanese
- Transcripts were translated to English


**Analysis Method:** Content analysis

1. Identify key themes (word or concept frequency)
2. Group A B C → characteristics of each group
  - a. **Advanced vs Intermediate Fluency:** Reading Activity, Group Discussion, and Debate Acting Activity.

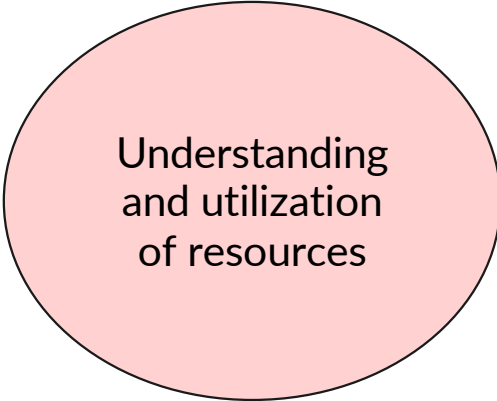




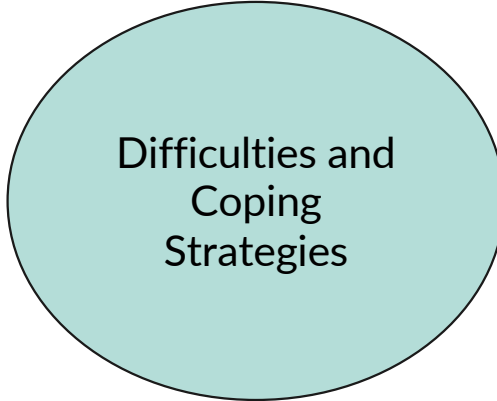
## Key Themes



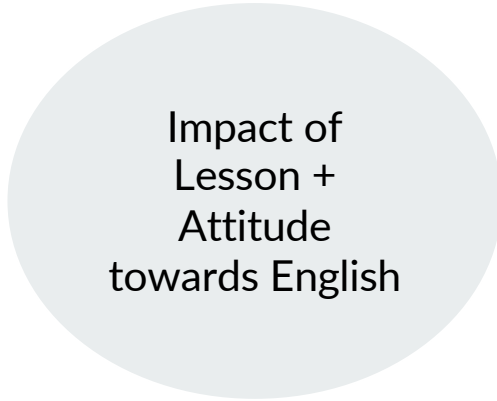
Motivation



Understanding  
and utilization  
of resources



Difficulties and  
Coping  
Strategies



Impact of  
Lesson +  
Attitude  
towards English

# Results: Reading Assignment Activity

## Advanced Fluency

Audio recording purpose:  
pronunciation, listening  
intonation, and understanding

Used context clues in **many**  
ways

Overall reported **higher** usage  
of reading assistance materials

## Intermediate Fluency

Audio recording purpose:  
listening and pronunciation only

**Struggled** to use context clues

Overall reported **lower** usage of  
reading assistance materials

# Interview Quotes

Advanced  
Fluency



“... [From the recordings, the] intonation helped me to guess the meaning of the word and understand the story better.”

Intermediate  
Fluency



“Towards the end, the reading was too difficult, so I waited until the discussions.”

Intermediate  
Fluency



“I was putting all my effort on just reading, but if I did use the recordings maybe it would have been easier to understand the story.”

# Results: Group Discussion Activity

**Advanced Fluency**

**Input & Output Oriented**

**Intermediate Fluency**

**Input Oriented**

Using prior knowledge  
(Critical Thinking)

**Higher Enjoyment and  
Engagement**



# Interview Quotes

Advanced  
Fluency



“Because the topic was difficult, it was hard for me to form own opinions.”

Intermediate  
Fluency



“The topics were closely related to what is happening around us so I really enjoyed discussions.”

Intermediate  
Fluency



“I am used to forming my ideas based on what other people have said from previous debates so it was fun.”

## Results: Debate Acting Activity

Advanced Fluency

Intermediate Fluency

Emotional Immersion

**Struggled** due to lack of retention

**Higher** Enjoyment and Engagement

Their argument felt empty at times

Able to think deeper, exchange information and use time efficiently

# Interview Quotes

Advanced  
Fluency



“I was able to practice debate techniques such as using numbers to further support my argument.”

Advanced  
Fluency



“The structure of the discussions [were not very emotional]... However, with the debate... we were able to choose the parts we wanted to emphasize and act it out.. it felt very alive.”

Intermediate  
Fluency



“I wanted to write, but the content felt very empty, so I could only write some basic sentences, but it was hard to elaborate further. I regret not using my time more properly.”

## Discussions

Cognitive engagement was expressed different among the three activities: reading, discussion and debate.

The cognitive engagement also differed based on English fluency groups: Advanced and Intermediate.

- More effort during reading assignments
- Higher engagement during debates

- Higher engagement during discussions

# Thank you for listening!

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## Extra: Moral Dilemma Discussions

### Moral Dilemma Questions

- Is keeping the peace for Danish citizens honorable even if it means hiding behind Germany even as Norway fights to defend itself?
- Is killing the German soldier appropriate or justified considering the Churchill Club's situation and goals?