

# Everyone is Talking: Artificial Intelligence + Chatbot for Improving Oral Proficiency in EFL Classrooms

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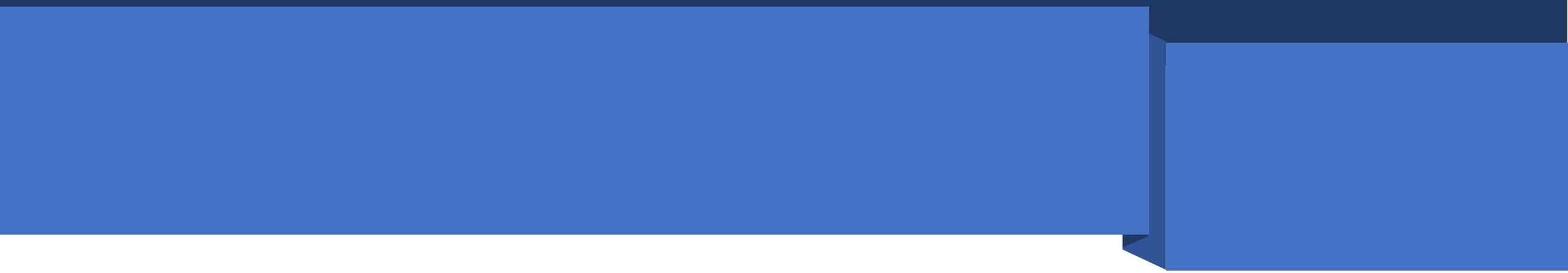


**Discussion**



**Future Work**

# Previous Studies

The slide features a dark blue background. The title 'Previous Studies' is centered in a white, sans-serif font. Below the title, there are two horizontal blue bars. The first bar is a solid blue rectangle. The second bar is a blue rectangle that starts to the right of the first bar and has a 3D effect, appearing to be a block that has been pushed forward from the first bar.

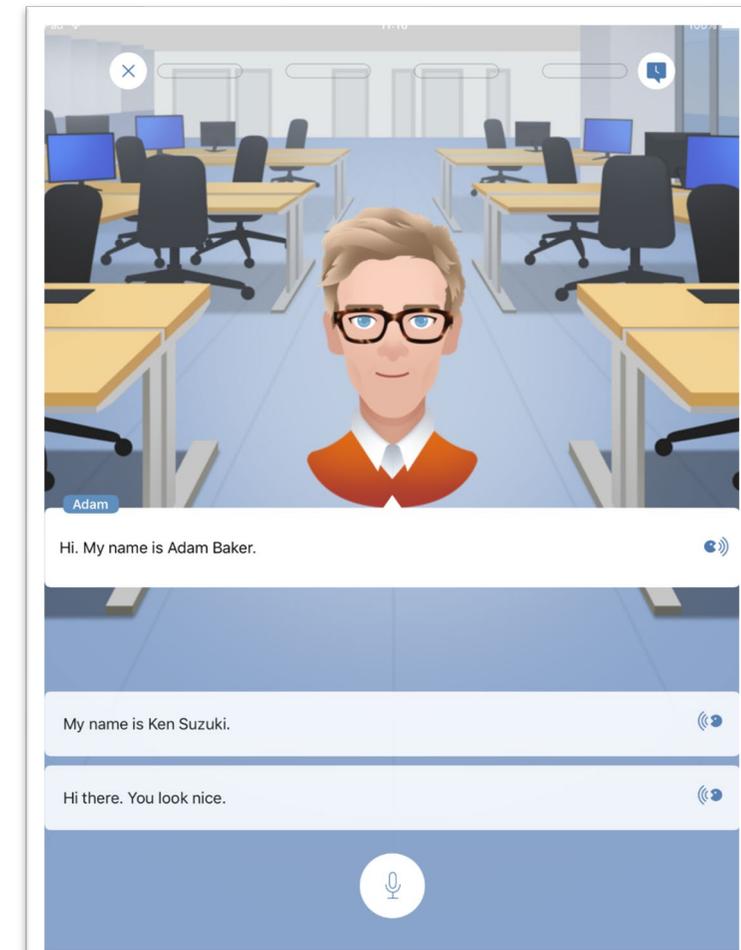
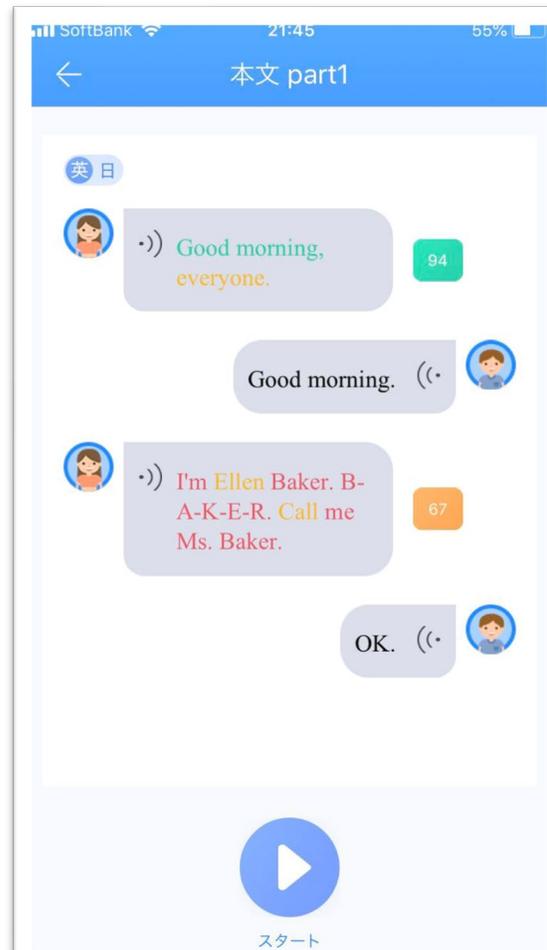
# Oral Practice in EFL Classroom in Japan

- Native Speakers
- Filipino Teachers through Skype



# AI for EFL

- Shikibu
- SpeakBuddy



# ELST – English Listening and Speaking Test

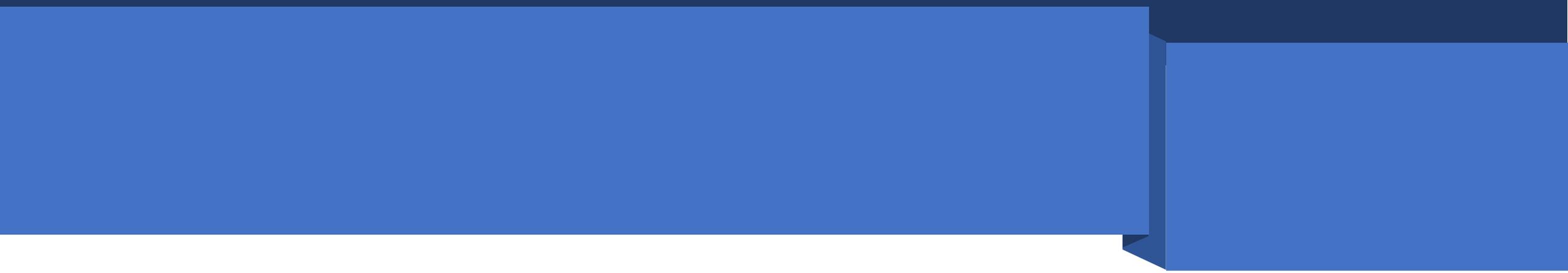
- Previous Version

The screenshot shows a digital role-play practice interface titled "Role Play Practice 01". At the top left, there is a back arrow and the title. At the top right, there are window control icons (minimize, maximize, close). Below the title bar, there are language selection buttons for "英" (English) and "日" (Japanese). The main area contains a conversation between two characters, represented by icons of a woman and a man. Each message is in a speech bubble with a corresponding score in a colored circle. The conversation is as follows:

- Woman: "I hear that Japan is a relatively homogeneous nation." (Score: 73)
- Man: "But there are many foreign residents these days." (Score: 70)
- Woman: "How many foreign people are living in Japan?" (Score: 88)
- Man: "More than 2.5 million were reported to be living there in 2017." (Score: 87)
- Woman: "Where are those people from?" (Score: 92)

At the bottom left, there is a large blue play button icon.

# Literature Review

A decorative graphic consisting of two overlapping blue rectangular shapes. The top shape is a solid blue bar that spans most of the width of the slide. The bottom shape is a slightly shorter blue bar that is offset to the right, creating a layered effect.

# Artificial Intelligence

- Development in E-Learning
- ICT Technological Advancement
- Shishido (2018, 2019)

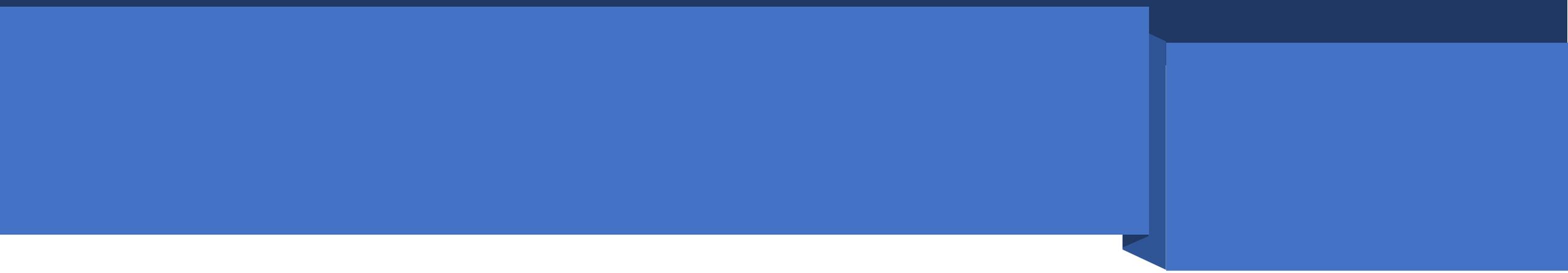
# Shadowing and Oral Practice

- A strong relationship between shadowing and learners' fluency in L2 production (Zakeri, 2014).
- Shadowing exercises can significantly improve oral proficiency (Wang, 2017).

# Chatbot for EFL

- Andy in the Google Play Store
- The effectiveness of using chatbots has been reported by Huang and others (2016).

# Development

The slide features a dark blue background. The word "Development" is written in a white, sans-serif font, centered horizontally. Below the text, there are two horizontal blue bars. The first bar is a solid blue rectangle. The second bar is a 3D-style blue rectangle that appears to be floating above the first one, starting from the right edge of the first bar and extending to the right edge of the slide.

# New Features

- Shadowing
- Multiple Choice Chatbot

← Shadowing Practice 再生速

5/5

得点 : 48点 発音 : 13 流暢度 : 52 完成度 : 94  
練習回数 : 1回 最高得点 : 48点 字幕  off  on

表示言語  英  日

シャドーイング : イヤフォンを装着し、音声を聴きながら、音声に続いて発音してください。

If time allows, go outside of the continental United States. Enjoy the Hawaiian Islands or Alaska's glaciers and fjords.

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[録音を再生](#) [誤りを報告](#)

← Speaking

Where would you like to visit in the US?  AI

 Student

I'd like to visit the East Coast of the US.

I'd like to visit the Central region of the US.

I'd like to visit the West Coast of the US.

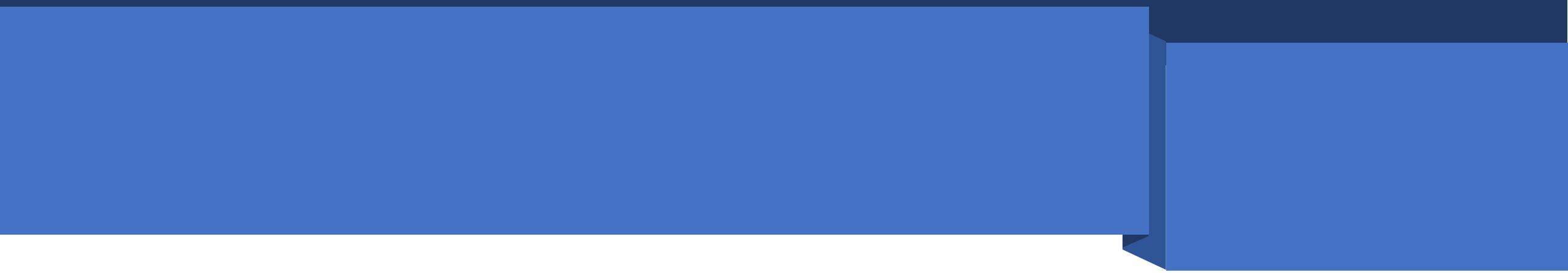
[誤りを報告](#)

 残り : 17s 

# Multiple Choice Chatbot (27 Patterns)

AI	Student	AI	Student	AI	Student
Canada					I'd like to go to the Maritime Museum of the Atlantic in Halifax.
			I'd like to go to Nova Scotia.	What would you like to do in Nova Scotia?	I'd like to go to the Halifax Town Clock.
					I'd like to visit Prince Edward Island.
					I'd like to go to the Notre Dame Basilica.
	I'd like to visit the eastern part of Canada.	What part would you like to go in the eastern part?	I'd like to go to Montreal.	What would you like to do in Montreal?	I'd like to go to the Old Port of Montreal.
					I'd like to go to the Montreal Biodome zoo.
					I'd like to stroll around Old Quebec.
			I'd like to go to Quebec City.	What would you like to do in Quebec?	I'd like to visit Château Frontenac.
					I'd like to take a stroll along Dufferin Terrace for a magnificent view of the St. Lawrence River.
					I'd like to visit Toronto Tower.
			I'd like to go to Toronto.	What would you like to do in Toronto?	I'd like to visit Niagara Falls.
					I'd like to watch a Blue Jays' baseball game.
					I'd like to go to the Canadian Museum for Human Rights.
What part of Canada would you like to visit?	I'd like to visit the central part of Canada.	What part would you like to go in the central part?	I'd like to go to Winnipeg, Manitoba.	What would you like to do in Winnipeg?	I'd like to go to the Assiniboine Park and Zoo.
					I'd like to go to the Forks National Historic Site.
					I'd like to go to the Columbia Icefield.
			I'd like to go to Calgary.	What would you like to do in Calgary?	I'd like to go to Lake Louise.
					I'd like to go to the Canadian Rockies.
					I'd like to visit Staley Park.
			I'd like to go to Vancouver.	What would you like to do in Vancouver?	I'd like to visit the Capilano Suspension Bridge.
					I'd like to go to Canada Place.
					I'd like to go to the British Columbia Parliament Building.
	I'd like to visit the western part of Canada.	What part would you like to go in the western part?	I'd like to go to Victoria.	What would you like to do in Victoria?	I'd like to go to Hatley Castle.
					I'd like to go to Butchart Gardens.
					I'd like to go to Yellowknife and see northern lights.
			I'd like to go to Northwest Territories.	What would you like to do in Northwest Territories?	I'd like to go to Inuvik and try snowmobiling.

# Examples

The slide features a dark blue background. The word "Examples" is written in a white, sans-serif font in the upper left quadrant. At the bottom, there are two horizontal blue bars. The first bar is a solid blue rectangle. The second bar is a 3D-style blue rectangle that overlaps the first one, extending further to the right and appearing to sit on top of it.

# ELST System

ELST



Virtual Travel  
around the World

Virtual Travel around the World

前回の続き



教科書



宿題

全ての単元

Chapter 1

Chapter 2

Chapter 3

Chapter 4

Chapter 5

Chapter 1

Chapter 2

Chapter 3

Chapter 4

Chapter 5

Chapter 6

Chapter 7

Chapter 8

Chapter 9

Chapter 10

# Vocabulary Study

← Vocabulary Study (発音)

再生速

continental 85

diversify 71

everglades 62

glitz 73

insight

populous

renowned

revolution...

superb

vibrant

英  日

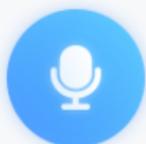
得点 : 85点

continental

[kàntənéntəl]

大陸の

 録音を再生  誤りを報告



# Reading - Shadowing

← Shadowing Practice

再生速

5/5

得点 : 48点

発音 : 13 流暢度 : 52 完成度 : 94  
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字幕  off  on

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If time allows, go outside of the continental United States. Enjoy the Hawaiian Islands or Alaska's glaciers and fjords.

🔊 録音を再生 📧 誤りを報告



# Listening - Dictation

← Dictation

再生速

2/3

ディクテーション：音声を聴いて、空欄に入る適切な言葉を入力してください。

字幕  off  on

Would you like to     to the economy plus?

 誤りを報告



提出する

# Speaking - Role Play Practice

← Role Play Practice

再生速

No.1 60

No.2 69

No.3 61

No.4 75

No.5 85

No.6 90

No.7 86

No.8 79

No.9 90

英

発音 : 29 流暢度 : 91 完成度 : 55 ● A ● B ● C ● 未読

練習回数 : 1回 最高得点 : 60点

得点 : 60点

I'd like to check in for United Airlines flight 854.

録音を再生 音声認識 誤りを報告

チャレンジ



# Speaking – Multiple Choice Chatbot

← Speaking



Student

I'd like to visit the East Coast of the US.

I'd like to visit the Central region of the US.

I'd like to visit the West Coast of the US.

 誤りを報告

Where would you like to visit in the US? 



AI



残り : 17s





# Textbook

## 1

CHAPTER

## UNITED STATES OF AMERICA



### I. READING

#### 1 Vocabulary Study 1-1

Match each word with its definition, practice pronouncing them, and AI will evaluate your pronunciation.

- |                |     |                  |     |             |     |
|----------------|-----|------------------|-----|-------------|-----|
| 1. continental | ( ) | 5. insight       | ( ) | 9. superb   | ( ) |
| 2. diversify   | ( ) | 6. populous      | ( ) | 10. vibrant | ( ) |
| 3. everglades  | ( ) | 7. renowned      | ( ) |             |     |
| 4. glitz       | ( ) | 8. revolutionary | ( ) |             |     |

ア.有名な イ.人口の多い ウ.素晴らしい エ.見識 オ.きらびやかさ  
カ.多様化する キ.大陸の ク.アメリカ独立戦争の ケ.活気に満ちた コ.湿地

#### 2 Reading 1-2

America's geographic and ethnic diversity provide limitless options for adventure, thrills, and leisure. Maine's lobsters and the rough Atlantic Ocean shoreline, as well as skiing in Vermont, are all found in New England in the Northeast. You will learn about the Revolutionary War by traveling to Boston. New York City is the United States' most populous city. It is known for its Broadway theaters, museums, ethnic restaurants, and Central Park. The nation's capital, Washington D.C., is known for its museums and insights into how the federal government works.

The Appalachian Mountains offer beautiful hiking, while Nashville, Tennessee is the birthplace of country music. Many theme parks, the John F. Kennedy Space Center, the Everglades, and endless beaches are among Florida's many attractions. Chicago – a large, vibrant city bordering Lake Michigan, one of the five gorgeous Great Lakes – dominates the Midwest. Follow the Mississippi River from Minnesota, via the Gateway Arch in St. Louis, to New Orleans the jazz capital of the world.

Moving west, the Rocky Mountains in Colorado, Montana, Utah, and Wyoming offer superb hiking and skiing. Texas is known for its oilfields, huge cities such as Houston and Dallas, and its Gulf of Mexico beachfront. You can enjoy the natural wonders of the Grand Canyon and Sedona's red rocks in Arizona, in the Southwest.

With the glitz of Hollywood in Los Angeles, the renowned Golden Gate Bridge in San Francisco, the wines of Napa and Sonoma, and ski resorts in the north, California is a very diversified state. Continue to the Pacific Northwest, where varied atmospheres can be found in Portland, Oregon, and Seattle, Washington.

If time allows, go outside of the continental United States. Enjoy the Hawaiian Islands or Alaska's glaciers and fjords.

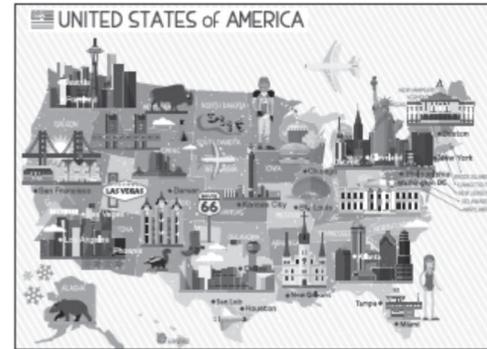
(286 words)

#### 3 Shadowing Practice

Read the passage aloud and AI will evaluate your pronunciation.

#### 4 Map Exercise

Locate the places mentioned in the passage.



#### 5 Comprehension Questions

Fill in the blanks with the most appropriate words.

1. We can learn about Revolutionary War history in \_\_\_\_\_.
2. Washington, D.C. is the nation's \_\_\_\_\_.
3. Texas has central \_\_\_\_\_.
4. \_\_\_\_\_ is said to be particularly diverse.
5. Oregon and Washington are there in the \_\_\_\_\_.

#### 6 Grammar Practice

Fill in the blanks with the most appropriate word. Change the form if necessary.

1. He has experience \_\_\_\_\_ knowledge.
2. This city \_\_\_\_\_ its beauty.
3. He likes sports, \_\_\_\_\_ I like books.
4. He is \_\_\_\_\_ the leading men of the political world.
5. This is an animal repellent against small animals \_\_\_\_\_ dogs and cats.

such as while be known for as well as one of

# Textbook

## II. LISTENING CHECKING IN AT THE AIRPORT

### DIALOG

#### 1 Dictation 1-3

Listen to the dialog and fill in the blanks.

Kei: I'd like to check in for United Airlines flight 854.  
Attendant: OK. <sup>1</sup>( ) ( ) ( ) ( ) ( )?  
Kei: Oh, it's on my phone. Here you are.  
Attendant: Would you like to <sup>2</sup>( ) ( ) ( ) to the economy plus?  
Kei: No, that's not necessary.  
Attendant: OK. I can give you a window seat in the economy section.  
Kei: Good.  
Attendant: <sup>3</sup>( ) ( ) ( ) ( ) ( ). Please come to Gate 50 by 2:00 pm.  
Kei: OK. Thank you.

#### 2 Role Play Practice

Practice the dialog with AI.

#### 3 Vocabulary Practice

Fill in the blanks with most appropriate words.

1. From what time can I \_\_\_\_\_?
2. You need to \_\_\_\_\_ to a faster machine.
3. I am always in \_\_\_\_\_ class when I take a plane.
4. I want to move to a \_\_\_\_\_ seat.
5. May I see your \_\_\_\_\_ pass please?

window economy upgrade boarding check in

#### 4 Comprehension Check

Write T if the statement is true and F if it is false.

1. [ ] Kei would like to check in for United flight 845.
2. [ ] Kei wants to upgrade his seat to the economy plus.
3. [ ] Kei wanted to sit in an aisle seat.
4. [ ] Kei's flight leaves from the Gate 50.
5. [ ] Kei needs to go to the gate by 2:00 pm.

## III. SPEAKING TRAVELING TO THE USA

#### Example 1: 1-4

AI: Where would you like to visit in the US?  
You: I'd like to visit the East Coast of the US.  
AI: Which part would you like to go to on the East Coast?  
You: I'd like to go to Boston and New York.  
AI: What are you going to do in Boston and New York?  
You: I'd like to go to the Boston Museum.

#### 1 Dialog Practice with Multiple Choice Chat Bot

Practice several dialogs with Chat bot and AI.

#### 2 Destinations and Things to Do

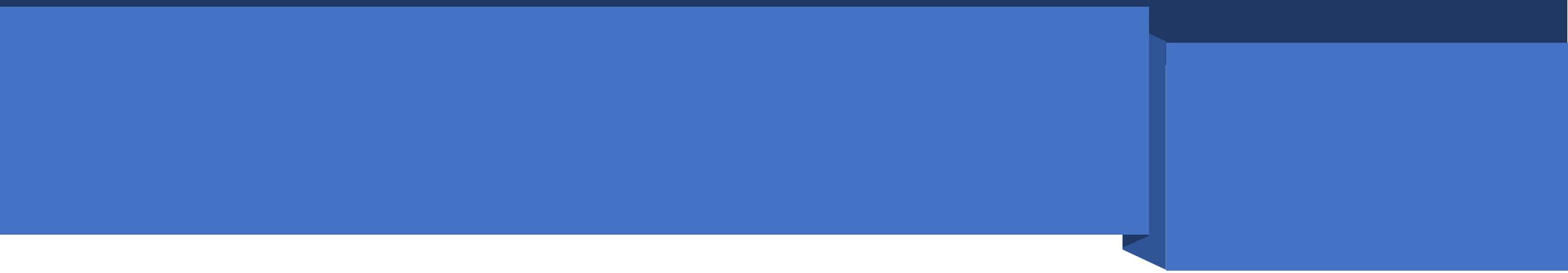
Answer the following questions in English.

1. Where did you reach?  
\_\_\_\_\_
2. What activity did you choose?  
\_\_\_\_\_
3. Why did you choose the destination and the activity?  
\_\_\_\_\_

## IV. WRITING INTERNET SEARCH AND PLAN AN ITINERARY

Think of where you would like to go and what you would like to do in the USA and search for the information on the Internet. Write your own travel itinerary.

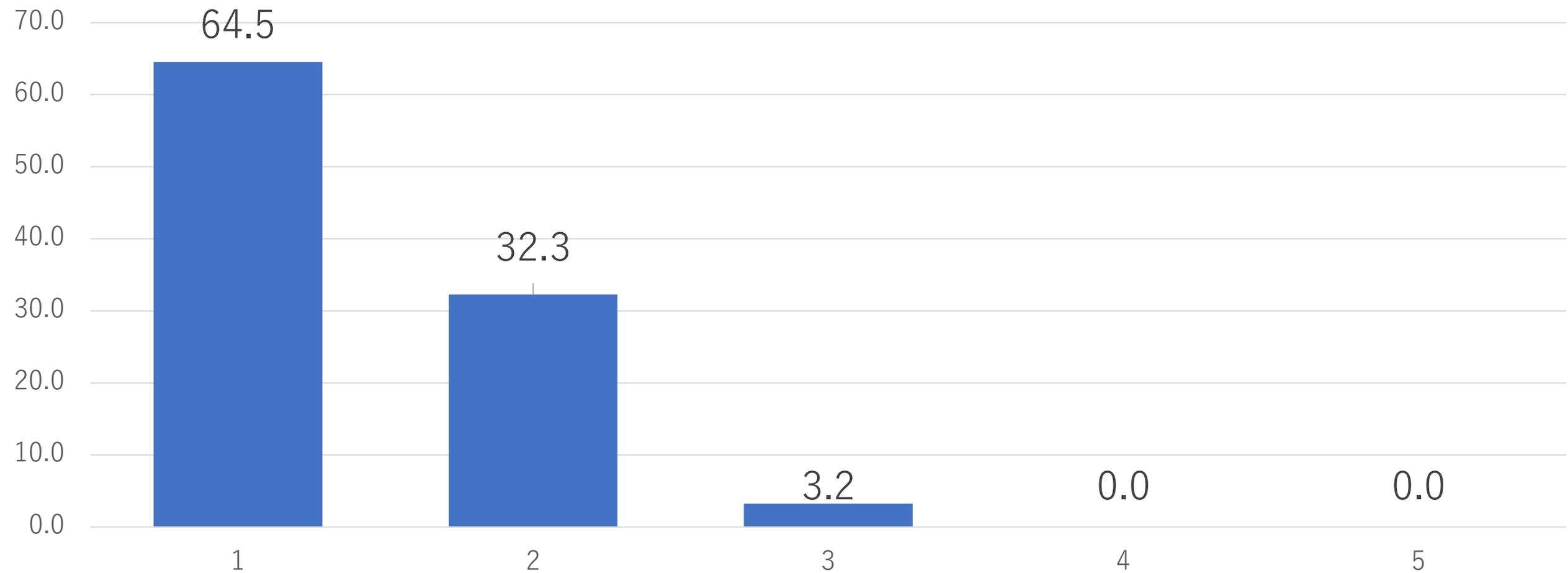
# Evaluation of Effectiveness

The slide features a dark blue background. The title 'Evaluation of Effectiveness' is written in a white, sans-serif font, split across two lines. Below the text, there are two horizontal blue bars. The first bar is a solid blue rectangle. The second bar is a 3D-style blue rectangle that appears to be floating above the first one, starting from the right edge of the first bar and extending to the right edge of the slide.

# Experiment

Subject: False Beginner

Are you good at English?



# Pre-Test vs Post-Test Comparison

- Pre-Test (April)
  - TOEIC and OPIc
- Post-Test (December)
  - TOEIC and OPIc

# TOEIC



Test of English for International Communication



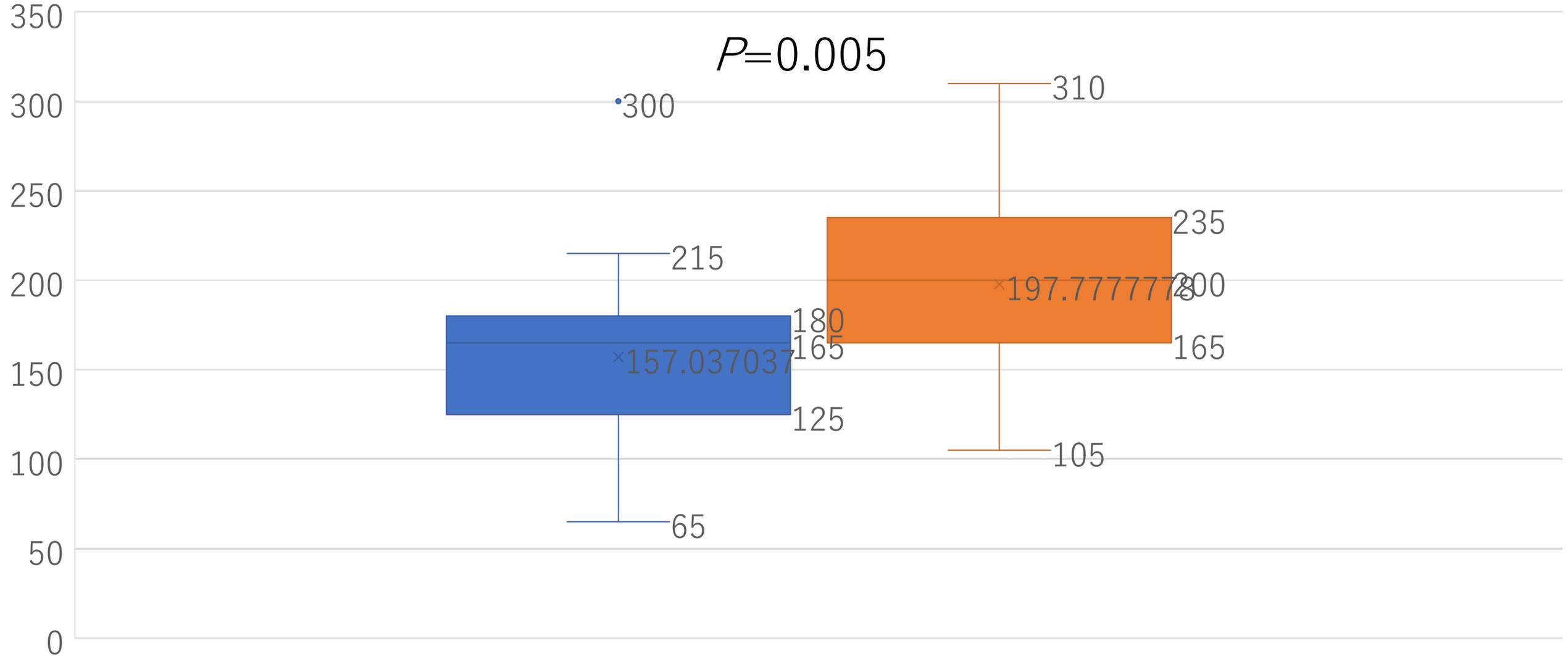
ETS (Educational Testing Service)



Listening 495 points + Reading 495 points = Total 990 points

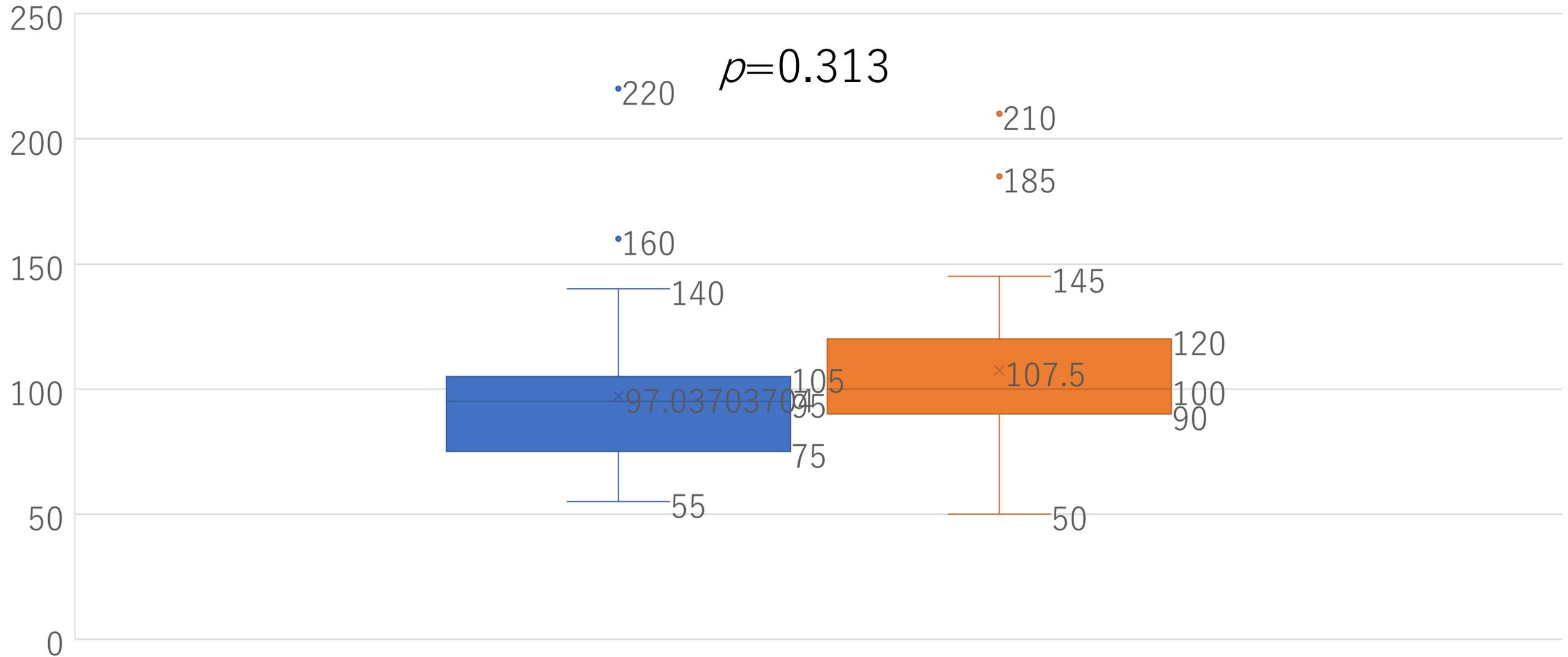
# TOEIC Listening

■ Pre-Test ■ Post-Test



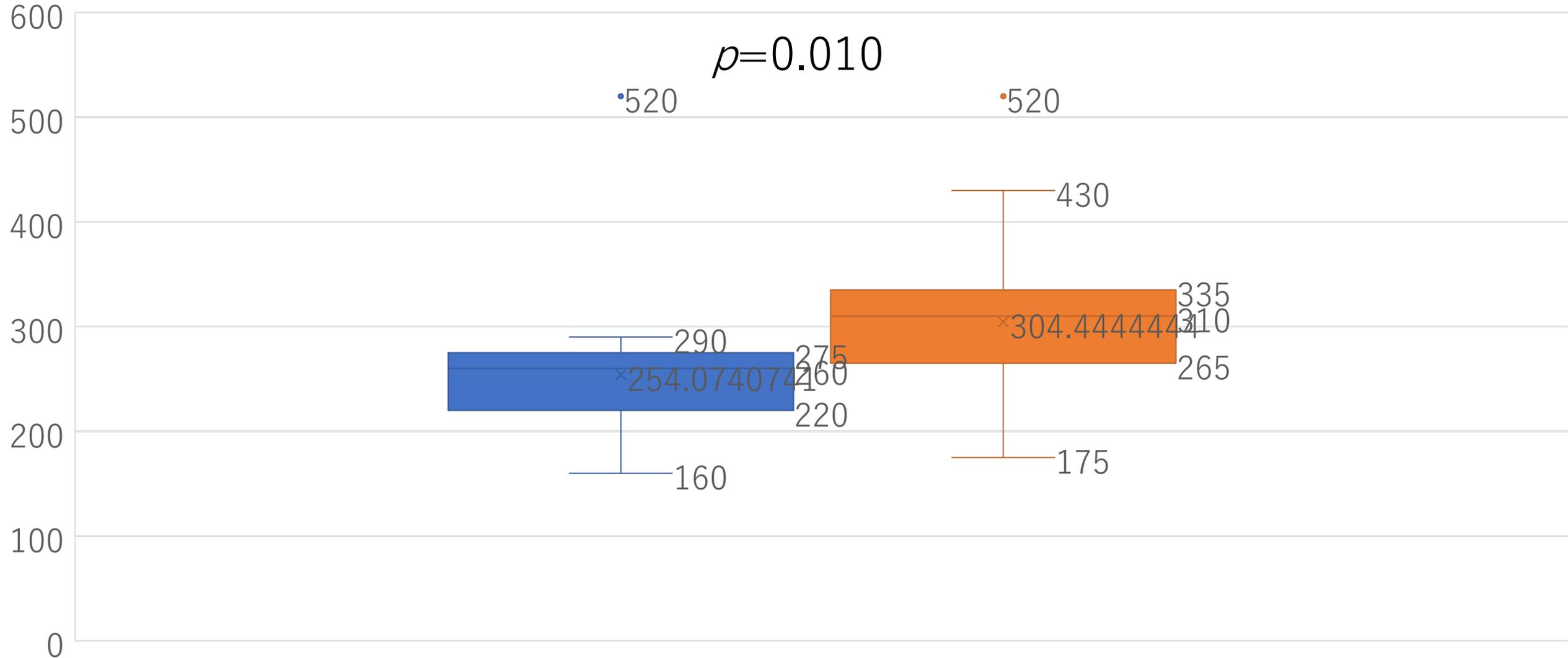
# TOEIC Reading

■ Pre-Test ■ Post-Test

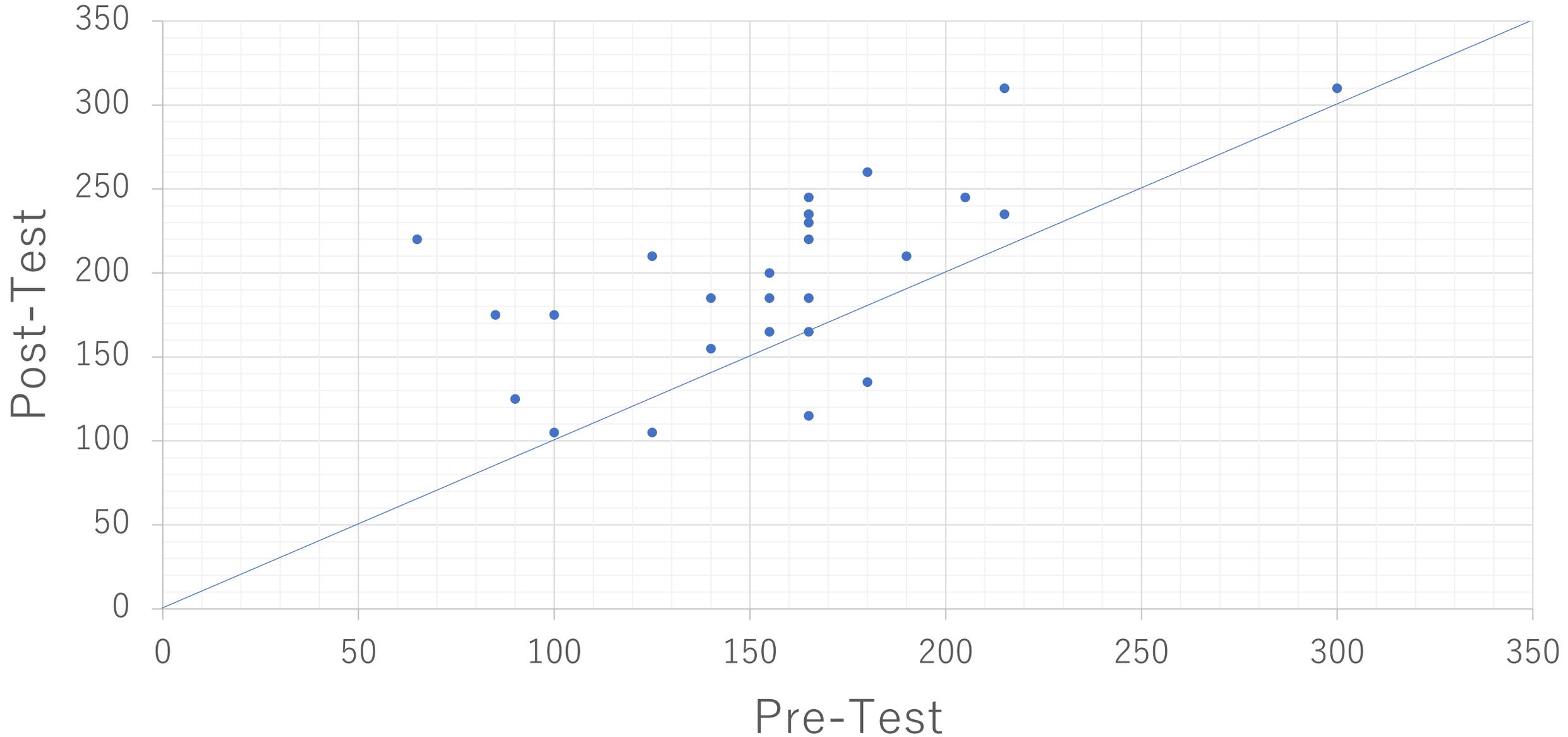


# TOEIC Total Score

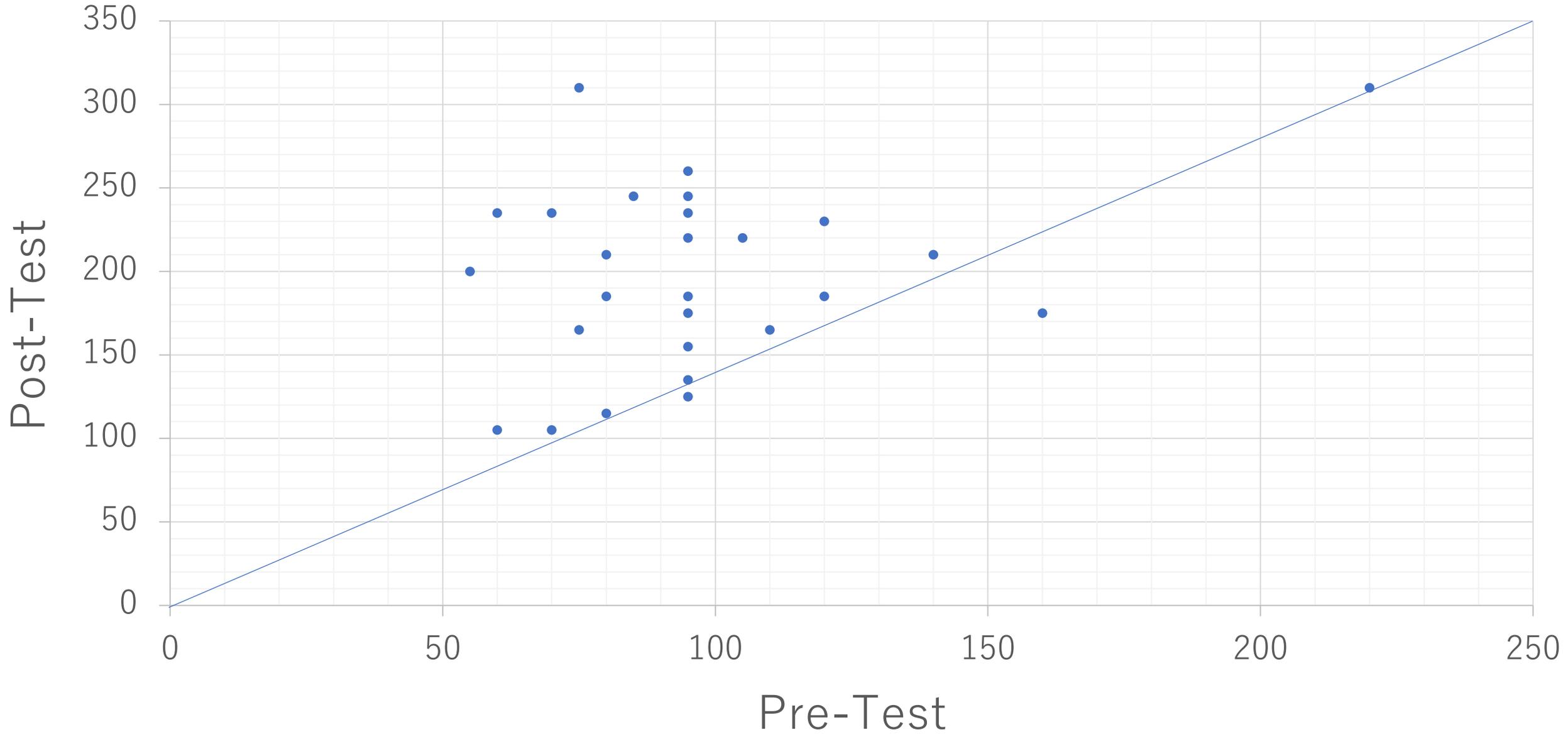
■ Pre-Test ■ Post-Test



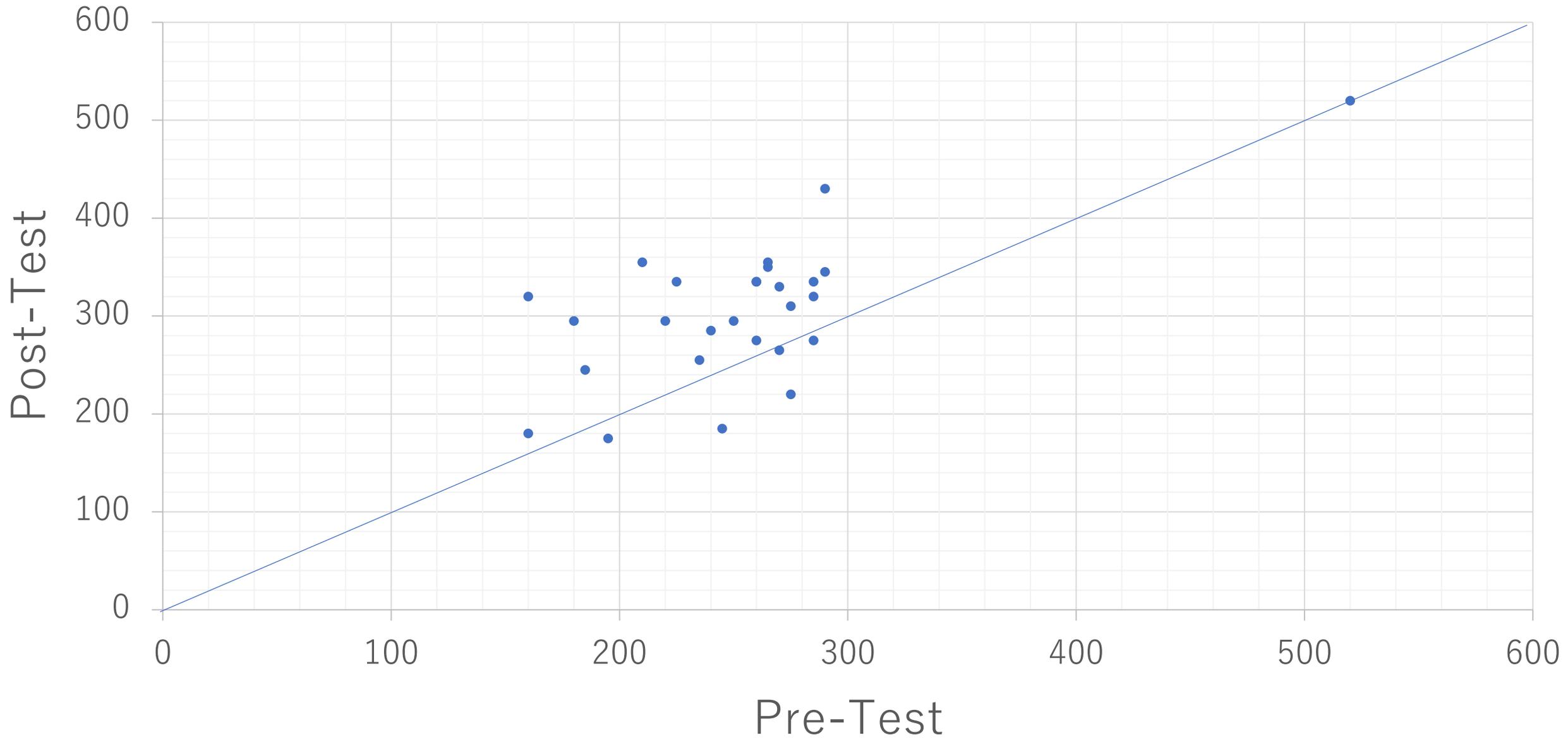
# TOEIC Listening



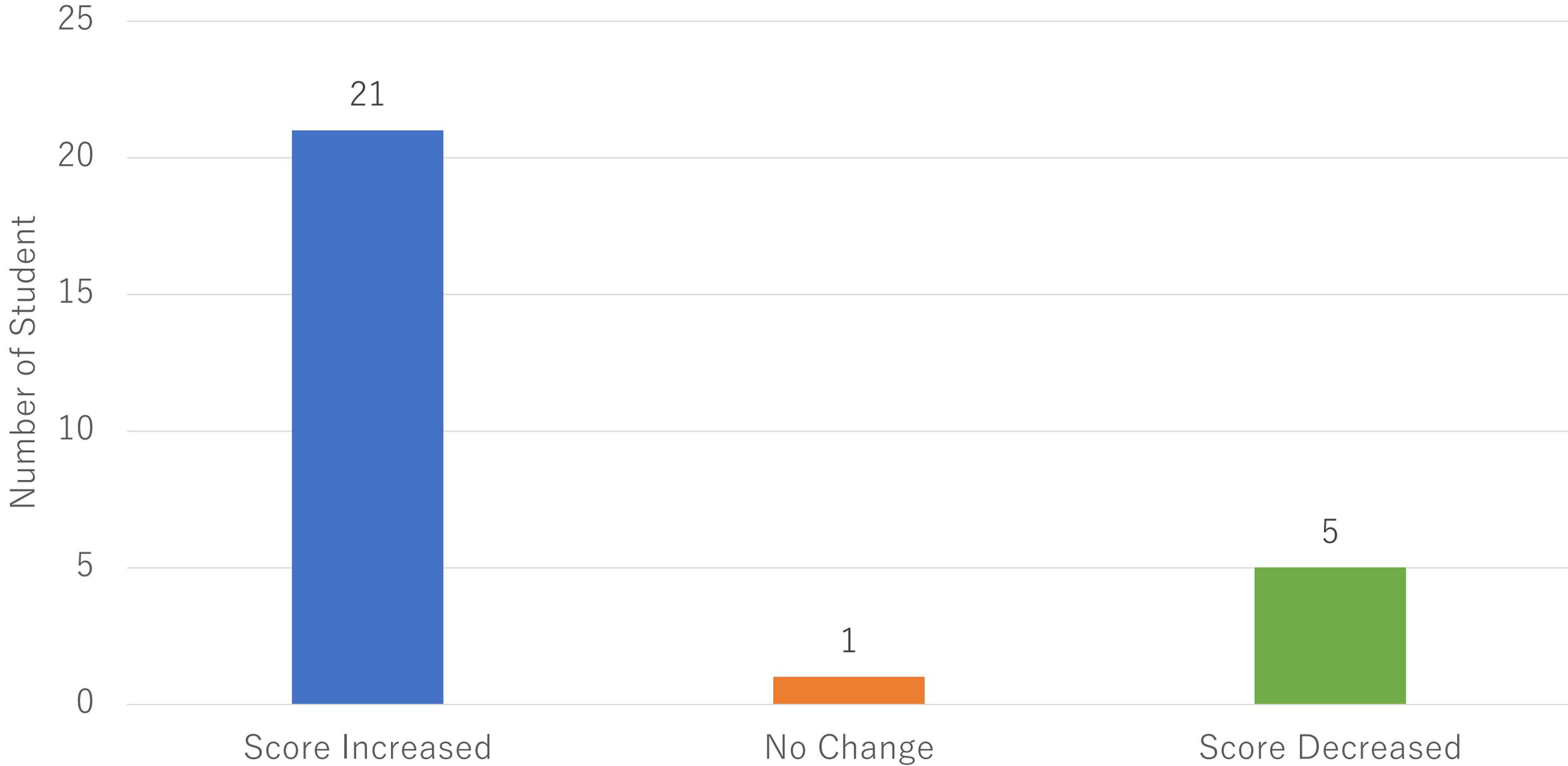
# TOEIC Reading



# TOEIC Total Score



# TOEIC Score Improvement



# Score Development Rate (SDR)

$$\text{SDR} = (\text{Post-Test Score} - \text{Pre-Test Score}) / (\text{Full Mark} - \text{Pre-Test Score}) \times 100$$

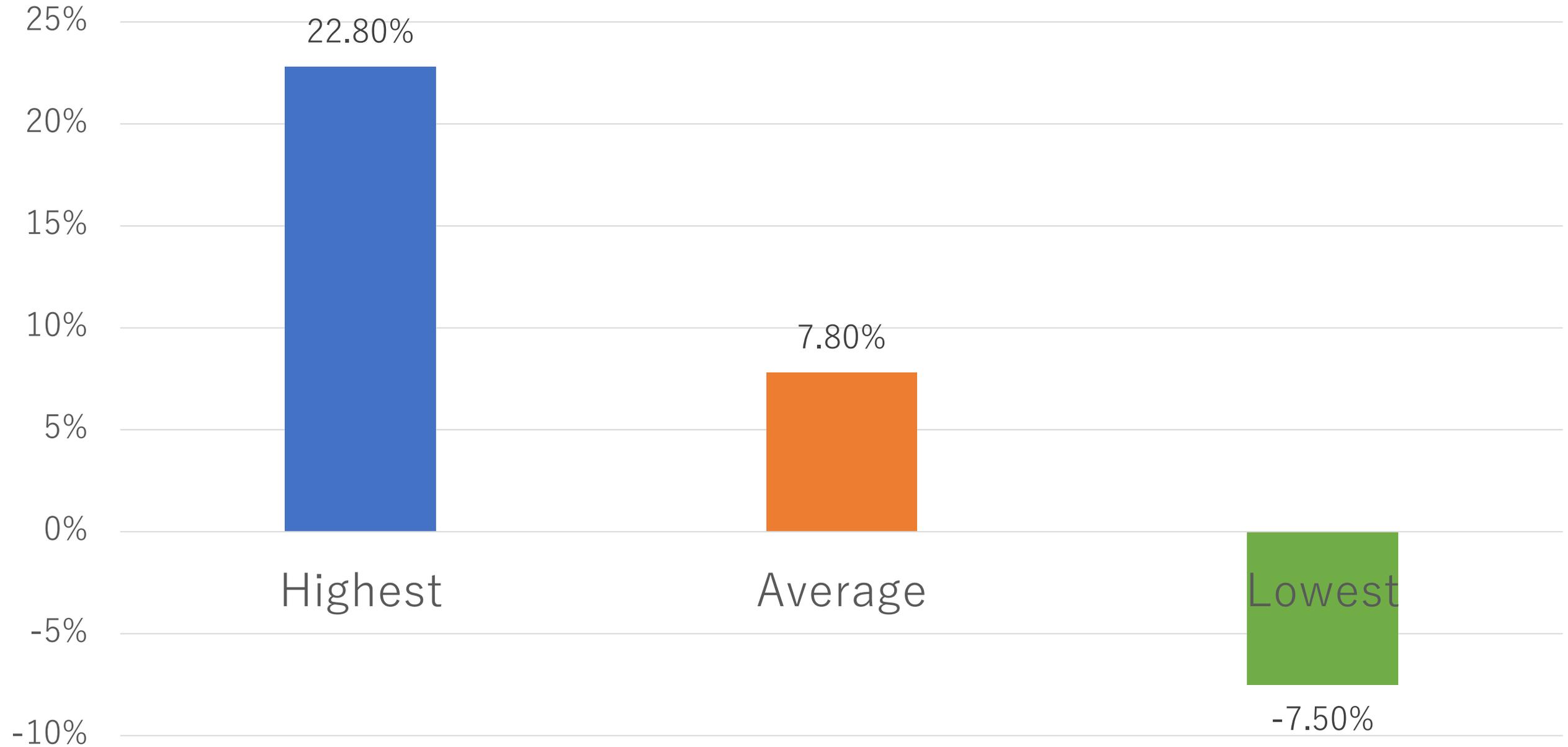
Example 1: TOEIC score increase 490 to 590

$$(590-490) / (990-490) \times 100 = 20\%$$

Example 2: TOEIC score increase 890 to 990

$$(990-890) / (990-890) \times 100 = 100\%$$

# TOEIC Score Development Rate Improvement



# OPIc Oral Proficiency Interview Computer

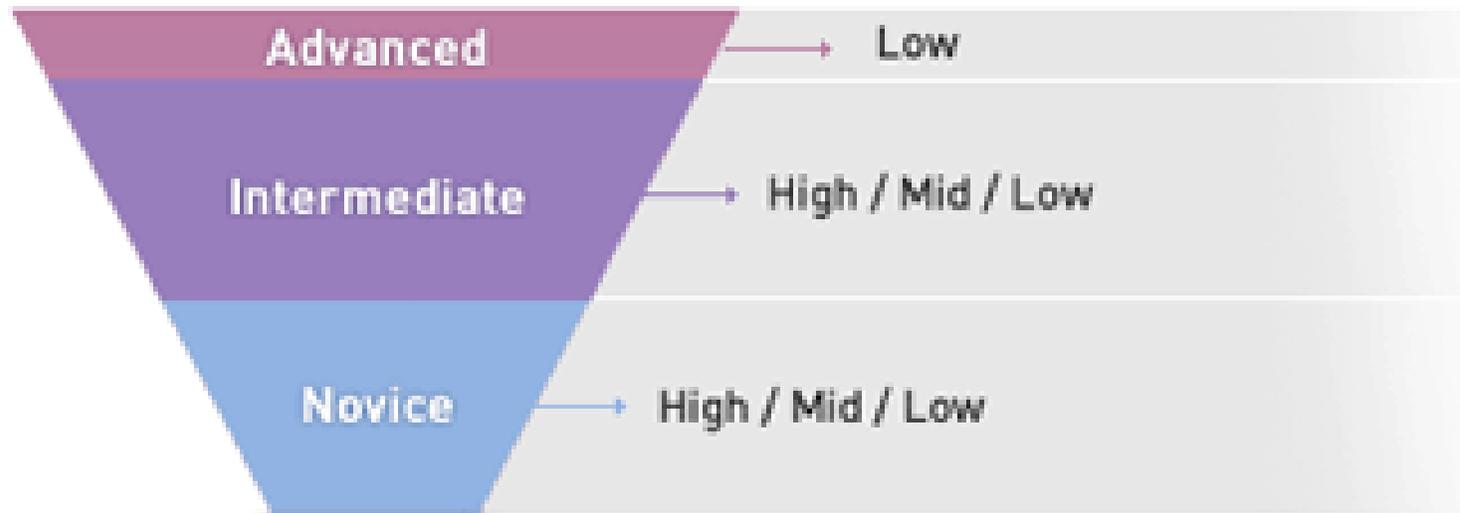
Internet-based Oral Proficiency Test

ACTFL (American Council on the Teaching of Foreign Languages)

Novice Low (1) to Advanced Low (9)

# OPIc Scale and Score

## Oral Proficiency Interview - Computer

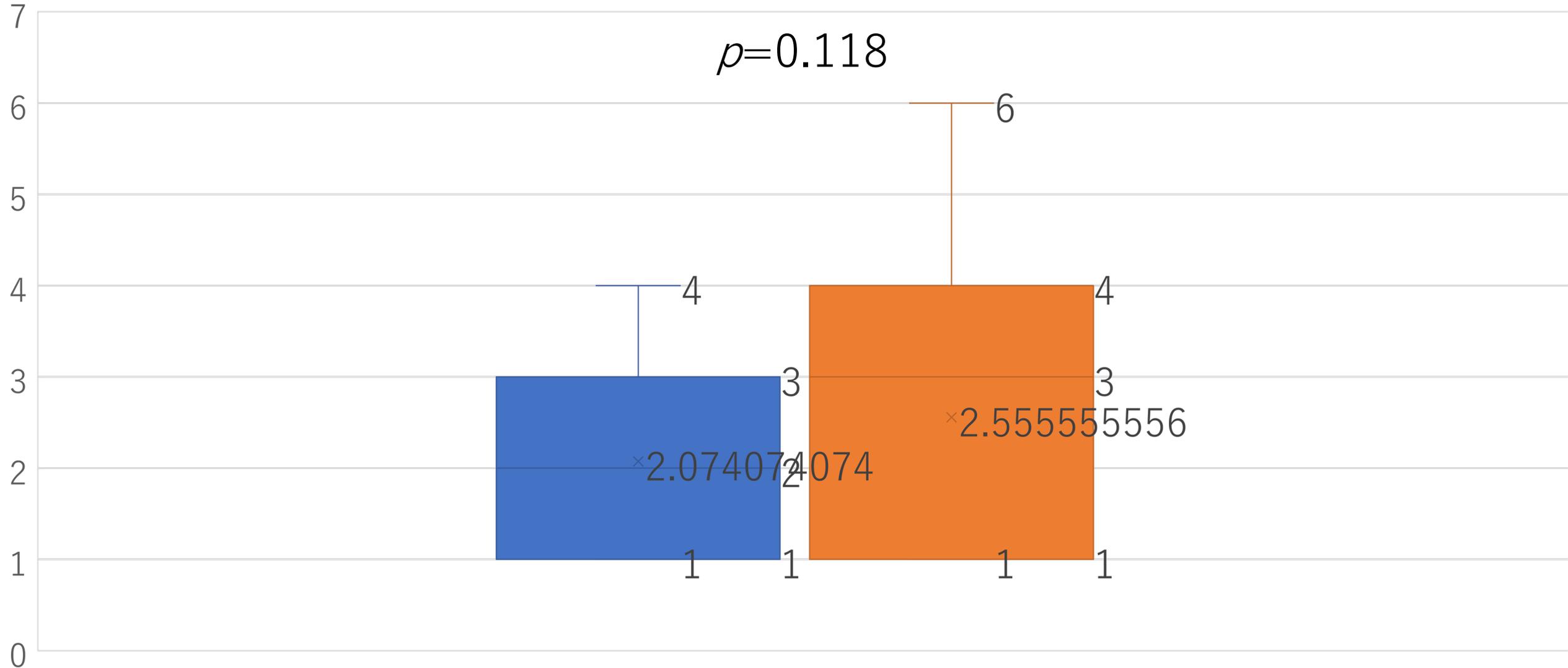


## ACTFL Oral Proficiency Interview (OPI)

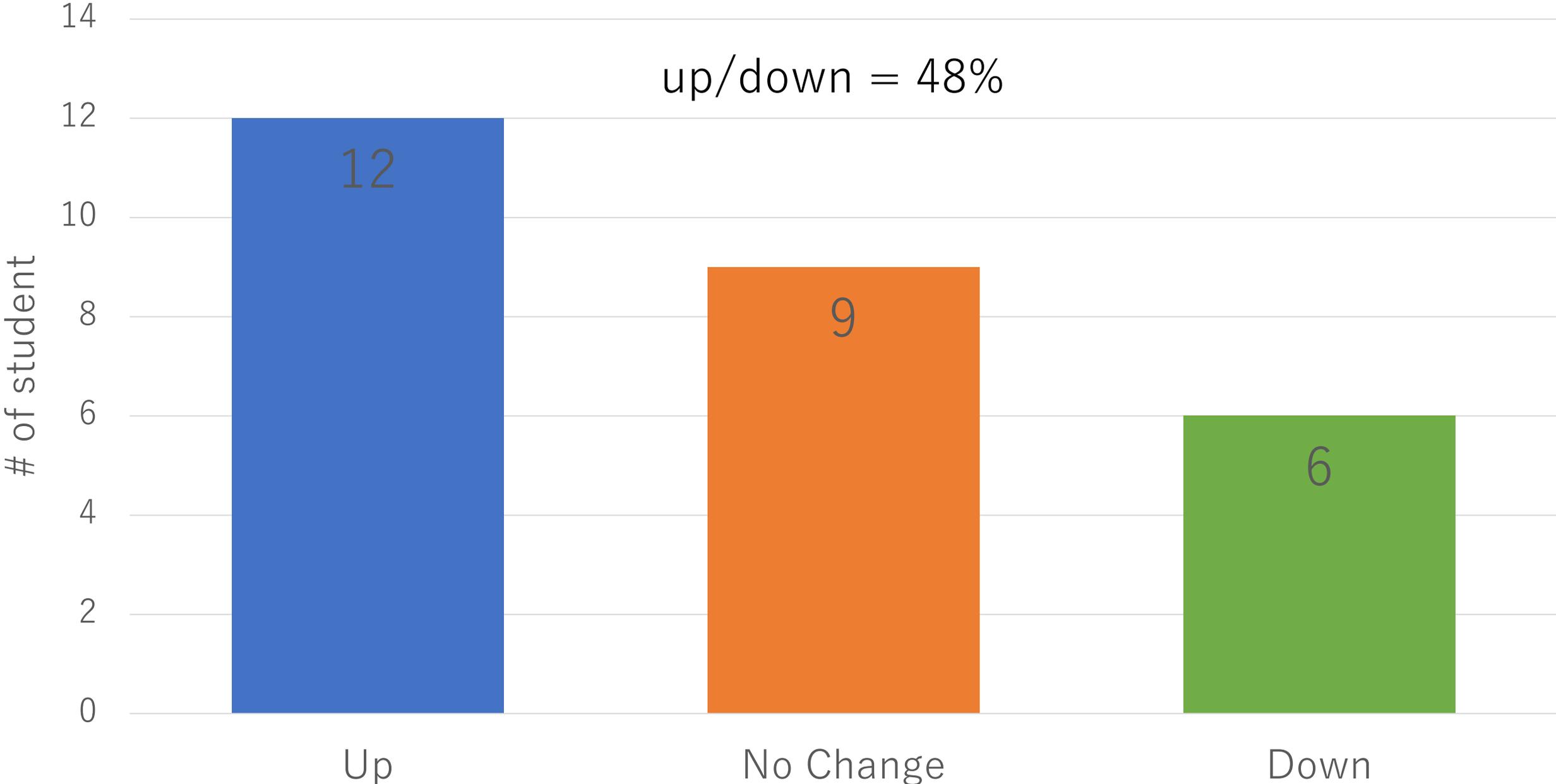
Distinguished
Superior
Advanced High
Advanced Mid
Advanced Low
Intermediate High
Intermediate Mid
Intermediate Low
Novice High
Novice Mid
Novice Low

# OPIc level

■ Pre-test ■ Post-Test



# OPIc Level Up and Down



# Effectiveness

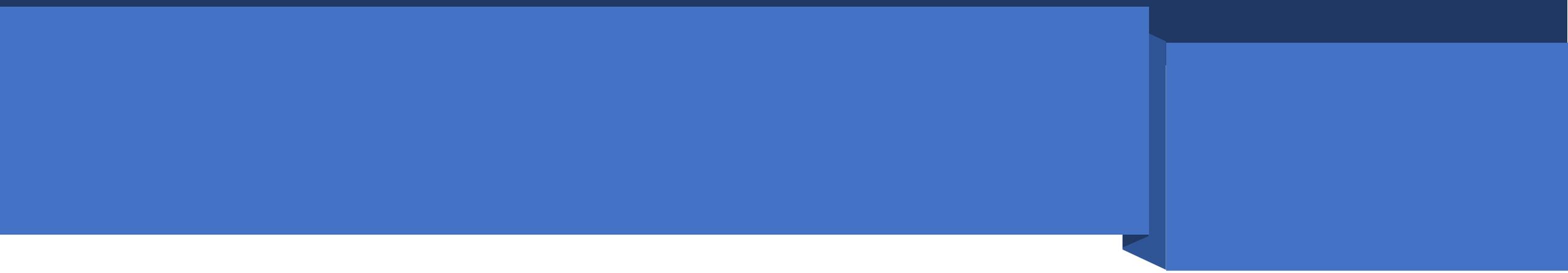
$$d=0.44$$

Effectiveness	Small	Medium	Large
$d$	0.20	0.50	0.80

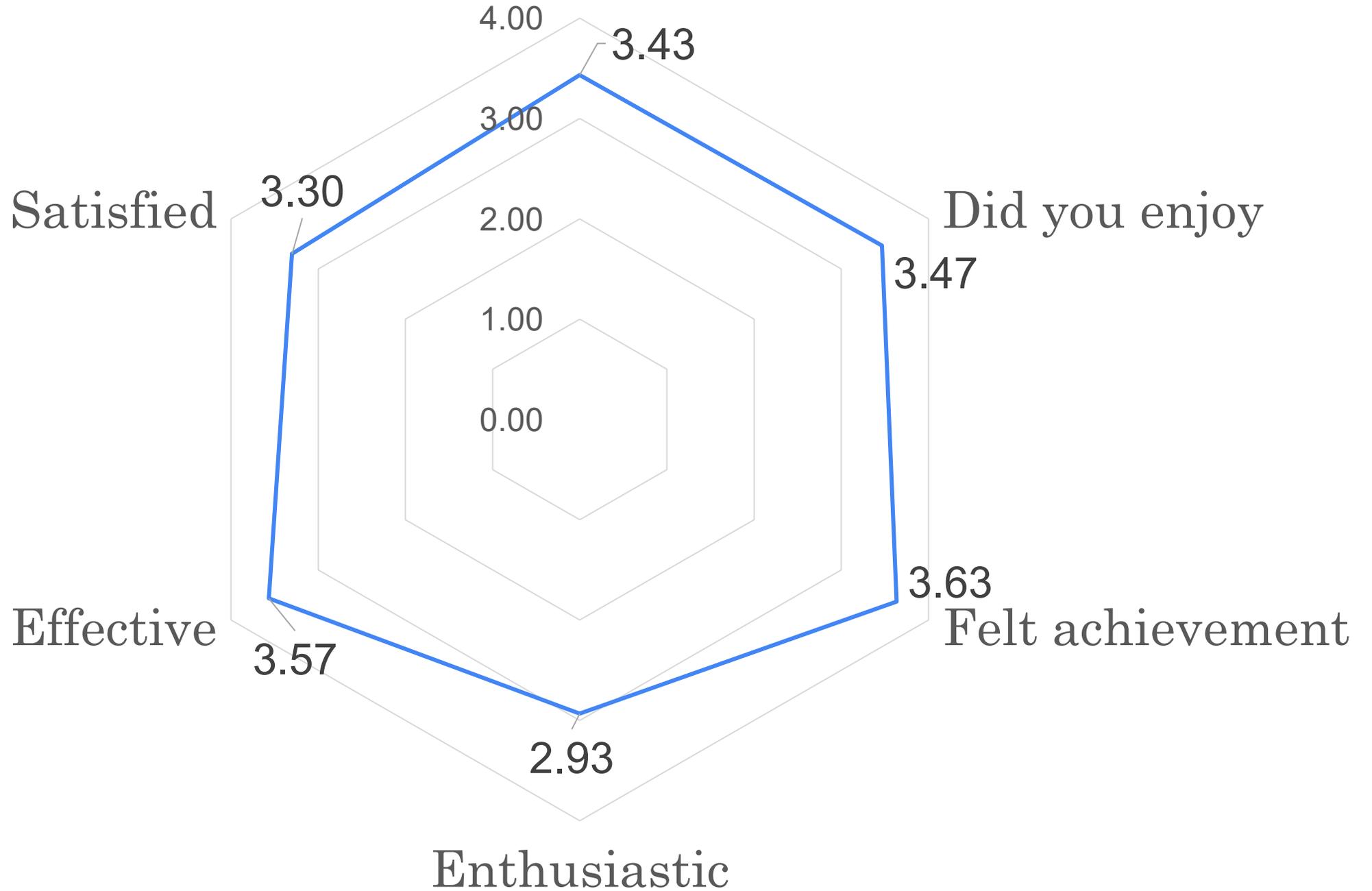
$$d = \frac{M_2 - M_1}{\sqrt{\frac{SD_1^2 + SD_2^2}{2}}}$$

(Here,  $M_2$  and  $M_1$  denote the means of the pre-test and post-test samples, respectively, and  $SD_1$  and  $SD_2$  denote the standard deviations of the pre-test and post-test samples, respectively.)

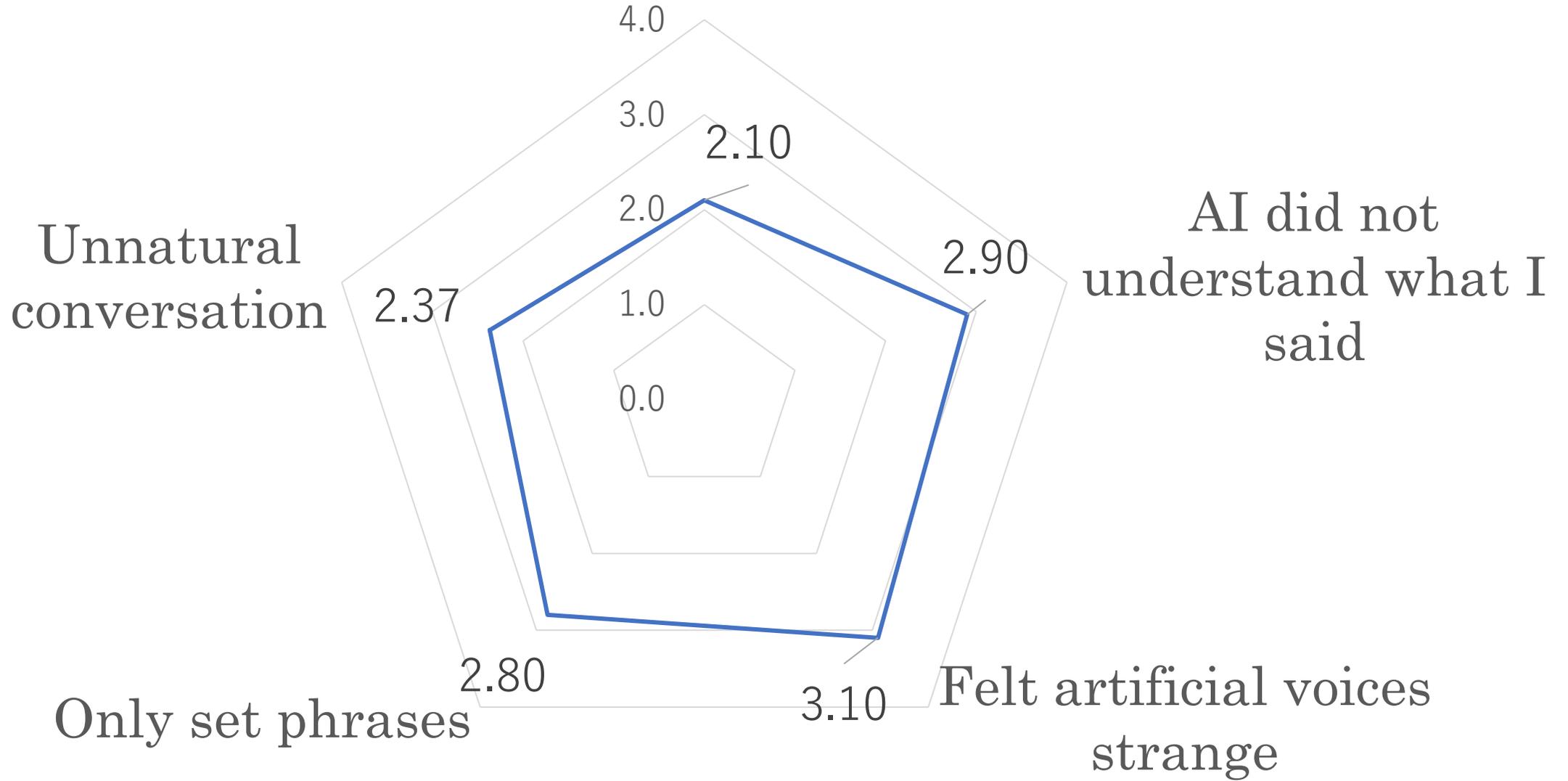
# Questionnaire

The slide features a dark blue background. The word "Questionnaire" is written in a white, sans-serif font, centered horizontally. Below the text, there are two horizontal blue bars. The first bar is a solid blue rectangle. The second bar is a lighter blue rectangle that starts to the right of the first bar and has a 3D effect, appearing to be a block that has been pushed forward from the right edge of the first bar.

# Interest in ELST



# Felt discomfort in speaking with AI



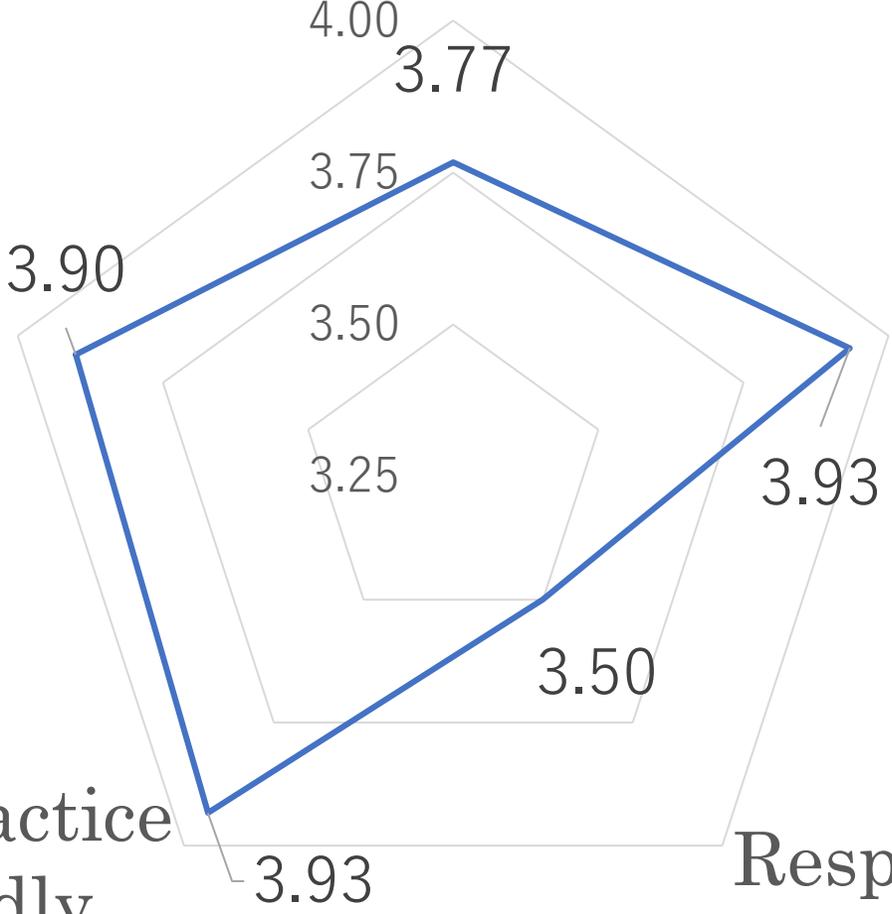
less resistance to speaking English

able to study anytime

not embarrassing to make a mistake

able to practice repeatedly

Responded naturally



matches with your learning

style

3.8

3.7

3.6

3.5

3.4

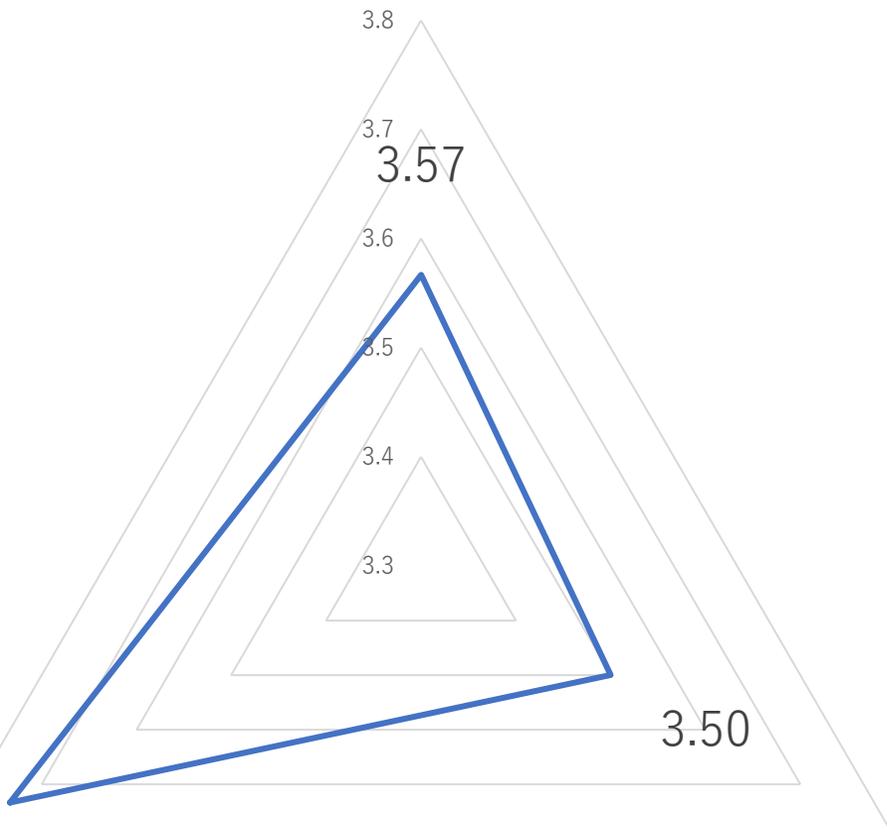
3.3

3.57

3.50

Would you like to use this  
type of system in your  
class? 3.73

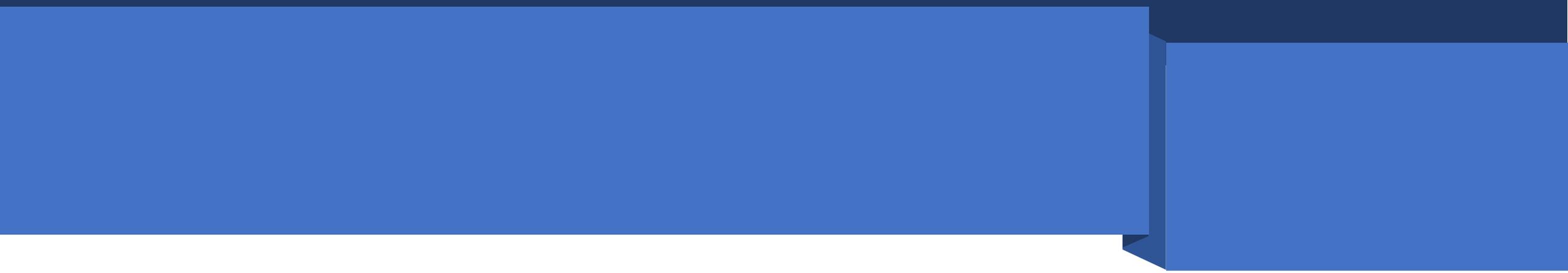
Would you like to use this  
type of app privately?



# Comments

- My pronunciation improved.
- I felt that my listening ability improved.
- When I hear or see English, a scene comes to mind more often than before.
- I felt my interest in English increased.
- I learned a lot of vocabulary.
- I personally think it is a good system because it has improved my English.
- I feel more comfortable speaking English.
- My TOEIC score went up.
- I got used to listening and can hear a little better.
- I could remember more English words by talking to AI than by writing it.

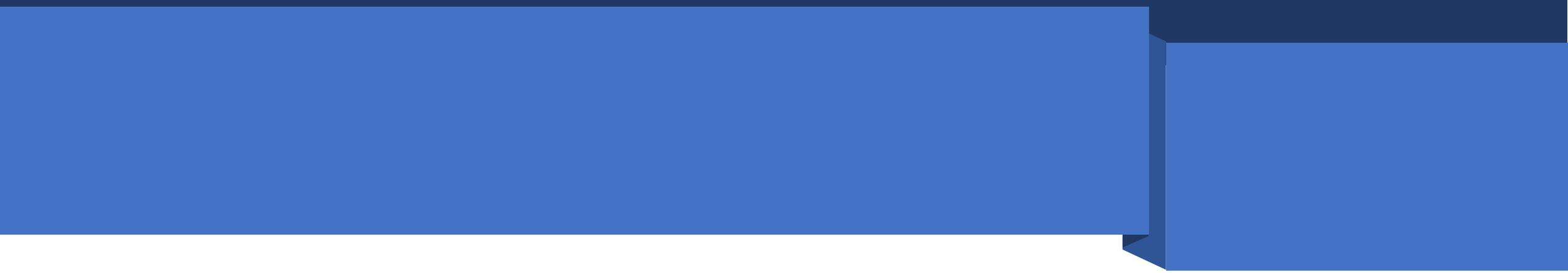
# Discussion

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# Discussion

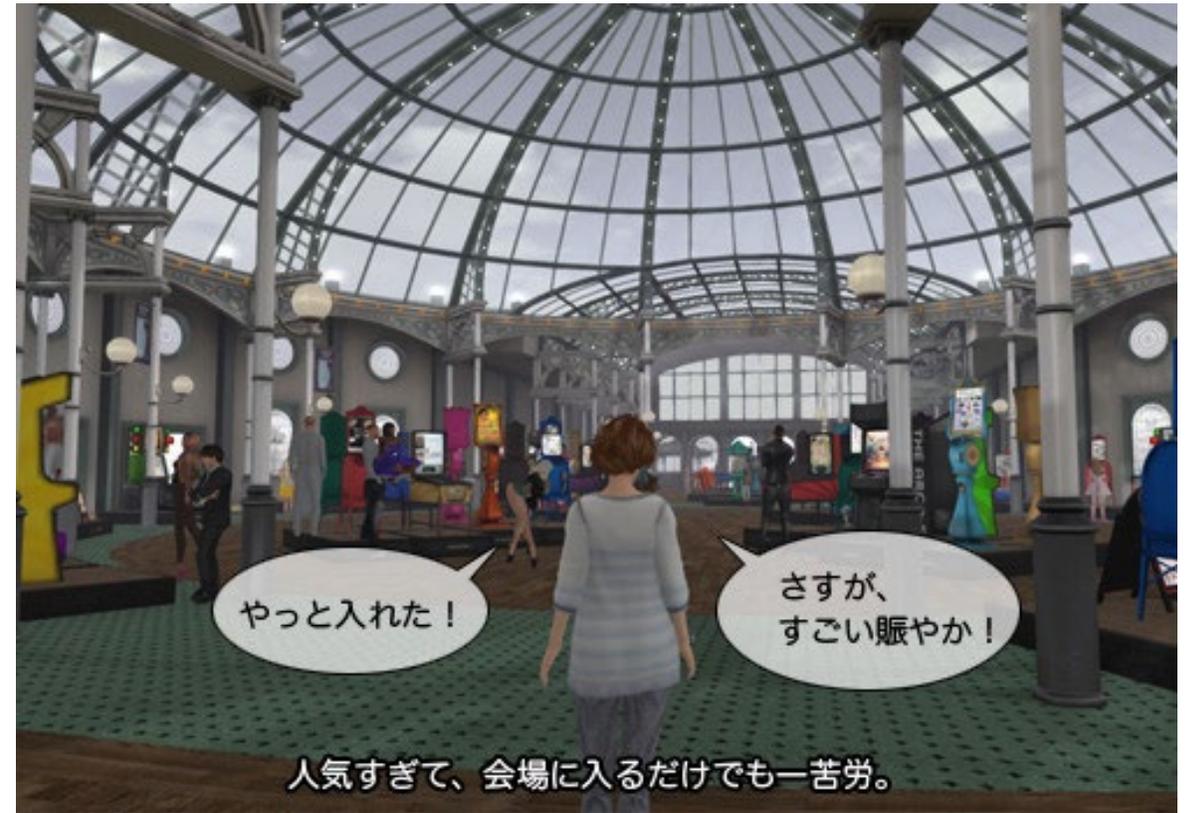
- Respondents gave higher ratings to the use of artificial intelligence than to practice with a human partner
- Less resistance to speaking English
- Not embarrassed even if they made mistakes
- Practice the same conversations repeatedly
- Practice whenever it was convenient for them
- Very useful learning materials for False Beginners who are not very good at practicing speaking against humans.

# Future Work

The slide features a dark blue background. The title 'Future Work' is centered in the upper half in a white, sans-serif font. Below the title, there are two horizontal blue bars. The first bar is a solid blue rectangle spanning most of the width. The second bar is a 3D-style blue rectangle that starts to the right of the first bar and extends to the right edge of the slide, creating a layered effect.

# Future Work

- Free Conversation with Chatbot—Bard, ChatGPT
- Character / Avatar
- AR/VR
- Metaverse



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