

11th SEAMEO-University of Tsukuba Symposium (Virtual)

Technology and Values – Driven Transformation in Education

20-22 February 2023

ABSTRACT

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Topic: A Pilot Study for Self-Learning Support System Using
Eye-Tracking Analysis

The purpose of this pilot study is to examine how different eye movement data of Japanese students with low TOEIC®test scores and high TOEIC®test scores while solving the listening part of TOEIC®test on a computer screen. The study also aims to find out the self-learning aspects for each student with lower scores by their teacher's helping him or her trace their eye movements and let them elicit their confusion with words by themselves, which leads them to enhance their meta-cognition. In this pilot study, four students are recruited as subjects with their agreement to use their experimental data for this research. Two subjects have scored above 500 on TOEIC®test and the other two have acquired less than 300 on TOEIC®test. Each subject participated in the experiment through solving the same question of TOEIC Listening Part 3 on a computer screen and their eye-movements were recorded. The result shows that subjects whose TOEIC total score is lower than 300 have less fixations and more vertical saccades than those whose TOEIC total score is higher than 500. Then, visualizing an individual student's eye movements while listening and reading English on TOEIC®test, the students with lower TOEIC scores observed the patterns of their own irregular eye movements that seem to indicate confusion, such as wandering, or staying put while listening and reading the text. Through the observation of their eye movements, they recognized the incomprehensible words or phrases that inhibit comprehension.