Supporting non-native English speakers’ listening
- Exploring display methods for automated captions -

Abstract

Multiple technologies are available to support non-native English speakers (NNS), such as machine translation or displaying captions generated by automated speech recognition. However, simply making these technologies available does not provide effective support for NNS. This research focuses on NNS listening support, where we investigated the effects of displaying automated captions on listening comprehension. Our results suggest that the method of utilizing automated captions depends on NNS’s characteristics. Secondly, problems that NNS face during listening can be broadly divided into problems that can be resolved by displaying automated captions, and problems that cannot be solved but also increase the user's workload when they look at the automated captions. These results suggest that the support method should be changed depending on NNS user's characteristics as well as the types of listening problems.

Research Questions

1) How do NNSs use automated captions?
2) What are the advantages and disadvantages of using automated captions?

Method

Participants: 20 NNSs
Conditions: audio only vs. audio+captions (eye-tracking)
Captions are generated by Google speech recognition API
Procedure:
1) Listening Task: participants pressed a button to indicate a comprehension problem
2) In-depth Interview: participants explained the types of problems they faced and how long they persisted

Advantage: Problems Solved by Automated Captions
Disadvantage: Increased Workload

Change support type depending on problem type

References


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