Reception of Japanese captions: a comparative study of visual attention between native speakers and language learners of Japanese

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Abstract. Nowadays, television programmes are not only accessed through a conventional TV set; they can be viewed through streaming services on the internet, smartphones, and tablets to name but a few media. For language learners, this development has opened up opportunities for accessing authentic materials in foreign languages outside of the classroom. Studies have shown that the simultaneous presentation of aural and visual information in captioned audiovisuals in a foreign language has the potential to improve language learners' listening skills (Mitterer & McQueen, 2009). Recent research has prompted extension of this discussion to online language learning behaviour and to analyses of what information learners attend to while watching captioned programmes (Vanderplank, 2015). This doctoral research seeks to contribute to this new perspective and explores actual viewing behaviour of native speakers and language learners of Japanese while watching a captioned Japanese variety show through the use of eye-tracking and questionnaires. This paper discusses the context and methodology of this study as the data analysis is in its initial phase. It is hoped that the results will deepen our understanding of language learners' reception of Japanese captions and make suggestions as to how such authentic material can complement Japanese language learning.

Keywords: captions, Japanese language learning, eye-tracking, visual attention.

1. Introduction

Learning materials that contain AudioVisual (AV) input, such as television programmes, have been a topic of particular discussion in research that explores the

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How to cite this article: Sikkema, E. C. (2017). Reception of Japanese captions: a comparative study of visual attention between native speakers and language learners of Japanese. In K. Borthwick, L. Bradley & S. Thouësny (Eds), *CALL in a climate of change: adapting to turbulent global conditions – short papers from EUROCALL 2017* (pp. 289-293). Research-publishing.net. https://doi.org/10.14705/rpnet.2017.eurocall2017.728

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use of leisure-oriented media products in Foreign Language (FL) learning. Studies have shown that the simultaneous presentation of aural and visual information in an FL through the use of same-language text on screen has the potential to improve language learners' listening skills and ability to segment speech, recognise word boundaries, and retune perceptual processing (Charles & Trenkic, 2015; Mitterer & McQueen, 2009). This shows the potential of such same-language text as an aid to learners for visualising FL aural input. Building on studies that examined the effects of same-language text on screen, recent research has increasingly focussed on what language learners do and which information learners attend to while watching videos with such text (Vanderplank, 2015). Additionally, recent CALL research (O'Rourke et al., 2016) has analysed online learning behaviour in Synchronous Computer-Mediated Communication (SCMC) through the application of eye-tracking technology and principles in Second Language Acquisition (SLA).

This doctoral study is no exception to this trend, in that the focus is on the reception of authentic AV material. However, it expands the discussion to online viewing behaviour of Japanese Language Learners (JLLs) while watching a Japanese variety show with same-language text on screen. This study is part of a larger project run at Dublin City University (DCU) that focuses on the reception of this particular media product by different viewer groups. What makes Japanese variety shows different from other types of captioned authentic material studied in SLA research is the integrated text on screen. Rather than incorporating white text that covers the imagery as little as possible, it is common to see same-language text placed on almost half of the television screen in bright colours, a variety of typefaces, and accompanied with different sound effects. A good grasp of how such material is received by JLLs helps to effectively complement the Japanese language classroom with its use. This paper discusses the methodology of this doctoral research as the data analysis is still underway.

2. Context of this study

2.1. Main objectives

Two main objectives form the basis of this research. The general overarching aim of this study is to gain insights into focal attention and online viewing behaviour of JLLs while watching a Japanese variety show with same-language text on screen. A second, more specific goal is to investigate the visual attentional shifts of JLLs against the audio track of the media product in order to gain insights into

vision-sound matching or speech monitoring practices of JLLs. It is expected that the findings of this study will contribute towards a better understanding of the subconscious language learning process that precedes the improvement of FL listening skills as has been observed in research on the effects of captions (Charles & Trenkic, 2015; Mitterer & McQueen, 2009).

2.2. Participants and data collection

Data has been collected from 45 JLLs who were at different stages of their Japanese language study at DCU at the time of data collection (three first-years, 15 second-years, 20 third-years, and seven fourth-year students). Data has also been gathered from seven native Japanese speakers who function as a reference group with which learner behaviour is compared. The eye-tracking experiments were conducted in an experimental setting in both Ireland and Japan with a portable Tobii X2-60 eye-tracker attached to a laptop.

3. Methodology

3.1. Methods

A Mixed Methods Research (MMR) design has been developed in order to address the objectives of this study as well as possible. Whereas the first aim requires a largely quantitative approach for searching trends in focal attention and online viewing behaviour of JLLs; the second objective calls for the researcher to zoom in on individual viewing experiences of participants in order to uncover how JLLs monitor speech and attend different types of input. The abundance of highly contextualised information emitted from television programmes gives FL learners the opportunity to attend or select, whether consciously or subconsciously, input that fits their capabilities and supplements their personal learning journeys (Gilmore, 2007). Quantitative and qualitative approaches combined can therefore help explore such processes more thoroughly and inform a better judgement of the appropriate use of captioned television programmes by JLLs.

This research collated data gathered from eye-tracking technology and questionnaires. The data generated by eye movements allows for both a quantitative and qualitative assessment of focal attention based on numerical fixation data within particular Areas Of Interest (AOIs) in the video stimulus and by overlaying the video stimulus with a replay of the gaze of participants. As research on same-language

textual inserts in screen-based media have shown that such text on screen fosters learners' listening skills, data on eye movements is approached with a multimodal lens. AOIs are defined based on the type of resemblance identified between the textual inserts and corresponding dialogue (e.g. identical, similar or different representations). The questionnaire responses contain information on factors that may have influenced participants' focal attention such as demographics, experience with Japanese television, and opinions on the text on screen. Furthermore, during the debriefing at the end of each experiment session, participants provided some additional insights into their thoughts on the experiment.

3.2. Data analysis phases

For the purposes of this study it was decided to divide the data analysis into three phases. These phases are defined as follows:

- Identification of resemblance types in the video stimulus
- Generation of numerical eye movement data for each resemblance type and selection of a select number of gaze replay segments
- Interpretational analysis of gaze replay segments

A nested model is applied in order to facilitate the shift in focus for the eye-tracking data analysis from a quantitative into a qualitative approach. This means that a smaller, representative sample is further explored for the qualitative analysis. Although this overview primarily describes how the eye-tracking data is analysed, field notes and questionnaire responses are consulted throughout this process.

4. Potential implications of findings and conclusion

FL learning through authentic material generally emphasises instruction that is not focused on the linguistic aspects of a language; rather, it is based on language in use and often accompanied with awareness-raising tasks (Gilmore, 2007). This implies different teaching formats, instruction styles, and consideration for ways in which technology can enhance the language classroom. Although this doctoral research is foremost a study of language learning behaviour, insights into focal attention and feedback from JLLs on the use of captioned AV material at different academic stages can help deepen our understanding of how to raise Japanese language awareness and the appropriate time to use this type of language learning

material. It is expected that the findings of this study will show that different types of resemblance between same-language text on screen and dialogue is accompanied with different speech monitoring practices.

5. Acknowledgements

I would like to thank Dr Joss Moorkens and Prof Françoise Blin for their comments and feedback on this paper. I would also like to thank the School of Applied Language and Intercultural Studies for the travel grant to present my paper at EUROCALL 2017.

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CALL in a climate of change: adapting to turbulent global conditions – short papers from EUROCALL 2017
Edited by Kate Borthwick, Linda Bradley, and Sylvie Thouësny

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ISBN13: 978-2-490057-04-7 (Ebook, PDF, colour)
ISBN13: 978-2-490057-05-4 (Ebook, EPUB, colour)
ISBN13: 978-2-490057-03-0 (Paperback - Print on demand, black and white)
Print on demand technology is a high-quality, innovative and ecological printing method; with which the book is never 'out of stock' or 'out of print'.

British Library Cataloguing-in-Publication Data.
A cataloguing record for this book is available from the British Library.

Legal deposit: Bibliothèque Nationale de France - Dépôt légal: décembre 2017.