The Animacy Status in the Production of English Relative Constructions by Japanese Learners in Spoken and Written Discourse*

Megumi Okugiri, Tokyo Healthcare University
m-okugiri@thcu.ac.jp

Abstract

This paper examines the frequency of animacy status of the head noun phrases modified by relative clauses in spoken and written English among Japanese learners and native English speakers. Samples of relative clauses are extracted from a spoken and a written corpora, and the results indicated differences in the animacy status of the head noun phrases between the learners and native speakers depending on the learner's proficiency and between the spoken and written mode. The overall results revealed that animacy status affects the production of English relative constructions among both Japanese learners and native English speakers, which suggests that semantic properties play a crucial role in the acquisition of relative clause constructions. Moreover, this study finds that more advanced learners become better at producing relative clauses because they are a syntactically complex construction, but the learners depend heavily on relative clauses to introduce animate referents into the discourse as a communication strategy.

Keywords

English relative construction, Japanese learners of English, animacy, corpus, discourse, communication strategy

1. Introduction

Although much research has been done in second language (hereafter, L2) acquisition in the past few decades on the acquisition of relative clauses (RCs) from the viewpoint of syntax, this topic still provokes controversy. In order to clarify the issue, the current paper puts its focus on the semantic properties, specifically on the animacy status of the head noun phrases (NPs) modified by RCs.

This study focuses on the learners' production data from the perspective of the usage-based approach as frequency is a key determinant for discovering actual use of language and predicts acquisition order of RCs (Diessel, 2004; Tomasello, 2003). The frequency of three types of animacy status of the head NPs is examined: animate, concrete inanimate, and abstract inanimate. Animate referents include human beings and animals (e.g., *a man*), concrete inanimate referents are concrete objects (e.g., *a box*), and abstract inanimate referents include events and abstract

* This paper was presented to the 18th Biennial Conference of the Japanese Studies Association of Australia at the Australian National University from 8th to 11th July 2013 and has been peer-reviewed and appears on the Conference Proceedings website by permission of the author who retains copyright.

concepts (e.g., *feeling*). Along with animacy status, this study examines the influence of the mode of language and learners' proficiency on their acquisition of English RCs.

This study extracts head NPs from a spoken and a written corpora in order to investigate the animacy in the two different modes. Moreover, the learners' production is examined according to their proficiency—namely, low-intermediate, high-intermediate, and advanced. The results indicate different patterns of animacy status depending on the learners' proficiency as well as between the learners and native speakers.

2. Previous studies

Many of the past L2 studies examined whether the noun phrase accessibility hierarchy (NPAH) is applicable to the acquisition order of RCs. The NPAH is a typological hypothesis and was first proposed by Comrie and Keenan (1979). It predicts the presence of each RC in different languages. See the following RC examples.

the man who saw the woman	(subject RC)
the cat that I saw	(direct object RC)
the woman whom I gave the book to	(indirect object RC)
the boy whom the girl is chatting with	(oblique RC)
the woman whose mother has a dog	(genitive RC)
the man who the girl is taller than	(object of comparative particle RC)

The hierarchy predicts the presence of each RC in the order of subject RC > direct object RC > indirect object RC > oblique RC > genitive RC > object of comparative particle RC (*A* > *B* indicates that the presence of *B* implies the presence of *A* in a language, but the presence of *A* does not imply the presence of *B*). In other words, those RCs higher in the hierarchy are considered to be less marked typologically whereas lower RCs are more marked. Although the NPAH is originally a typological hypothesis and does not focus on language acquisition, a large number of L2 studies in European postnominal RCs examined whether or not the hierarchy was adoptable for predicting acquisition order in L2. And the results have been supportive of the NPAH as a predictor of acquisition difficulty in European languages (e.g., Eckman et al., 1988; Gass, 1979).

Although the NPAH can predict the difficulty of RCs in L2 acquisition, the hypothesis faces two critical problems: It is valid only in European languages and does not explain the acquisition of the semantic or discoursal properties of relative constructions. Meanwhile, many other researchers have focused on different linguistic aspects. For example, Comrie (1998), Matsumoto (2007), and Teramura (1984, 1991, 1993) argue that Japanese RCs—more correctly, Japanese attributive clauses that are similar to RCs in English—are more closely associated with semantic interpretation than grammatical (or formal) features, unlike European languages, such as English.

Moreover, several studies have found the effect of the semantic properties of relative constructions also in European first languages (L1s). One of the studies is Kidd, Brandt, Lieven, and Tomasello (2007), who used an error analysis of English and German relative constructions in child language. Their analysis revealed that both English and German children tended to convert object relatives to subject relatives when the head NP was animate, and they converted

subject relatives to object relatives when the head NP was inanimate. Traxler, Morris, and Seely (2002), Mak, Vonk, and Schriefers (2006), and Diessel (2009) found similar results as Kidd et al. (2007). Ming and Chen (2010) also found that animacy plays an important role in the production of Chinese attributive clauses.

Moreover, In Dutch, Mak et al. (2006) propose that the processing difficulty of RCs is explainable by the interaction of the animacy of the subject as a topic and the RC type. The head of an RC is normally the topic of the RC, as the RC is a statement about the head, and readers prefer animate entities as the subject of the RC. In other words, animate heads are highly plausible candidates for agents and highly likely to result in subject RC. This explanation is also supported by Diessel (2009) and Fox and Thompson (1990). From the discoursal point of view, as Du Bois (1980) and Fox and Thompson (1990) maintain, inanimate referents, which are less agentive referents, on the other hand tend to be non-subject and are often made relevant in the discourse by relating them to the humans (animate referents) who own and use them, which are highly agentive in L1 English general discourse. Therefore, an inanimate NP is likely to result in the head of an object RC. More importantly, these studies show that discoursal properties are crucial factors in the production of relative constructions.

In L2 acquisition of relative constructions, Ozeki (2005) and Ozeki and Shirai (2007) examined animacy status of the head in Japanese attributive clauses. They found that subject relatives were not easier to produce than direct object and oblique RCs for the learners in spoken Japanese. On the other hand, in the acquisition of L2 English RCs, in my exploratory study of the written language by Japanese learners, Okugiri (2012a, 2012b) found different results: Both native English speakers and Japanese learners produced subject RCs the most frequently regardless of the animacy status of the heads in written language. Among the small proportion of non-subject RCs, namely object and oblique RCs, the native speakers produced non-subject RCs in the case of inanimate heads. The learners, on the other hand, rarely produced non-subject RCs. Thus the results are mixed from language to language in L2 acquisition.

It is also important to note the linguistic difference depending on the mode of language. The current study compares Japanese learners' spoken language and the written language. It focuses on the production data as frequency is a key determinant for discovering the actual use of language by the learners and predicts the acquisition order of RCs. Frequency reveals the nature of the learners' language in the perspective of the usage-based approach (Diessel, 2004; Tomasello, 2003), in which utterances are defined as strings of speech used for getting things understood, and these strings constitute a construction that has a meaning (Lieven & Tomasello, 2008; Tomasello, 2003). Furthermore, Bybee (2008) suggests that more frequent strings of speech have stronger representations in memory and serve as analogical bases for forming novel instances of the construction. Based on this approach, the present study will exhibit the frequent patterns of relative constructions among Japanese learners and native English speakers in order to reveal the central patterns in their cognitive linguistic representations.

3. Research questions

Based on the previous studies, this paper addresses three research questions as follows.

1. Does the tendency of the animacy status of the head NPs differ between native English

speakers and Japanese learners?
2. Does the animacy status differ depending on the learners' levels of L2 English proficiency?
3. Do semantic properties such as animacy status affect the acquisition of English relative clause constructions of Japanese learners as well as of native English speakers?

4. Method

The relative constructions of Japanese learners and native English speakers at different levels of competence were extracted from the National Institute of Information and Communications Technology Japanese Learner English Corpus (Izumi, Uchimoto, & Isahara, 2005) and the Nagoya Interlanguage Corpus of English (NICE) (Sugiura, 2008); the former is a spoken corpus whereas the latter is a written corpus. Both corpora include data from Japanese learners and native speakers of English. The Japanese learner data for this study were extracted depending on the levels of English proficiency; the learners were grouped into four levels depending on their scores on the Test of English for International Communication (TOEIC): a lower-intermediate group (scores of 405-600), a higher-intermediate group (scores of 605-780), and an advanced group (scores of 785-990).[1] The numbers of files tagged with the TOEIC score for the spoken corpus are 123 for the lower-intermediate group, 241 for the higher-intermediate group, and 219 for the advanced group. For the native group, 20 files were available. The numbers of files for the written corpus were 37 low-intermediate, 32 high-intermediate, and 25 advanced learners as well as 28 native speakers of English.

The RC data were at first gathered by extracting relative pronouns—namely, *that, which, who, whom,* and *whose*.[2] For the written corpus, relative construction data were extracted by hand. For the spoken corpus, the NICT JLE Corpus Analysis Tool Software was available to extract these pronouns. Interrogative, appositive sentences, and *–ing* participial constructions as well as the *so…that…* construction were excluded from the data. RCs without relative pronouns (e.g., *the woman I know*) were extracted manually.

After the extraction, the heads were categorised as animate, concrete inanimate or abstract inanimate. The definitions and examples are as follows:

Animate:	human beings and animals (e.g., *a man, a bird, a dog*)
Concrete Inanimate:	concrete objects (e.g., *a box, a room, a store, a restaurant*)
Abstract Inanimate:	events, abstract concepts and anything else that is not concrete (e.g., *a party, an idea, a feeling*)

This study adopts Ming and Chen's (2010) definitions for the animacy status of head NPs.

[1] These levels are based on the Can-Do Levels Table provided by Educational Testing Service (http://www.uk.etseurope.org/home-corpo-uk/toeic-can-do-table/).
[2] Relative sentences with the relative pronouns *where* or *what* are not included in these data because this study focuses on RCs, which require a head noun phrase. *Where*, which is an adverbial relative pronoun, frequently does not require an overt head noun phrase and *what*, which is a nominal relative pronoun, never allows an overt head noun phrase.

5. Results and discussion

Table 1 and Figure 1 show the detailed results of the frequency of animacy of the head in each group and mode.

Level	Mode	Animate	Concrete Inanimate	Abstract Inanimate	Total
Low-Intermediate	spoken	11	32	5	48
		22.92%	66.67%	10.42%	100%
	written	42	6	16	64
		65.63%	9.38%	25.00%	100%
High-Intermediate	spoken	105	137	37	279
		37.63%	49.10%	13.26%	100%
	written	65	10	30	105
		61.90%	9.52%	28.57%	100%
Advanced	spoken	258	231	148	637
		40.50%	36.26%	23.23%	100%
	written	59	31	40	130
		45.38%	23.85%	30.77%	100%
Native	spoken	115	265	147	527
		21.82%	50.28%	27.89%	100%
	written	75	35	98	208
		36.06%	16.83%	47.12%	100%
Total		730	747	521	1998

Table 1. Frequency of Animacy of the Heads in Each Group and Mode

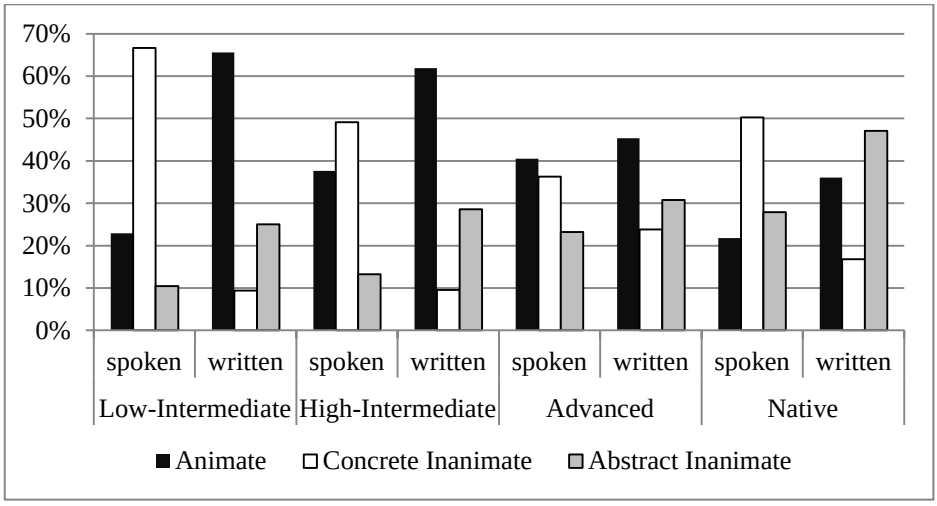

Figure 1. Percentages of Animacy

The low-intermediate group had a strong tendency to produce concrete inanimate heads in the spoken mode (66.67% for spoken and 9.38% for written) and animate heads in the written mode (22.92% for spoken and 65.63% for written). The high-intermediate group had a similar tendency as the low-intermediate group (49.10% in spoken and 9.52% in written for concrete inanimate; 37.63% in spoken and 61.90% in written for animate). The advanced group produced animate heads more than concrete and abstract inanimate heads in both modes (40.50% in spoken and 45.38% in written for animate; 36.26% in spoken and 23.85% in written for concrete inanimate; 23.23% in spoken and 30.77% in written for abstract inanimate). The native group produced

more concrete inanimate heads (50.28%) than the others in the spoken mode and more abstract inanimate heads (47.12%) in the written mode.

The chi-square analysis yielded a significant difference between the spoken and written data in all groups: χ^2 (2, N=112)=40.219, p<.0001* for low-intermediate; χ^2 (2, N=384) =51.619, p<.0001* for high-intermediate; χ^2 (2, N=767) =7.997, p=.0183* for advanced; and χ^2 (2, N=735)=69.125, p<.0001* for native. Therefore, the statistical results showed that all groups produced relative constructions differently depending on the modes.

The proportions of animate, concrete inanimate, and abstract inanimate in the spoken mode of each group are shown in Figure 2. In the spoken mode, concrete inanimate heads were the most frequent among the two intermediate groups and the native group, which is probably because inanimate referents are often made relevant in spoken discourse by relating them to the humans who own and use them (Du Bois, 1980; Fox & Thompson, 1990). In order for humans to control the referents, the head NPs are more likely to be concrete inanimate rather than abstract inanimate.

Another reason for the frequent occurrence of concrete inanimate heads could be ascribed to the reduced need to identify human referents in the spoken mode. In spoken discourse, there are more deictic and human referents available, such as *I*, *you*, *he*, *she*, *it, this* and *that* (Chafe, 1984a), and more shared knowledge is already present between the interlocutors. Thus, a speaker has less need to identify human referents in order to keep coherence because many human referents are already presupposed or visible. Therefore, the need to identify referents, mostly human referents in the spoken mode, is much less than in the written mode. Hence, referents that need to be explained in spoken language are more limited to concrete inanimate referents.

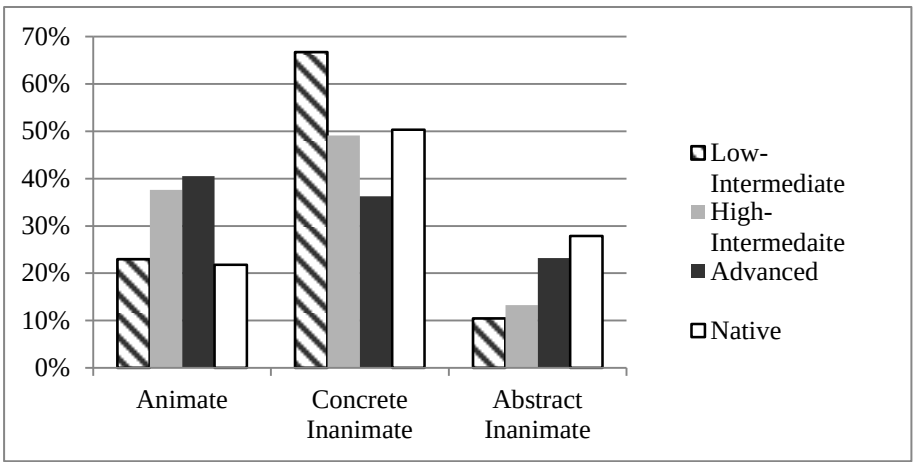

Figure 2. Percentages of Animacy in the Spoken Mode of Each Group

For advanced learners, the most frequent heads were animate in the spoken mode. The percentage for animate heads increases as the learners become more proficient in English (22.92% for low-intermediate, 37.63% for high-intermediate, and 40.50% for advanced). In other words, the more advanced learners used more animate heads than concrete inanimate heads in the spoken mode, although this was not the case for the native group (21.82%). One of the possible reasons for the results is that the strategy of the advanced learners in identifying human referents by means of RCs is more firmly established in their interlanguage as a result of achieving communicative success by using RCs to identify human referents. As a result, the learners might

over-depend on a single strategy to express or identify human referents with RCs whereas the native speakers can accomplish this in various ways, not limited to RCs. The dependency on this strategy seems to lead advanced learners to diverge from the RCs of the native speakers. The results might suggest that, although advanced learners are grammatically more advanced, their discoursal competence might not be so advanced on account of using a different communicative strategy from native speakers, which the learners acquired by achieving communicative success regardless of its degree of appropriateness in terms of native speakers' norms of use.

In contrast, in the written mode the percentage for animate heads decreases as the learners become more proficient (65.63% for low-intermediate, 61.90% for high-intermediate, 45.38% for advanced, and 36.06% for native). The results are illustrated in Figure 3.

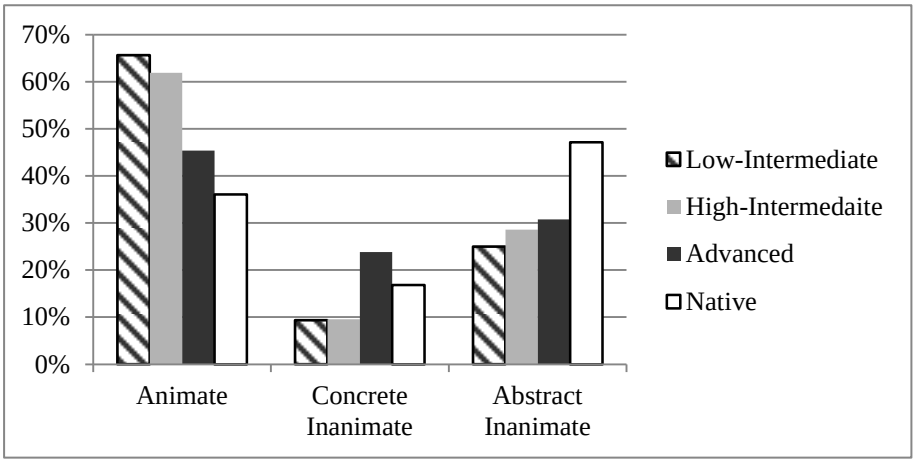

Figure 3. Percentages of Animacy in the Written Mode of Each Group

It is also notable that the proportions of animate heads are the largest among the heads by the learners. In general written discourse, the writer might not know the reader; in addition, the deictic referents (i.e., contextually presupposed NPs such as *I* or *you*) or any other referents visible to the writer and the reader are very few. Thus, the writer has an increased need to identify human referents in written language. Hence, the frequent occurrence of animate heads might stem from the need to identify human referents in the written mode. The learners exhibit this tendency stronger than the native speakers probably because of the learners' over-dependency upon the strategy of expressing human referents using RCs. As the learners had enough time to plan in the written mode, even the less-advanced learners were able to produce relative constructions, which are a complex form of NPs; the more advanced learners were probably able to come up with other forms of NPs to denote human referents, as the native speakers did.

Meanwhile, the native group showed a strong tendency to produce abstract inanimate heads in the written mode. This might be due to the nature of psychological detachment in written English (Chafe, 1984a, 1984b) as Chafe (1984b) argued that psychological detachment is exhibited in more abstract language. Thus, the native speakers in this study probably included more abstract inanimate referents in their writing as a result of psychological detachment. The learners, on the other hand, did not show such detachment in the written mode, which might be due to two possible explanations: They were not able to manage or did not know the linguistic forms associated with the written mode, or they had not been taught the formal written style of English. This will be left for a future study, as it requires more detailed and further investigation

to draw a definite conclusion.

6. Conclusion and implications

This study examined the animacy status of the head NPs by Japanese learners and native English speakers. It showed that all learner groups produced animate heads while the native group produced abstract inanimate heads the most frequently in the written mode; in addition, the two intermediate learners and the native group produced concrete inanimate heads while the advanced group produced animate heads in the spoken mode. Thus, the answers for the first two research questions ((1) Does the tendency of the animacy status of the head NPs differ between native English speakers and Japanese learners? and (2) Does the animacy status differ depending on the learners' levels of L2 English proficiency?) are both positive, since the results show differences in the animacy status of the head NPs between Japanese learners and native English speakers as well as between the spoken and written mode.

The results of the written mode suggest that the learners tend to produce animate heads frequently due to the need to identify human referents and that the native speakers tend to produce abstract inanimate heads frequently due to the nature of detachment in general English written discourse. And the results of the spoken mode imply that the intermediate learners and native speakers are likely to produce concrete inanimate heads frequently due to the increased need to relate concrete inanimate referents with humans who own and use them. The results also indicate that the advanced learners have a tendency to produce animate heads more frequently due to their higher grammatical proficiency in producing complex sentences, such as relative constructions, than the less advanced learners. However, the advanced learners might also exhibit low discoursal proficiency by over-depending upon the strategy of expressing human referents using RCs, which is not in line with their grammatical proficiency.

The overall results show that animacy status affects the production of English relative constructions among Japanese learners as well as of native English speakers. Thus, the results support the last research question ((3) Do semantic properties such as animacy status affect the acquisition of English relative clause constructions of Japanese learners as well as of native English speakers?). The results suggest that semantic properties such as animacy status play a crucial role in the production of relative constructions, and that these properties affect second language learners.

This study illustrated the difference in the animacy status among the groups and suggests possible factors influencing the difference. However, it was not able to determine the definitive factors affecting the difference. Further investigation is required to determine the factors. Moreover, it will be fruitful to further investigate the effect of other types of semantic properties on the acquisition of relative constructions in future studies.

Acknowledgement

I am deeply grateful to Professor Paul Rossiter of the University of Tokyo, whose supervision, enormous support, and insightful comments were invaluable. His supervision enabled me to develop my understanding of the subject. I am also indebted to Professor Seiko Fujii, Professor Hideo Oka, Professor Yasuhiro Shirai, and Professor Tom Gally for their invaluable and detailed

comments. I also wish to thank anonymous reviewers for their valuable comments and suggestions on an earlier version of this article. I remain solely responsible for any remaining errors.

References

Bybee, J., 2008. Usage-based grammar and second language acquisition. In: Robinson, P. and Ellis, N. (Eds.), Handbook of Cognitive Linguistics and Second Language Acquisition. Routledge, New York, pp. 216–236.

Chafe, W., 1984a. Integration and involvement in speaking, writing, and oral literature. In: Tannen, D. (Ed.), Spoken and Written Language: Exploring Orality and Literacy. Ablex, Norwood, pp. 35–53.

Chafe, W., 1984b. Integration and involvement in spoken and written language. In: Borbe, T. (Ed.), Semiotic Unfolding. Mouton de Gruyter, Berlin, pp. 1095–1102.

Comrie, B., 1998. Attributive clauses in Asian languages: Towards an areal typology. In: Boeder, W., Schroeder, C., Wagner, K. H. and Wildgen, W. (Eds.), Sprache in Raum und Zeit: In memoriam Johannes Bechert. Gunter Narr, Tübingen, pp. 51–60.

Comrie, B., 2002. Typology and language acquisition: The case of relative clauses. In: Giacolone Ramat, A. (Ed.), Typology and Second Language Acquisition. Mouton de Gruyter, Berlin, pp. 19–37.

Comrie, B., 2007. The acquisition of relative clauses in relation to language typology. *Studies in Second Language Acquisition* 29(2): 301–309.

Comrie, B. and E. L. Keenan, 1979. Noun phrase accessibility revisited. *Language* 55(3): 649–664.

Diessel, H., 2004. The Acquisition of Complex Sentences. Cambridge University Press, Cambridge.

Diessel, H., 2009. On the role of frequency and similarity in the acquisition of subject and non-subject relative clauses. In: Givon, T. and Shibatani, M. (Eds.), Syntactic Complexity. John Benjamins, Amsterdam, pp. 251–276.

Du Bois, J., 1980. Beyond definiteness: The trace of identity in discourse. In: L. Chafe (Ed.), The Pear Stories: Cognitive, Cultural, and Linguistic Aspects of Narrative Production. Ablex Publication Corporation, Norwood, pp. 203–274.

Eckman, F. R., L. Bell and D. Nelson, 1988. On the generalization of relative clause instruction in the acquisition of English as a second language. *Applied Linguistics* 9(1): 1–20.

Fox, B. A., and S. A. Thompson, 1990. A discourse explanation of the grammar of relative clauses in English conversation. *Language* 66(2): 297–316.

Gass, S., 1979. Language transfer and universal grammatical relations. *Language Learning* 29: 327–344.

Hyltenstam, K., 1984. The use of typological markedness conditions as predictors in second language acquisition: The case of pronominal copies in relative clauses. In: Andersen, R. (Ed.), Second Languages: A Crosslinguistic Perspective. Newbury House, Rowley, pp. 39–58.

Izumi, E., K. Uchimoto and H. Isahara, 2005. The National Institute of Information and Communications Technology Japanese Learner English Corpus. ALC, Tokyo.

Kidd, E., S. Brandt, E. Lieven and M. Tomasello, 2007. Object relatives made easy: A cross-linguistic comparison of the constraints influencing young children's processing of relative clauses. *Language and Cognitive Processes* 22(6): 860–897.

Lieven, E. and M. Tomasello, 2008. Children's first language acquisition from a usage-based perspective. In: Robinson, P. and Ellis, N. (Eds.), Handbook of Cognitive Linguistics and Second Language Acquisition. Routledge, New York, pp. 168–196.

Mak, W. M., W. Vonk and H. Schriefers, 2006. Animacy in processing relative clauses: The hikers that rocks crush. *Journal of Memory and Language* 54(4): 466–490.

Matsumoto, Y., 2007. Interaction of multiple factors in relative clause construal and acquisition. *Studies in Second Language Acquisition* 29(2): 367–374.

Ming, T. and L. Chen, 2010. A discourse-pragmatic study of the word order variation in Chinese relative clauses. *Journal of Pragmatics* 42(1): 168–189.

Okugiri, M., 2012a. The animacy status and the acquisition of English relative clauses in written language by Japanese learners. In: Tokyo Daigaku Paul Rossiter Kyōju Taikan Kinen Shuppan Iinkai (Ed.), West to East, East to West: Studies in the Field of English Education Dedicated to Professor Rossiter on His Retirement. Seibido, Tokyo, pp. 135–156.

Okugiri, M., 2012b. The Acquisition of the Discoursal Properties of English Relative Constructions by Japanese Learners. Unpublished doctoral dissertation, The University of Tokyo, Tokyo, Japan.

Ozeki, H., 2005. Daiichi daini gengo ni okeru nihongo meishi shūshokusetsu no shūtoku katei: Ruikeiron teki apurōchi ('The acquisition process of Japanese noun-modifying clauses by first and second language learners: A typological approach'). Unpublished doctoral dissertation, Ochanomizu University, Tokyo, Japan.

Ozeki, H. and Y. Shirai, 2007. Does the noun phrase accessibility hierarchy predict the difficulty order in the acquisition of Japanese relative clauses? *Studies in Second Language Acquisition* 29(2): 169–196.

Sugiura, M., 2008. Eigo gakushūsha no korokēshon chishiki ni kansuru kisoteki kenkyū ('A fundamental study on English L2 learners' collocational knowledge'). (Report of Grant-in-Aid for Scientific Research (B) (2005-2007), No.17320084).

Teramura, H., 1984. Nihongo no Shintakusu to Imi II ('Japanese Syntax and Semantics II') (reprinted in 1985). Kuroshio, Tokyo.

Teramura, H., 1991. Nihongo no Shintakusu to Imi III ('Japanese Syntax and Semantics III'). Kuroshio, Tokyo.

Teramura, H., 1993. Teramura Hideo Ronbunshu I: Nihongo bunpoo Hen ('Collection of Papers by Hideo Teramura, Vol. 1: Japanese Syntax'). (reprinted in 1999). Kuroshio, Tokyo.

Tomasello, M., 2003. Constructing a Language: A Usage-Based Theory of Language Acquisition. Harvard University Press, Cambridge, MA.

Traxler, M. J., R. K. Morris and R. E. Seely, 2002. Processing subject and object relative clauses: Evidence from eye movements. *Journal of Memory and Language* 47(1): 69–90.

About the Author

Megumi Okugiri is a professor at Tokyo Healthcare University, Tokyo. She received her MA in English from the Department of English at the University of Wisconsin–Milwaukee and a second

MA and PhD in Language and Information Sciences at the University of Tokyo. Her recent interests include the acquisition of various English constructions by Japanese learners and language transfer from the discoursal point of view.