

## 科学研究費助成事業 研究成果報告書

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研究課題名(和文) Japanese EFL learners and article usage: Locating precise variables that affect explicit instruction through web-based methods

研究課題名(英文) Japanese EFL learners and article usage: Locating precise variables that affect explicit instruction through web-based methods

研究代表者

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研究成果の概要(和文)：本研究は、日本人EFL学習者の英語冠詞の習熟度向上を支援することを目的とした。第一段階はリーディングとライティング、第二段階はリスニングとスピーキングに焦点を当てた。プロジェクトでは、eラーニング・プログラムの指導用コンテンツを作成し、学習者に4つの条件でさまざまな変数を与え、どの変数が最も効果的かを検討した。また、オンライン・プラットフォームを開発し、指導前、指導直後、指導後4週間の受容的・生産的正確さを測定した。

研究成果の学術的意義や社会的意義

The present research has identified variables that help shape the learning of English articles, highlighting how the native tongue can be harnessed to improve second-language grammar. Conducted in an online environment, the research also demonstrates that improvements can be made autonomously.

研究成果の概要(英文)：The present research aimed to assist Japanese EFL learners in improving their proficiency of the English article system. It comprised two phases: the first concentrated on reading and writing while the second on listening and speaking. The project involved creating instructional content for an e-learning program, exposing learners to different variables across four conditions to determine which variables would be the most effective. In addition, an online platform was developed to measure receptive and productive accuracy before, immediately after, and four weeks post-instruction.

研究分野：Instructed second-language acquisition

キーワード：plurals morphology explicit instruction grammatical accuracy Japanese EFL learners web-based instruction

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### 1 . 研究開始当初の背景

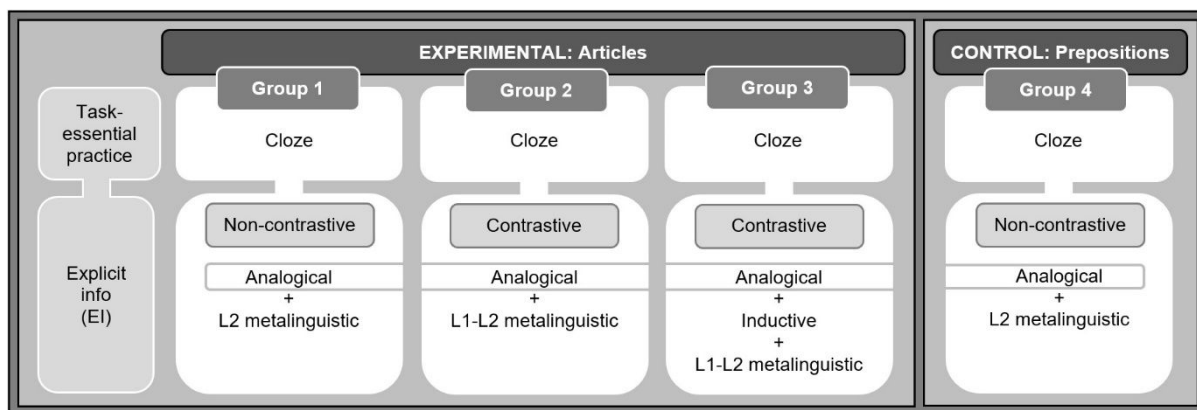
Cross-linguistic influence, seen as the impact of a learner’s first language (L1) on the acquisition of a second language (L2), varies in its effect, with similarities aiding learning and differences, such as those between Japanese and English, typically posing challenges. Effective instructional methods, particularly those incorporating explicit information (EI) and task-essential practice, are important for improving grammatical accuracy. While some studies focus on EI about the L2, others suggest benefits from EI about the L1, albeit without firm universal conclusions. Notably, the English article system presents a persistent challenge for Japanese EFL learners due its complexity and the lack of a similar system in Japanese. Despite evidence supporting explicit instruction that integrates understanding of both the L1 and L2, research into utilizing cross-linguistic effects as learning opportunities, especially for article acquisition, remains scarce.

### 2 . 研究の目的

The present research aimed to explore contrastive instruction as a method for facilitating second-language acquisition by highlighting both similarities and differences between L1 and L2, with a focus on improving article accuracy. While previous studies suggest the effectiveness of such awareness-raising approaches, possibly through making processing routines more efficient, the precise factors influencing these gains remain unclear. Additionally, instructional methods developed to date tend to be restricted to the classroom. Therefore, this project sought to (1) identify specific variables of explicit grammar instruction that affect the accuracy of article usage among Japanese EFL learners and (2) develop web-based methods to extend learning beyond traditional classroom environments.

### 3 . 研究の方法

The research methodology involved exposing four groups to online instructional content with different variables across two phases. Phase 1 examined the effects of explicit instruction on reading and writing, while Phase 2 focused on listening and speaking. In Phase 1, the four conditions incorporated: (1) non-contrastive explicit instruction on L2 article usage with L2 practice, (2) contrastive instruction highlighting L1-L2 differences in articles with L2 practice, (3) the same as Condition 2 except with guided induction of L1-L2 differences, and (4) non-contrastive instruction on L2 prepositions with L2 practice to serve as a control. Phase 2 followed a similar structure, except the guided induction in Condition 3 was replaced with L1 practice.



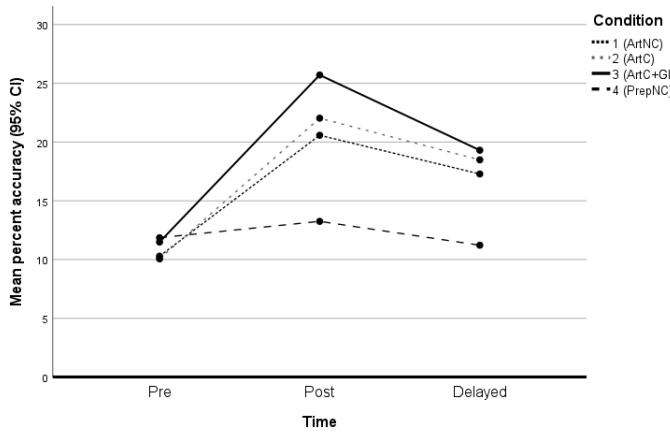
Article accuracy was measured through online receptive and productive tasks before, immediately after, and four weeks post-instruction, with performance evaluated in mean percent accuracy and, in Phase 1, also reaction times in milliseconds.

Test	Modality	Time pressure	Measures	Operationalization
Error recognition	Reading/Listening	Yes	Accuracy; Response time	Mean percent accuracy; Time in milliseconds
Production	Writing/Speaking	Yes	Accuracy	Mean percent accuracy

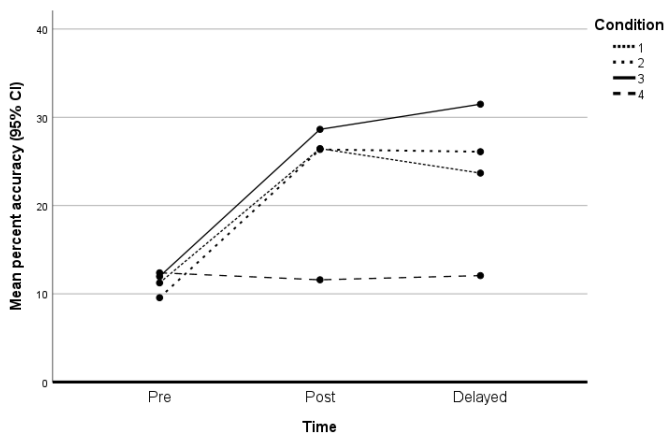
Data comparing performance between the conditions are currently being analysed. Additionally, some participants took part in semi-structured interviews to provide qualitative insights.

#### 4 . 研究成果

Although the data are still being analysed, preliminary results are available for the receptive measures from both phases.



In Phase 1 (reading), results showed that the contrastive instruction incorporating guided induction (Condition 3) produced the greatest impact on the participants being able to accurately recognize written article errors at post-test. The control group (Condition 4), which focused on prepositional usage, did not display any changes in accuracy despite being exposed to the same quantity of articles as the other three conditions during the intervention. Additionally, participants in Condition 3 displayed faster within-group reaction times in the post-test compared to the other three groups.



In Phase 2 (listening), results indicated that although all three experimental groups (Conditions 1, 2, and 3) displayed similar degrees of improvements at post-test, Condition 3, which incorporated L1 practice, facilitated learners to identify aural article errors more effectively in the delayed post-test, suggesting more sustained learning gains than the other three conditions. As with Phase 1, participants in Condition 4 showed no improvement across any of the three time intervals.

The productive data (writing and speaking) have already been cleaned and collated and are now ready for marking. Once marked, they will be analysed in the same way as the receptive data to determine which variables had the greatest impact on subsequent performance.

The interview data will be transcribed and subjected to thematic analysis, the results of which can then be used to supplement the quantitative data.

5. 主な発表論文等

〔雑誌論文〕 計3件（うち査読付論文 3件/うち国際共著 3件/うちオープンアクセス 0件）

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3. 雑誌名 Studies in Second Language Acquisition	6. 最初と最後の頁 1-32
掲載論文のDOI（デジタルオブジェクト識別子） 10.1017/S027226312400038X	査読の有無 有
オープンアクセス オープンアクセスではない、又はオープンアクセスが困難	国際共著 該当する

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掲載論文のDOI（デジタルオブジェクト識別子） 10.18823/asiatefl.2022.19.3.11.937	査読の有無 有
オープンアクセス オープンアクセスではない、又はオープンアクセスが困難	国際共著 該当する

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オープンアクセス オープンアクセスではない、又はオープンアクセスが困難	国際共著 該当する

〔学会発表〕 計4件（うち招待講演 0件/うち国際学会 4件）

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3. 学会等名 European Second Language Association (EuroSLA) (国際学会)
4. 発表年 2023年

1. 発表者名 M. W. Lucas
2. 発表標題 Locating precise variables affecting the acquisition of the English article system through web-based instruction
3. 学会等名 American Association for Applied Linguistics (AAAL) (国際学会)
4. 発表年 2024年

1. 発表者名 M. W. Lucas
2. 発表標題 Ascertaining instructional variables that affect the acquisition of plural marking through web-based awareness-raising
3. 学会等名 American Association for Applied Linguistics (AAAL) (国際学会)
4. 発表年 2023年

1. 発表者名 M. W. Lucas
2. 発表標題 Accuracy Matters: Factors Affecting Web-Based Explicit Instruction of Plural Marking
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〔図書〕 計0件

〔産業財産権〕

〔その他〕

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6. 研究組織

氏名 (ローマ字氏名) (研究者番号)	所属研究機関・部局・職 (機関番号)	備考
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7. 科研費を使用して開催した国際研究集会

〔国際研究集会〕 計0件

8 . 本研究に関連して実施した国際共同研究の実施状況

共同研究相手国	相手方研究機関
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