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Title

A protocol for a qualitative synthesis of research of technology-mediated task-based language teaching in Japan

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Review Question

The three research questions which guide this qualitative synthesis of research are:

- 1) What are the different types of technology-mediated tasks used in Japanese English classrooms?
 - a. Technology-mediated tasks inside the classroom
 - b. Technology-mediated tasks outside the classroom
- 2) What are learners' and teachers' perceptions of the experiences of technology-mediated tasks?
- 3) What are the affordances and limitations of technology-mediated tasks reported in these studies?

Rationale

Task-based language teaching (TBLT) is a type of communicative approach that places priority on the completion of real-world related tasks that require learners to solve some communication problems primarily focusing on meaning, not forms (Skehan, 1998). TBLT is a learner-centred and experiential approach informed by Second Language Acquisition (SLA) theories, which has been gaining global attention and popularity among a wide range of stakeholders in language pedagogy since the 1980s (East, 2021). In Japan, TBLT has also been drawing the attention of English teachers, and a number of studies on the task-based approach have been and are continuing to be conducted. However, the traditional Presentation-Practice-Production (PPP) approach remains prevalent in English language classrooms (Takimoto, 2020) despite the criticism of its teacher-centered and grammar-focused teaching style (East, 2021), resulting in English learners' low communication competence in Japan (Fairbrother, 2022).

In terms of technology, the environment surrounding English learners has been changing dramatically over the last 20 years. For example, almost every student in Japan, ranging from primary school to high school, has been equipped with a tablet computer with internet access both inside and outside the classroom with the government's introduction of the Global and Innovation Gateway for All (GIGA) School Program in 2019, which promotes the application of information and communication technology in the students' learning. However, it is not clear to what extent technology is employed or what types of technology are used in TBLT in English classrooms in Japan. In terms of secondary research on this topic, while Two reviews have been published on technology-mediated TBLT (Ziegler, 2016; Chong & Reinders, 2020), there is no qualitative synthesis

of research of technology-mediated TBLT in Japan. Therefore, this review will synthesize studies on technology-mediated TBLT in Japan with the aim of identifying the characteristics, affordances, and limitations of technology-mediated TBLT in Japan, together with teachers' and students' perceptions of technology-mediated task-based lessons.

Chong, S. W., & Reinders, H. (2020). Technology-mediated task-based language teaching: A qualitative research synthesis. *Language Learning and Technology*.

East, M. (2021). *Foundational principles of task-based language teaching*. Taylor & Francis.

Fairbrother, L. (2022). Interests and power in English education policy in Japan: A focus on the high school 'teaching/learning English in English' policy. *Interests and power in language management*. Berlin: Peter Lang.

Skehan, P. (1998). *A cognitive approach to language learning*. Oxford University Press.

Takimoto, Tetsuhiro. (2020). Effective Lesson Structures for Pupils in Higher Grades: A Comparative Study of TBLT and Modified PPP/ TBLT. *JES journal* Vol. 20, No. 1, 242 - 255.

Ziegler, N. (2016). Taking Technology to Task: Technology-Mediated TBLT, Performance, and Production. *Annual Review of Applied Linguistics*, 36, 136-163.

<https://doi.org/10.1017/S0267190516000039>

Inclusion Criteria

1) Conceptual framework

Include:

- Studies refer to task-based language teaching or equivalent terms (e.g., task-based language learning, task-based instruction).
- Studies include at least one type of technology.

Exclude:

- 'Task' is used without a connection with task-based language teaching.

Rationale:

Many of the journal articles written in Japanese have a different structure from articles published in Western journals and they often lack a theoretical or conceptual framework of the teaching methodology. Therefore, the present review will include studies if they include a reference to task-based language teaching.

2) Language

Include: Studies are written in English or Japanese.

Exclude: Studies are written in languages other than English and Japanese.

Rationale: The current review focuses on studies conducted in Japan, and three of the reviewers are capable of reading articles written in English while two of the reviewers can read articles written in Japanese.

3) Type of publication

Include:

- Primary studies
- Journal articles

Exclude:

- Reviews, editorials, commentaries, and theoretical papers.
- Books, book chapters, doctoral theses, conference proceedings, and departmental bulletin papers

Rationale:

The current review synthesizes studies that report primary data in journal articles. Although other types of publications such as doctoral theses and conference proceedings can provide rich information on small-scale studies which can be useful to answer the research questions, the current review focuses on peer-reviewed journal articles to maintain the rigour of individual studies. This is one of the limitations of this research synthesis in terms of its scope.

4) Year of publication

Include:

- The studies were published between 2003 and 2023.

Excluded

- The studies were published before 2003.

Rationale:

The present review will include articles published over last two decades as the majority of studies investigating the productive relationship between TBLT and technology were conducted in the 21st century (Lai & Li, 2011).

Lai, C., & Li, G. F. (2011). Technology and task-based language teaching: A critical review. *CALICO Journal*, 28(2), 498-521.

5) Context

Include:

- ESL or EFL classrooms in Japan.

Exclude:

• Other types of second language or foreign language classrooms in Japan (e.g., Japanese as a second language, Chinese as a foreign language).

Rationale:

The current review synthesises studies on technology-mediated TBLT in English classrooms in Japan. Therefore, it will exclude studies on language classrooms other than ESL and EFL as well as studies on language classrooms outside Japan.

6) Rigour

Include: The studies were conducted mainly in accordance with the TESOL Quarterly guidelines.

Excluded: The studies were not conducted in accordance with more than 50 % of the TESOL Quarterly guidelines.

Rationale: Several previous systematic reviews in language education have adopted the TESOL Quarterly guidelines in their inclusion criteria (e.g., Chen, 2016; Chong & Reinders, 2020; Shen & Chong, 2022). The present review includes studies that are in line with more than 50 % of the items in the TESOL Quarterly guidelines in order to maintain a certain level of rigour of the included studies.

Chen, T. (2016). Technology-supported peer feedback in ESL/EFL writing classes: a research synthesis. *Computer Assisted Language Learning*, 29(2), 365-397.
<https://doi.org/10.1080/09588221.2014.960942>

Chong, S. W., & Reinders, H. (2020). Technology-mediated task-based language teaching : a qualitative research synthesis. *Language Learning & Technology* ISSN, 24, 70-86.

<https://research-repository.st-andrews.ac.uk/handle/10023/24982>

Shen, R., & Chong, S. W. (2022). Learner engagement with written corrective feedback in ESL and EFL contexts: a qualitative research synthesis using a perception-based framework. *Assessment and Evaluation in Higher Education*. <https://doi.org/10.1080/02602938.2022.2072468>

Information Sources

Publications written in English will be searched on Scopus, Web of Science, ERIC(EBSCO), and LearnTechLib. Papers written in Japanese will be searched on a database called J-STAGE, which includes articles published in Japanese.

Search Strategy

The following search string will be used to conduct the current review:

1. In English

For Scopus, Web of Science, and ERIC:

"task-based" AND ("technolog*" OR "computer*" OR "online" OR "distance learn*" OR "web*" OR "digital" OR "video*" OR "internet" OR "network*" OR "telecollabo*") AND ("teach*" OR "learn*" OR "instruction") AND "Japan*"

For LearnTechlib:

"task-based" AND ("teach*" OR "learn*" OR "instruction") AND "Japan*"

2. In Japanese

TBLT AND 情報 AND (テクノロジー OR コンピュータ OR ICT OR デジタル OR オンライン OR モバイル OR web OR インターネット OR スマートフォン OR LINE)

Translation into English

TBLT AND English And (technology OR computer OR ICT OR digital OR online OR "mobile phone" OR web OR Internet OR smartphone OR video OR LINE)

Rationale: As LearnTechLib is a database that focuses on research associated with learning and technology, terms related to technology will be removed to accommodate a broad range of studies. When it comes to the Japanese database, J-STAGE, different keywords will be employed since the technology-related terms commonly used in Japanese are slightly different from ones used in English.

Data Management

During the first-level screening, which examines titles and abstracts, publications that are considered to suit the topic and the scope of the review will be imported into Mendeley, a reference management system, along with their full texts in PDF. Then the second-level screening will take place within Mendeley, where reviewers assess the rigour of the studies using their full texts. Studies that are excluded will be moved to a separate folder in Mendeley for further review if necessary.

Selection Process

The first author will conduct the selection process that consists of three stages: Identification, screening, and inclusion of studies. The third author will be consulted in cases where there is uncertainty or ambiguity. The process will be presented in the form of the 2020 version of PRISMA diagram (Page et al., 2022).

Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., et al. (2021). The PRISMA 2020 statement: an updated guideline for reporting systematic reviews *BMJ*, 372, n71. <https://doi.org/10.1136/bmj.n71>

Data Collection Process

The current review is a qualitative synthesis of research (Chong, Bond, & Chalmers, 2023). As qualitative synthesis of research is "research synthesis that employs qualitative methods to synthesise research evidence derived from both qualitative and quantitative paradigms" (Chong et al., 2023), this review will extract qualitative data from studies that adopt qualitative, mixed, or quantitative methods. There are three ways to extract qualitative data: "raw data" only, "interpreted findings" only, or both (Chong & Plonsky, 2021). Only interpreted findings will be extracted for the present review because of the limited time given for the project.

A data extraction form is designed on the basis of the one used in Chong and Reinders' (2022). Although this original data extraction form was developed for a scoping review, it aims to extract qualitative data, not quantitative data from individual studies. The modified data extraction form for the present review will be used to extract information from the included studies (see "Data Items"). This data extraction form will be reviewed by the third reviewer, who is an expert in systematic reviews in the field of TESOL. After incorporating the third reviewer's feedback, the first and second reviewers will independently extract information from 10 % of the included studies using the data extraction form. Any differences found will be resolved between the two reviewers in a meeting while further modifications will be made to the form if necessary. The first reviewer will extract information from the rest of the included studies with the final version of the data extraction form.

Chong, S., Bond, M. & Chalmers, H. (2023). Opening the methodological black box of research synthesis in language education: where are we now and where are we heading?. *Applied Linguistics Review*. <https://doi.org/10.1515/applirev-2022-0193>

Chong, S. W., & Plonsky, L. (2021). A primer on qualitative research synthesis in TESOL. *TESOL Quarterly*, 55(3), 1024-1034.

Chong, S. W., & Reinders, H. (2022). Autonomy of English language learners: A scoping review of research and practice. *Language Teaching Research*, 0(0). <https://doi.org/10.1177/13621688221075812>

Data Items

1. Characteristics of included studies:

- Year of publication
- Research questions
- Research design (qualitative, quantitative, mixed)
- Description of the population
- Setting (Primary, secondary, higher education, etc.)

2. Research question 1: What are the different types of technology-mediated tasks used in Japanese English classrooms?

- a) Technology-mediated tasks inside the classroom
- b) Technology-mediated tasks outside the classroom
 - Description and duration of the intervention
 - Technology and materials used

- Inside or outside the classroom

3. Research question 2: What are learners' and teachers' perceptions of the experiences of technology-mediated tasks?

- Teachers' perceptions or experiences
- Learners' perceptions or experiences
- Information about teachers and learners

4. Research question 3: What are the affordances and limitations of technology-mediated tasks reported in these studies?

- Affordances of technology-mediated TLBT
- Limitations of technology-mediated TBLT
- Other outcomes related to technology-mediated TBLT
- Limitations of the study
- Implications and future suggestions

Risk of bias/trustworthiness of individual studies

The trustworthiness of individual studies will be assessed using the Mixed Methods Appraisal Tool (MMAT) (Hong et al., 2018). This synthesis includes qualitative, quantitative, and mixed-method studies, and the MMAT can be employed for the appraisal of all these types of studies.

Hong QN, Pluye P, Fàbregues S, Bartlett G, Boardman F, Cargo M, Dagenais P, Gagnon M-P, Griffiths F, Nicolau B, O'Cathain A, Rousseau M-C, Vedel I. Mixed Methods Appraisal Tool (MMAT), version 2018. Registration of Copyright (#1148552), Canadian Intellectual Property Office, Industry Canada.

Data Synthesis

Grounded theory will be employed for data analysis. Grounded theory is a methodology to analyze qualitative data in a systematic and flexible manner with the aim of constructing theories from the data (Charmaz, 2014). It is also one of the most prevalent interpretive strategies in qualitative studies in the field of social science (Hadley, 2017). The purpose of the current review is to identify common features of technology-mediated TBLT in Japan from qualitative data gained from classroom-based studies. Thus, grounded theory is a suitable methodology to use for this research synthesis.

Charmaz, K. (2014). *Constructing grounded theory*. Sage.

Hadley, G. (2017). *Grounded theory in applied linguistics research: A practical guide*. Routledge.

Meta-biases

Confidence in cumulative evidence

Given the qualitative nature of this synthesis, GRADE-CERQual (Confidence in the Evidence from Reviews of Qualitative Research) will be used to assess the rigour of the synthesized findings (Lewin et al., 2018).

Sources of Funding

None

**Role of Funders**

N/A

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2022-11-04

Anticipated completion date:

2023-07-28

Other language resources**Current Status**

Ongoing

Details of Published Review**IDESR URL**

<https://idesr.org/article/IDESR000074>