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Heterotopias in CALL: Virtual spaces for transformative learning

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This study investigates Japanese university EFL students' views on virtual exchange. Using Q methodology and interpreting the virtual classroom through Foucault's concept of heterotopia, the study identifies common beliefs in digitally mediated interaction. The analysis identifies three learner archetypes that capture distinct patterns of engagement in these digital environments.

Keywords: heterotopias, Q methodology, learner archetypes, virtual classrooms, CALL

Introduction

The expansion of online and blended instruction in Japanese higher education has increased the extent to which EFL communication is mediated through digital learning environments (Anzai & Shimizu, 2022). In synchronous environments, such as Zoom-based virtual exchange and collaborative online international learning (COIL) settings, interaction is shaped by platform features, which can alter participation opportunities and learners' experience of interpersonal distance (Anzai & Shimizu, 2022).

At the same time, research on virtual learning environments and related educational technologies often foregrounds implementation, engagement, and effectiveness, while also identifying constraints such as teacher readiness and infrastructural limitations that define what is possible (Hasegawa et al., 2025). However, there remains a need for accounts of how learners themselves interpret these digitally mediated conditions, particularly in virtual exchange contexts where participation, evaluation, and engagement may be negotiated in uneven ways.

Addressing this gap, this study examines Japanese university students' viewpoints

on virtual exchange using Q methodology to model shared viewpoints, and it interprets the virtual classroom through Foucault's notion of heterotopia as a space in which meanings, roles, and participation norms are configured and contested.

Heterotopias and Q methodology

Foucault defined heterotopias as places “outside of all places, even though it may be possible to indicate their location in reality” (Foucault & Miskowiec, 1986, p. 4). This study focuses on four heterotopic principles relevant to CALL: juxtaposition, functional variability, alternative norms, and isolation with access.

In methodological terms, we use heterotopia to examine four features of the virtual exchange space. First, because heterotopic spaces can reorganize normative behavior, we consider alternative norms, including whether students perceive different expectations for participation and a reduced sense of judgement online compared with face-to-face classes. Second, because heterotopias regulate entry and movement, we examine permeability and access, including how easily students feel they can enter interaction and shift between task requirements and peer communication. Third, because heterotopic spaces reorganize visibility and surveillance, we consider the evaluative visibility, that is, whether students experience online participation as more visible and assessable by teachers and peers. Fourth, reflecting functional variability, we examine whether students interpret the virtual exchange space as serving multiple functions simultaneously, for example as a site for assessment and rehearsal, while also enabling intercultural engagement. These features informed the development of the Q statements and were used as interpretive categories when describing the factor viewpoints.

Educational researchers have applied this concept to classrooms as spaces of tension and transformation (Peters & Humes, 2003; Sandberg et al., 2016). Blair (2009) posits how classrooms enable identity exploration by disrupting hierarchies, and Pattison (2015) demonstrates how 70 alternative education models such as home-schooling function as heterotopias of resistance. Extending this work, we position Japanese EFL virtual exchange classrooms as heterotopic spaces shaped by technological mediation and institutional expectations.

Q methodology was adopted to model shared subjectivities within this space. Unlike Likert surveys, Q requires participants to prioritize a set of statements in a forced distribution (see Figure 1), revealing patterned viewpoints through by-person factor analysis while requiring fewer participants than Likert surveys (Stephenson, 1953; Brown, 1993). This approach is well suited to investigating digitally mediated environments that are experienced differently across learners.



Figure 1. Example Q sort completed in Q-TIP, showing the forced distribution from “least like how I think” to “most like how I think” (Q-TIP, University of Wisconsin–Madison).

Study design

The Q-set comprised 20 statements reflecting participation and intercultural engagement in virtual exchange. Statements were generated from student reflections and reviewed to remove duplication and to ensure coverage of the key heterotopic features used in this study (alternative norms, permeability and access, and the evaluation gaze).

Sixteen students completed the Q sort. The virtual exchange consisted of at least two synchronous sessions conducted via Zoom, in which students interacted with other students from other departments. Q sorting was conducted after completion of the virtual exchange phase using Q-TIP. Data were analyzed using Ken-Q Analysis (Banasick, 2024). Q sorts were examined through by-person factor analysis (Stephenson, 1953), producing factors that represent shared viewpoints. Factors were interpreted using factor arrays and distinguishing statements.

Analysis

Through factor analysis of the completed Q sorts, three archetypes were identified.

Factor 1: the Disillusioned Skeptic

This factor represents a viewpoint that recognizes the value of virtual exchange but questions its payoff for authentic participation. Students concede the idea of virtual exchange has merit, rating intercultural exposure, excitement, and reduced sense of judgement relatively highly, yet they doubt its payoff for authentic language use. The pattern signals a split between cognitive endorsement and emotional buy-in as they understand the reason for the use of the virtual classroom, but do not feel persuaded. This viewpoint is consistent with cautious engagement in which positive beliefs about virtual exchange do not translate into willingness to participate. In heterotopic terms, these learners remain at the boundary. They are aware of alternative norms online but hesitant to cross into full participation.

Table 1. Factor 1 indicators

Strong agreements	Disagreements
– Online conversations with international peers are exciting. – Virtual exchanges probably help students understand different cultures. – I think students feel less judged in virtual exchanges.	– I believe virtual exchanges can help students use real English.

Factor 2: The Hopeful Integrator

This viewpoint frames the virtual classroom as a legitimate extension of the physical classroom. Learners strongly endorse virtual exchange for authentic language use and intercultural learning, while rejecting common barriers such as confusion with technology, difficulty in listening or understanding accents as manageable. Rather than resisting, they treat the online space as a legitimate site for *real* English use and

position themselves as capable participants within it, seeing it as a place where *real* people meet. In heterotopic terms, they comfortably inhabit the alternative norms of online interaction, treating the space as connected, permeable, and purposeful.

Table 2. Factor 2 indicators

Strong agreements	Disagreements
– Students probably learn more about other cultures in virtual exchanges than in textbooks. – Virtual exchanges probably help students understand different cultures. – I believe virtual exchanges can help students use real English.	– I think online platforms for language exchange are confusing. – It’s hard to understand people online, especially with accents or bad sound.

Factor 3. The Expressive Explorer

These students appear comfortable and self-assured when using virtual exchange tools. Participants report feeling less judged online and see clear intercultural value, yet they do not label virtual exchanges as exciting. This factor suggests prior success and comfort with digital interaction. For these participants, online spaces function as safer venues for self-expression and identity development, without the pressure often tied to in-person interactions. In heterotopic terms, they readily inhabit the alternative norms of the virtual classroom, using its permeability and loosened evaluation gaze to experiment with voice.

Table 3. Factor 3 indicators

Strong agreements	Disagreements
– I think students feel less judged in virtual exchanges. – Virtual exchanges probably help students understand different cultures. – Students probably learn more about other cultures in virtual exchanges than in textbooks. – Joining a virtual exchange would make me feel excited.	– Online conversations with international peers are exciting.

Discussion

In this section, we interpret the three Q-derived factors through Foucault’s concept of heterotopia, treating the virtual classroom as a socially organized space in which roles are reconfigured rather than transported online. Across the factors, students’ viewpoints show different ways of negotiating participation in digitally mediated interaction. Read heterotopically, the virtual exchange space is not experienced homogeneously, but as a site where competing meanings of authentic communication coexist, and where access to participation can feel permeable depending on perceived evaluation, task, and interactional pressures. Q methodology contributes analytically by modeling shared viewpoints rather than collecting independent opinions.

Pedagogically, the factor profiles suggest design implications that align with learners' experiences of virtual space. For students who prioritize low-stakes participation, brief rehearsal phases, supportive turn-taking, and explicit permission to take interactional risks may increase perceived permeability. For students who emphasize intercultural engagement and authenticity, tasks that increase partner visibility and reciprocity, such as structured follow-up questions and alternating interactional roles, may strengthen commitment to participation. Taken together, the findings indicate that virtual exchange is experienced as a heterotopic space where institutional expectations and peer-oriented interaction can align or conflict, and where design choices shape which norms become salient for learners.

Conclusion

This study framed Japanese university virtual EFL classrooms as heterotopic spaces and used Q methodology to identify three shared viewpoints: the Disillusioned Sceptic, the Hopeful Integrator, and the Expressive Explorer. These viewpoints should not be treated as fixed learner types. Rather, they represent context-sensitive patterns of engagement that may vary with instructional design, technological conditions, and the social dynamics of virtual exchange.

Pedagogically, the findings suggest that teachers can shape participation through careful task design. Instead of treating differences between learners as noise, variations in participation may reflect how students respond to the demands of the activity and the online setting. In virtual EFL classes, teachers can therefore use low-stakes tasks and short, manageable challenges to reduce pressure and encourage more active participation.

Methodologically, combining heterotopia with Q methodology offers a practical and replicable approach for small-sample CALL research by linking an explicit conceptual lens to interpretable factor viewpoints. The use of open-source tools can further support replication and extension across settings, helping to examine the stability and transferability of the viewpoints identified here. Future research could adopt longitudinal designs, including repeated Q sorting and post-hoc interviews, to investigate how viewpoints may vary across tasks and over time. In conclusion, mapping learner viewpoints within heterotopic virtual learning environments provides a solid basis for designing student-centered virtual exchange experiences.

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