



Research article

“It felt like we were trying to get through the class ...”: Insights on learners’ FL boredom from Q methodology

Pariwat Imsa-ard

Faculty of Liberal Arts, Thammasat University, Thailand

ARTICLE INFO

Keywords:

EFL learning
FL boredom
Influencing factors
Q methodology
Thai learners
Undergraduate students

ABSTRACT

Gaining insight into the personal experiences of boredom in foreign language (FL) learning is essential for delivering lessons that reduce boredom and enhance the overall learning experience for students. This study explores the views of Thai EFL university students on Foreign Language Learning Boredom (FLLB) using Q methodology. A total of 36 students participated in a Q-sort involving 44 FLLB-related statements, and the data was analysed using Principal Component Analysis and varimax rotation. Additionally, retrospective interviews with six participants provided deeper insights. The study identified three primary factors shaping and influencing FLLB: *disengaging tasks*, *teacher-related factors*, and *dissatisfaction with learning environments*. The findings suggest that FL educators should tailor their teaching strategies to address these factors, thereby enhancing student engagement and improving learning outcomes in EFL contexts.

1. Introduction

In recent years, there has been an increasing focus on the role of emotions, with many second language acquisition (SLA) researchers acknowledging that learners experience a wide range of emotions in language learning, similar to other educational settings [1]. Emotions are found to affect both second language learning process and language achievement [2], where positive emotions could lead to language learning achievement. While the existing literature has increasingly addressed the role of emotions in language learning, much of the earlier focus was on positive emotions, such as enjoyment and motivation [3–5]. However, recent studies have begun to explore the significant impact of negative emotions, including boredom, on language learning and achievement [2,6–8]. This growing body of research reflects a shift towards a more balanced understanding of emotional experiences in language acquisition, recognizing the need to investigate both positive and negative emotions for a comprehensive view.

Boredom is a pervasive negative emotion that can profoundly impact the learning experience of students in various educational contexts, including FL learning [2]. As language learning and acquisition involve a complex interplay of cognitive, emotional, and social factors, learners’ subjective experiences significantly influence their engagement and success [9,10]. Research [1,7] indicates that emotions, including boredom, can impact attention, motivation, and the ability to process information, thereby affecting overall language achievement. By understanding individual experiences of boredom, educators can better identify the specific triggers and design targeted interventions that address the root causes, leading to more effective teaching strategies and a more engaging learning environment. While recent research has increasingly examined the factors contributing to boredom in foreign language learning [2,6], there remains a need to explore these experiences within specific contexts characterized by limited exposure to the target language. The unique challenges faced by FL learners in such settings, including reduced opportunities for meaningful language use and the

E-mail address: pariwat.i@arts.tu.ac.th.

<https://doi.org/10.1016/j.heliyon.2024.e40578>

Received 3 July 2024; Received in revised form 31 October 2024; Accepted 19 November 2024

Available online 20 November 2024

2405-8440/© 2024 Published by Elsevier Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

impact of cultural and institutional factors, have not been thoroughly addressed. This study aims to fill this gap by investigating the subjective experiences of Thai EFL students, focusing on how contextual limitations shape their perceptions of boredom in language learning. Understanding the unique challenges and experiences that shape FLLB can provide valuable insights for educators and researchers alike, enabling them to design targeted interventions and optimize the FL learning experience. While previous studies have addressed general factors contributing to FLLB, this research focuses on the contextual phenomenon faced by Thai EFL students, such as traditional teaching practices and limited opportunities for authentic language use. In Thailand, learning a foreign language is considered an important subject in the core national curriculum from primary through higher education, reflecting its perceived importance for future opportunities. Despite this role of foreign languages, many Thai students experience significant emotional challenges in FL, due in part to traditional teaching methods [11] and varying degrees of access to quality language education, especially in rural versus urban settings and the limited exposure to a foreign language. Moreover, in Thailand, where a foreign language plays a crucial role in educational and professional arenas, the impact of emotions on EFL learning [11,12] has not been sufficiently explored. This oversight can lead to educational strategies that fail to address key emotional barriers to learning, such as boredom, which is known to impede engagement and retention in educational settings [13]. Moreover, these insights can inform targeted interventions that address these particular challenges, thereby optimizing the FL learning experience in similar educational settings.

In light of its significance and the need for equal emphasis on negative emotions in the literature, this study aims to explore the views and perspectives of Thai EFL university students regarding FLLB. Utilizing Q methodology, a comprehensive research approach that integrates qualitative and quantitative methods [14], this study aims to uncover the fundamental factors influencing FLLB. The rationale for using the Q methodology in this study lies in its unique ability to blend the exploratory, in-depth analysis of qualitative research with the structured data collection and statistical rigor of quantitative research. Unlike many other scientific approaches, Q methodology focuses specifically on subjective experiences and personal descriptions. It achieves this by categorizing individuals' self-referential characteristics in relation to their personal biographies [15]. In Second Language Acquisition (SLA), Q methodology is still emerging and has recently been employed to explore emotional experiences [11,16]. Recent studies [17,18] have further demonstrated its value in investigating affective variables, such as enjoyment and boredom, in language learning contexts. These studies highlight Q methodology's innovative approach in capturing the subjective perspectives of learners, offering insights that traditional quantitative methods may overlook. Applying Q methodology to investigate FL boredom allows for a detailed examination of how FL learners respond to their learning experiences in terms of boredom. Furthermore, retrospective interviews with selected participants will offer detailed insights and nuanced understandings of this phenomenon. The significance of this study extends beyond academic interest; it is poised to offer practical strategies for educators to mitigate negative emotions, thereby enhancing student engagement and improving learning outcomes. Moreover, the findings of this study will ultimately guide FL educators in refining their teaching strategies to reduce FLLB, thereby boosting a student engagement and improving learning outcomes in EFL settings. Ultimately, this research will contribute to a more nuanced understanding of SLA, providing both theoretical expansions and concrete, culturally informed educational practices that address the full spectrum of emotional experiences in language learning. Thus, the current study was guided by the following research question: *What elements cause Thai undergraduate students to find EFL learning boring?*

2. Literature review

2.1. Conceptualization of FL boredom

There has been a significantly increasing interest in research on FLLB and FLE within the field of SLA, driven largely by the Psychology Constructs (PC) movement. This surge reflects a broader trend in focusing on the role of emotions in foreign language learning, covering both positive and negative emotions. The psychological constructionist theories of emotion, particularly those advanced by Barrett and colleagues [19–21], provide a crucial theoretical underpinning for understanding these emotions. These theories posit that emotions are not pre-existing, discrete entities within the brain, but are instead constructed from a combination of internal and external cues, categorized through language and conceptual knowledge. According to psychological constructionism, negative emotions like boredom and anxiety are formed in a situationally specific manner. They emerge when individuals categorize their internal states (such as bodily symptoms) and external circumstances (such as situational cues) into specific emotional categories. Language plays a pivotal role in this process by helping individuals to bind their diverse experiences into coherent emotional concepts [22,23,24]. Consequently, emotions are subjective and context-dependent [25], meaning that self-report instruments are often considered the most effective method for investigating these internal experiences [10].

The experience of boredom in educational settings has been explained through various theoretical models. The under-stimulation model [26] posits that boredom stems from unchallenging or repetitive tasks that reduce engagement [27]. The forced-effort model [9, 28] suggests that boredom is common in highly controlled learning environments where students must exert significant cognitive effort on monotonous activities, leading to a lack of autonomy [28]. Although the under-stimulation and forced-effort models have provided foundational insights into the mechanisms of boredom, their applicability in diverse educational contexts, particularly in non-Western settings like Thailand, remains underexplored. These models often do not account for cultural variations in learner engagement and the distinct pedagogical styles encountered in different regions, which may influence the experience and expression of boredom. The attentional theory of boredom proneness [29] associates boredom with an individual's inability to sustain attention due to poor self-awareness of attention, supported by Fahlman [30] who views poor attention as both a cause and component of boredom. The control-value theory of achievement emotions [31] asserts that boredom occurs when learners perceive low control over their tasks and assign minimal value to them. According to Eastwood et al. [32] and Liu et al. [13], boredom results from alexithymia, or the

inability to recognize and articulate one's emotions. Lastly, the menton theory of boredom [33] suggests that boredom arises when students do not find the right balance of cognitive energy needed to engage with learning tasks, with both underuse and overuse leading to boredom.

Moreover, Li et al. [2] extended research on general educational boredom [34] to conceptualize FLLB as a three-dimensional achievement emotion—covering *control* (a learner's perception of their ability to influence their learning environment and outcomes), *value* (the importance or worth that learners attribute to the learning activity), and *achievement* (students' expectations and reactions to success or failure in their language learning), consistent with Pekrun's control-value theory. Their studies identified numerous internal factors, such as control appraisal, value appraisal, achievement goals, L2 proficiency, and physical state [1,17], as well as external factors like task difficulty, teacher personality, classroom atmosphere, teaching style, and class organization [35,36], that contribute to FLLB. Furthermore, Li et al. [2] linked FLLB with negative emotions including inattention, disengagement, a desire to escape, mind blankness, frustration, dislike, tiredness, restlessness, agitation, a lack of meaning and goals, unhappiness, distorted time perception, and sadness, aligning with Westgate and Wilson [10]. These theoretical insights highlight the complexity of boredom in language learning and underscore the need to understand the psychological underpinnings of learners' emotional experiences. The control-value theory suggests that boredom arises from perceptions of low control and value. This theory is supported by findings from Li et al. [2], who identified a lack of engaging teaching methods and relevant content as key factors contributing to boredom in FL classes. However, these studies primarily focus on immediate classroom settings and often overlook broader institutional and cultural factors that may impact these perceptions. With this, such emotions can significantly impede L2 achievement, though empirical research in this area is still limited. Furthermore, given the hierarchical nature of Thai educational settings and the high value placed on English proficiency for future opportunities, exploring FLLB in this context could reveal unique interplays of control, value, and achievement not previously documented in the literature.

2.2. Measurements of FL boredom

Various measurements have been developed to assess boredom across different contexts, including trait boredom, context-specific trait boredom, state boredom, and context-specific state boredom [37]. For instance, the Boredom Subscale of the Achievement Emotions Questionnaire (AEQ) [9] measures classroom-related and learning-related boredom, which are considered forms of context-specific state boredom. Some researchers [38] have further distinguished between task-focused boredom and self-focused boredom, while Goetz et al. [39] highlighted boredom during homework as a unique dimension. Interest in boredom within FL research is relatively recent and coincides with increased focus on learner emotions [1,17,18]. Initial studies employed both qualitative and quantitative methods to investigate boredom, anxiety, and motivation among FL learners [27,36]. Notably, Pawlak et al. [27] conducted the first large-scale study using the Boredom in Practical English Language Classes Questionnaire (BPELC) with 107 participants. Their exploratory factor analysis (EFA) revealed two main factors contributing to boredom in practical English classes: (1) disengagement, monotony, and receptiveness, and (2) lack of satisfaction and challenge.

While the BPELC was the first instrument to measure boredom in FL learning, contributing significantly to emotion research in SLA, its psychometric properties were only recently reported [27]. Potential weaknesses were identified, including a relatively small sample size for instrument validation and EFA, limiting the generalizability of the findings beyond the specific population of English majors in a Polish university. Li et al. [2] identified the necessity for a reliable instrument to measure FLLB that adheres to psychometric best practices and is based on a larger sample. In response, Li et al. [2,40] developed and refined the FLLB Scale (FLLBS) through a comprehensive, multi-phase process. This process included qualitative interviews with students and teachers, followed by quantitative phases for generating the item pool, initial scale exploration, and confirmation, using data from over 3,000 FL students. The FLLBS was designed based on the conceptualization of FLLB, aiming to provide a more robust and accurate measurement tool for assessing boredom in foreign language learning. These boredom measurement scales are highlighted to provide a background for understanding how different aspects of boredom have been quantified in previous research. This discussion also serves as a basis for the development of the Q sample in the present study, where selected items were informed by constructs from these scales.

2.3. Q methodology on FL learner emotions in SLA

In the field of SLA, there has been a notable rise in the application of Q methodology to understand individuals' subjective viewpoints [6,11,18]. Recognized as an innovative technique, Q methodology delves into the intricate relationship between emotions and cognition in educational settings by incorporating personal perspectives on specific issues [41]. Unlike common methodologies in SLA research, such as surveys, cluster analysis, and narrative inquiry, Q methodology stands out by involving collaborative interpretation between researchers and participants, thus providing a more comprehensive understanding of participants' viewpoints [15]. This approach also helps in capturing nuanced emotional profiles and minimizing researcher bias [42].

With a rise in SLA research, Q methodology is particularly effective in depicting the emotional and cognitive complexities of specific instructional contexts by considering individual perspectives [41]. Given the complex, dynamic, and subjective nature of academic emotions [6], past studies have employed Q methodology to investigate various emotions in FL learning. For instance, Fraschini [43] used a Q methodology-intensive single-case study to examine classroom emotions among five university students studying Korean as a foreign language, revealing diverse emotional reactions to classroom events. On the other hand, many studies on FL emotions focus on positive emotions such as enjoyment. For example, Wang et al. [18] identified four factors shaping FLE among Chinese university students: informativeness, independent learning, collaborative work, and interestingness. Thumvichit [44] used Q methodology to explore EFL learners' subjective perspectives on FLE during the COVID-19 pandemic, finding three distinct

viewpoints: teachers' characteristics and practices, learner autonomy, and social experiences.

While positive emotions in SLA have been extensively studied, negative emotions remain significant yet underexplored. Research on negative emotions in FL learning is particularly limited. Ding et al. [45] used Q methodology to examine the psychological profiles of 40 EFL teachers regarding burnout and resilience, identifying three main profiles: resilient with person-environment equilibrium, goal-oriented with signs of burnout, and emotionally sensitive and burned out. Kruk et al. [6] investigated sources of boredom among 37 EFL students in Iran, revealing three distinct viewpoints on potential boredom sources. These studies highlight Q methodology's utility in exploring students' perspectives and contributing factors to emotions in EFL learning. While previous research [6] has employed Q methodology to investigate FL boredom, the present study distinguishes itself by focusing specifically on learners situated in contexts with limited exposure to English. This focus enables an exploration of how reduced interaction with the target language shapes the emotional experiences of boredom in FL learning, thereby contributing a unique perspective to the existing body of literature on second language acquisition and emotional engagement. Moreover, recent shifts in SLA research reflect a growing acknowledgment of the complexity of learner emotions, moving beyond binary categorizations of positive and negative. This nuanced understanding is critical as it highlights the spectrum of emotional experiences in language learning, suggesting that boredom may not merely be the absence of engagement but a distinct and contextually driven learner response. In lights, this study employed Q methodology to capture the subjective experiences of Thai EFL learners, addressing the call for more nuanced research tools that can better accommodate the complexities of emotional experiences in language learning. By focusing on the multifaceted nature of boredom, this approach not only challenges but potentially expands existing theories within SLA. Given the complex, dynamic, and subjective nature of FLLB, Q methodology is especially well-suited for examining students' perspectives on this issue.

3. Methodology

3.1. Research method

The Q methodology has emerged as a valuable approach for investigating individual emotions, as evidenced by several studies [11, 43,46]. Given the subjective nature of emotions, their interpretation can vary among individuals [47], and differences in emotional intensity often stem from subjective judgments of specific events [48]. In such contexts, Q methodology presents advantages by allowing participants to evaluate the significance of statements according to their individual goals and perspectives [16,42]. The central inquiry of this study is, “*What factors contribute to the experiences of L2 boredom among EFL undergraduate students in a setting characterized by limited exposure to English?*”. To address this question, the researcher adhered to the process outlined in Brown's [49]



Fig. 1. Research process.

framework, which encompassed four main steps: *formulating the Q sample, obtaining the P sample, executing data collection, and conducting data analysis and interpretation* (see Fig. 1).

3.2. Formulating the Q-sample

The Q sample constitutes a collection of statements sourced from the ‘concourse,’ which refers to the communicability universe centered around a specific topic [49]. In Q methodology, this concourse can be drawn from various outlets, including academic literature, interviews, commentary, and informal discussions with key informants. Before selecting specific sources, Q researchers must establish the boundaries of the concourse and define the research question(s). This study concentrates on “boredom as a language student” and “boredom of learning a language,” which covers a broad spectrum of language learners’ experiences and perspectives both inside and outside the classroom. Unlike conventional questionnaire design, the generation of potential statements need not be guided by a theoretical framework but should be guided by a “straightforward” question to elicit effective participant responses [15]. The question driving this study is “*What makes EFL undergraduate students bored in their language learning?*” In addition, the development of the Q sample was guided by insights from established boredom measurement scales, such as the BPELC and FLLBS, which provided a foundation for selecting statements related to task engagement, teacher behavior, and learning environment. These scales helped ensure that the Q sample covered a comprehensive range of boredom-related experiences relevant to the participants’ context. Consequently, the concourse must reflect potential responses to this query.

This study employed both deductive and inductive methodologies to develop the concourse, which is considered a best practice for delineating the domain and identifying the item pool. Initially, pertinent literature and existing scales regarding language learner boredom were reviewed. Subsequently, employing a naturalistic approach [50], informal interviews were conducted with 15 Thai undergraduate students studying EFL in an environment characterized by limited English exposure. The open-ended questions encouraged them to share specific examples of boredom in their language learning, such as task-related issues, teacher behavior, and classroom environment. The responses were transcribed and thematically coded to identify patterns related to boredom. Statements gathered during these stages were then categorized under five distinct themes, encompassing personal traits, task-related boredom, perceptions of teachers, the learning environment, and interactions with classmates. These themes guided the selection of 44 statements for the Q sample, ensuring comprehensive coverage of relevant boredom dimensions. It is imperative to emphasize the aim of eliciting a diverse array of perspectives on various aspects of language teaching and learning contributing to boredom.

Following this, the concourse underwent rigorous evaluation by a panel comprising three specialists—two in language teaching and one in educational psychology—focusing on the criteria of relevance and redundancy. These specialists validated the concourse to ensure its suitability and alignment with the focus and objectives of the study. Subsequently, several statements were deemed redundant and subsequently excluded, resulting in a final Q sample comprising 44 statements. This final sample size falls within the recommended range of 40–80 statements, as suggested by Watts and Stenner [15]. Therefore, the recommended range of statements strikes a balance between comprehensive data collection and the feasibility of conducting a detailed qualitative analysis, ensuring the selection is both appropriate and reasonable for subsequent analysis.

3.3. Obtaining the P sample

A purposive sampling method, specifically non-probability purposive sampling, was implemented to encompass a wide spectrum of perspectives on a particular subject, ensuring diversity and heterogeneity within the P sample, considering factors such as age, gender, major, and exposure to the English language. The study involved the recruitment of 36 Thai EFL undergraduate students from five government universities in Thailand. Three key criteria justified participant selection: (1) low exposure to English, defined as less than 10 h per week, (2) enrolment in universities located outside major or tourist cities (this is to minimize the exposure to foreigners), and (3) non-participation in international or English programs. The selection of students with low exposure to English allowed this study to investigate how limited practical use and engagement with the language influence emotional experiences, particularly boredom, in learning environments. This criterion ensures that the findings are reflective of a group for whom English has limited immediate practical application, potentially highlighting unique challenges and educational needs that might not be evident in more exposed populations. This can inform targeted educational strategies and interventions aimed at enhancing language learning experiences for similar contexts. While the recommended P sample size ranges from 30 to 50 [51], some studies successfully employ smaller samples.

Table 1
Demographics of participants.

Demographic	Values
Gender	Female (N) = 30; Male (N) = 6;
Age	18-23 (M = 20.36; SD = 1.18)
Majors	Science = 14; Humanities and social sciences = 22
Levels of exposure (hours per week)	0-3 = 20; 4-6 = 11; 7-9 = 3; 10 = 2

Table 1 provides participant demographics, illustrating an age range of 18–23 and amount of exposure to English outside the classroom from 0 to 10 h. To encompass a broad spectrum of possibilities and generate diverse perspectives, participants from groups with various disciplines (majors) were intentionally included. For instance, participants majoring in sciences may offer viewpoints distinct from those with majors in social science, contributing to a more comprehensive understanding. The participants' Q sorts are identified by codes QS1-QS36.

3.4. Conducting data collection

In Q methodology research, data collection involves a card-sorting task called *Q sorting*, where participants independently arrange statement cards on a grid according to their self-understanding. In this study, the Q sort was facilitated through an online platform named *QTip*. Participants were directed to drag and drop 44 statement cards onto an 11-column sorting grid, spanning from -5 to +5, with 0 indicating a neutral attitude (refer to Fig. 2). Unlike assessing individual items independently, this task required participants to consider how the statements are interrelated. Participants were instructed to create configurations that accurately reflected their viewpoints. Prior to the task, virtual meetings via ZOOM meeting were held to explain instructions and demonstrate the Q sorting process. Participants were tasked with ranking statements based on the similarity or dissimilarity to their experiences or perspectives. They were allotted two weeks to complete the task at their convenience, with the flexibility to review and revise their sorts as needed during this period.

Additionally, follow-up informal interviews were conducted with six participants who volunteered. These interviews aimed to elicit justifications for their choices, that is, the participants were asked a series of questions to gather more detailed information about their views on the statements at both ends of the continuum. In Q studies, post-Q sort interviews are crucial for clarifying and addressing any potential issues related to the Q sample items. The insights gathered from these interviews were utilized to complement the interpretation of the Q sorts and contribute to the development of narratives. Sample retrospective questions were developed based on data that was collected in the Q sorting phase and included:

- Could you kindly explain your reactions to statements that elicited strong emotions, regardless of whether they were positive or negative?
- Regarding the statement you rated as most agreeable/disagreeable (#), could you delve deeper into the reasons behind your agreement/disagreement? Perhaps with an example?
- For the statement # which you placed it in the most agree/disagree box, could you provide further explanation into why you agree/disagree? Could you give an example?
- Could you explain how you interpreted this specific statement?
- Your preference for # (e.g., friendly, approachable instructors, interactive assignments) is quite evident. What factors contribute to your positive perception in this regard?

3.5. Data analysis and interpretation

Q methodology employs a by-person factor analysis to discern clusters of individuals who interpret a set of items similarly [15]. The matrix illustrates the connections between each Q sort and all others, with factors arising from the comparison of one Q sort with others to assess their similarities. The *Ken-Q Analysis Desktop Edition (KADE)* application [52] was utilized to plot and analysed all 36 Q sorts. In this particular investigation, Principal Component Analysis (PCA) was employed to identify factors that unify participants with

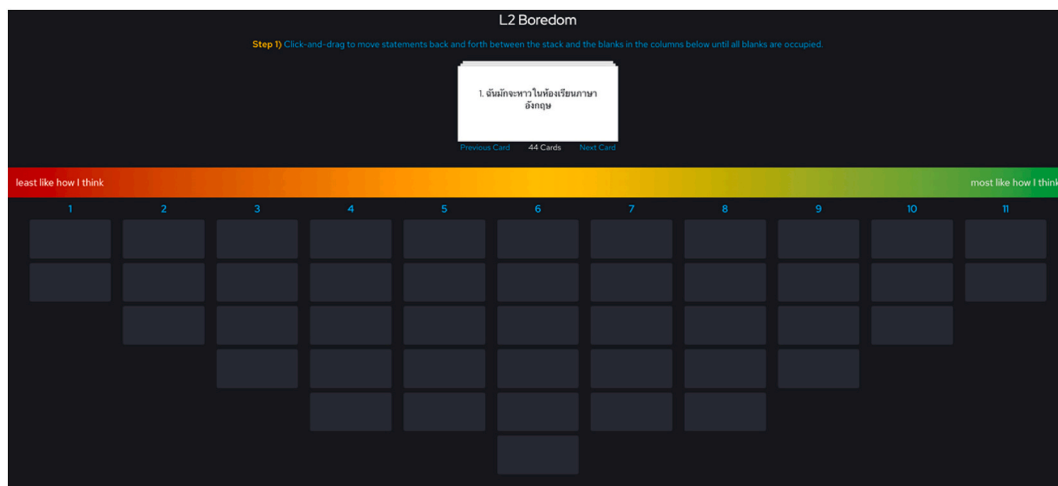


Fig. 2. Q-sorting grid (The number of Q statements placed in the forced distribution grid is 2, 3, 4, 5, 5, 6, 5, 5, 4, 3, and 2 slots respectively).

similar perspectives, adhering to specific criteria. These criteria included an eigenvalue surpassing 1 [50] and the presence of at least two Q-sorts exhibiting substantial loading on a single factor [15] (Refer to Table 2). Following the formula outlined in Q methodology guidelines [15], the substantial loading threshold in this study was set at 0.40. Furthermore, varimax rotation was utilized to pinpoint significant variance within the data. Ultimately, a three-factor configuration was retained, accounting for 48 % of the explained variance, which falls within the range deemed satisfactory, surpassing 35 % [15]. To clarify, the three factors which are considered a strong outcome exceed the recommended threshold of 35 percent [15]. Table 2 provides a summary of the characteristics of the three factors. The factor loading scores, which result from the correlation between Q sorts and the three factors, are detailed in Appendix A. The report is presented in a narrative style, where the relevant elements of each specific factor are organized and grouped to offer a comprehensive perspective [15]. Insights from the interviews were incorporated to further enhance the interpretation. In this study, a varimax rotation is a commonly used orthogonal rotation method because it aims to maximize the variance of squared loadings of a factor across variables, enhancing the clarity and interpretability of the factors, and this orthogonal rotation minimizes the number of variables with high loadings for each factor [53].

To enhance the validity and reliability of the findings, this study triangulated quantitative data from the Q-sorts with qualitative insights obtained from retrospective interviews. This mixed-methods approach allowed for a more comprehensive understanding of FLLB. The integration of both data sources strengthened the overall findings by corroborating patterns observed in the quantitative data with the lived experiences expressed by participants, thus increasing the credibility of the research outcomes.

3.6. Ethical consideration

This study did not undergo formal ethical approval because the chance to submit an application to the Institutional Review Board (IRB) was unintentionally overlooked. However, it is important to note that all research procedures adhered to the ethical principles commonly upheld in social science research, and followed the guidelines established by indicating that research projects, such as those involving teaching and assessment or questionnaires or interviews, do not require approval from the institutional human research ethics committee (Document No. MHESI: 6309.FB 6.1/1/2564). Prior collecting data, obtaining informed consent from study participants is a crucial aspect of ethical research practice. It is imperative to ascertain that the participants possess a clear understanding of the research objectives, the level of dedication expected, and the potential advantages that may ensue.

4. Results

In the process of factor interpretation, the researcher labeled all three factors and organized statement clusters into distinct tables to facilitate the meaningful interpretation of observed patterns. From the analysis, three factors emerged, each representing unique participant clusters. These factors collectively accounted for 48 % of the total variance, meeting the criteria for a strong and reliable solution [15]. Detailed information regarding factor characteristics and correlations with factor scores can be found in Tables 2 and 3.

According to Table 2, three key factors contribute to boredom in foreign language classes for Thai EFL students: disengaging tasks, teacher-related factors, and dissatisfaction with the learning environment. Factor 1, with an eigenvalue of 12.0629 (the highest among the three), accounts for a substantial portion of the total variance, with 12 participants significantly loading on this factor. Factor 2, with an eigenvalue of 2.813, contributes less to the variance, while Factor 3, with the smallest eigenvalue of 2.3072, still provides meaningful insights. Table 3 shows that the correlations among the factors, ranging from 0.4428 to 0.4949, suggest moderate relationships, indicating some overlap in their influence on boredom while also capturing distinct dimensions of Foreign Language Learning Boredom (FLLB).

Three distinct factors emerged in the current study, with 12 sorts loading on Factor One, eight sorts on Factor Two, and eight sorts on Factor Three. The specific values of these factor loadings are detailed in Appendix A. In the following sections, each factor will be thoroughly interpreted, utilizing insights from its corresponding factor array (see Appendix B). A descriptive theme was assigned to each factor to accurately represent the predominant viewpoint it encapsulates. Additionally, the Q statements in this study can be categorized into three themes: disengaging tasks, teacher-related factors, and dissatisfaction with the learning environment. Consequently, the potential factors influencing students' perceptions of FLLB will be presented and discussed within these three thematic factors.

4.1. Factor one: Disengaging tasks

Twelve students, representing 33.33 % of the total participants, exhibited significant loading on Factor One, which statistically accounted for 34 % of the variance in the study. A key characteristic of their perspectives on FLLB was the identification of disengaging

Table 2
Factor characteristics.

	Factor 1	Factor 2	Factor 3
Eigenvalues	12.0629	2.813	2.3072
Numbers of significant loaders	12	8	8
Explained variance (%)	34	8	6
Cumulative explained variance (%)	34	42	48

Table 3
Factor score correlation.

	Factor 1	Factor 2	Factor 3
Factor 1	1	0.4575	0.4428
Factor 2	0.4575	1	0.4949
Factor 3	0.4428	0.4949	1

tasks as the primary source of their boredom. Their ability to engage in EFL learning was the decisive factor influencing their FLLB, thus making statements about teaching and learning tasks prominent in the composite Q-sort for Factor One. This Q-sort revealed that statements related to teaching and learning tasks were predominantly placed in positions of strong agreement (+5 to +3), specifically #29 (+5) and #20 (+3). Also, students in Factor One expressed boredom due to their teacher not allowing them to perform language tasks, such as speaking, and not providing variety in language learning activities (#29: +5; #20: +3). A significant factor contributing to their negative emotions or boredom was their passive role in the language class and the teacher spending excessive time on irrelevant topics (#39: +2; #10: +2). As one participant explained in a post-Q interview (QS35: loading of 0.847 on Factor One), the lack of engagement significantly affected their FLLB, as follows:

Excerpt 1:

“Just listening to audio clips and doing the same exercises over and over makes me feel like I’m not really practicing my communication skills. Sometimes, if the teacher uses the same type of exercises every class, it makes me not want to learn as much.” (QS35)

To mitigate boredom, therefore, students in Factor One would benefit from interactive lessons where they can engage with the teacher and peers (#16: -3) and feel included in the classroom activities (#26: -4). They also preferred lessons that are interesting and engaging (#9: -2), which would reduce their boredom during the foreign language learning experience.

Another important aspect of Factor One is the emphasis on the difficulty of tasks, which can create a gap between teaching and learning. Comprehension difficulties with materials or teacher talk were cited as sources of boredom (#43: -1), and challenging tasks led to students’ minds wandering in class (#2: -1) and feeling apprehensive about volunteering or answering questions (#33: -1). Thus, students in Factor One place high importance on effective pedagogical practices and instructional tasks, as Q23 (with a loading of 0.792 on Factor One) explained her choice as follows:

Excerpt 2:

“Sometimes the teacher doesn’t get the different struggles we each have with learning English, as if everyone has the same abilities. They often don’t give us enough time to process the material or questions, which makes us scared to answer in class. When this happens a lot, it makes us stressed, bored, and eventually we just lose focus.” (QS23)

Rather than seeking a content-heavy FL class, these students aspire for classes that allow them to perform and practice the language through interaction with others, including peers and the teacher. Essentially, as articulated by Q35 and Q23, FL classes should prioritize learner engagement and performance practice. The characteristics of the teaching and learning tasks are the most significant factors influencing their FLLB.

4.2. Factor two: Teacher-related factors

Eight students, representing 22.22 % of the total participants, make up Factor Two, which statistically accounts for 8 % of the variance in the study. The most notable characteristic of Factor Two is the students’ strong preference for teachers who exhibit positive qualities, such as being open-minded and lenient. These qualities are seen as critical for reducing FLLB among these students. Consequently, statements about teacher characteristics were ranked highly by students in this factor. For instance, the composite Q-sort indicated that statement #36 (The teacher who is not open to new ideas makes me bored) was given the highest ranking of +5. Similarly, statements related to strict teachers also received significant agreement (#30: +5). As one participant (QS9; a loading of 0.725 on Factor Two) noted in a post-Q interview, discouraging teachers contribute significantly to their FLLB, as follows:

Excerpt 3:

“What makes me dread and get bored with learning English is the teachers’ rude behavior and insults, or even being mocked for making mistakes or having a disfavored accent. There are also teachers who are too strict about certain things, like not allowing eraser marks even though it doesn’t affect learning quality, or actions that embarrass students when they speak English in class.” (QS29)

This excerpt highlights a key reason why students in Factor Two experience boredom in foreign language classes: they prefer teachers who are open-minded and lenient and believe that unfriendly teachers can induce boredom. This aligns with the composite Q-sort of Factor Two, where statement #44 (An unfriendly teacher makes me bored) was ranked at +3, #34 (The teacher is not easy to reach) at +4, and #8 (My English teacher isn’t likable, e.g., tone or pitch) at +1. It is noteworthy that personal and interpersonal qualities, such as failing to create good relationships with students, are seen as major factors likely to induce teacher-related boredom. Another participant (QS19), with a loading of 0.695 on Factor Two, explained his choices in similar terms as follows:

Excerpt 4:

“Sometimes, teachers who never joke or get moody too easily make it hard to enjoy learning English. I’ve had teachers who always frowned at every sentence we tried to say, as if they were just waiting to catch our mistakes. It’s really discouraging.” (QS19)

As evidenced by these observations, students in Factor Two place a significant emphasis on the qualities of their teachers for their emotional experiences in the language classroom. Their preference for open-minded and lenient teachers is a critical determinant in reducing their FLLB, reflecting the distinct characteristic of Factor Two students.

4.3. Factor three: Dissatisfaction with learning environments

Eight students, accounting for 22.22 % of the total participants, loaded significantly on Factor Three, which accounted for 6 % of the variance in the study. The primary characteristic of students in this group is their strong emphasis on dissatisfaction with the learning environment as a major source of FLLB. Students in Factor Three ranked the statement #24 (“The teacher assigns too much work in class”) at +5, reflecting their strong agreement. Additional statements related to dissatisfaction with the learning environment also received high rankings in the composite Q-sort (#5: +3; #32: +2). For these students, dissatisfaction with the learning environment is seen as the primary contributor to their FLLB. As QS17, with a loading of 0.702 on Factor Three, explained in a post-Q interview:

Excerpt 5:

“I understand that exercises are good for practicing what we’ve learned, but sometimes it’s just too much and gets tiring and boring. I think if teachers assigned a reasonable number of exercises, it would be better for students to practice and also for teachers since they wouldn’t have to spend so much time grading.” (QS17)

Another participant emphasized that classroom management issues (#32: +2) significantly contribute to boredom. Excerpts from interviews with representative participants, QS16 (loading of 0.634) and Q6 (loading of 0.685), provide further insights into Factor Three:

Excerpt 6:

“The way some teachers manage the classroom really affects how bored I get. Sometimes, they focus too much on the standout or outstanding students and end up ignoring the rest of us. It feels like I’m just sitting there bored and yawning. Teachers should find better ways to manage the class and pay more attention to all students, not just a few.” (QS16)

Excerpt 7:

“I once had a teacher who loved doing group activities all the time. Everything was “work in groups,” even when the material didn’t really fit group work. It got annoying and boring because often only a few people would actually do the work while others did nothing. It felt like we were just trying to get through the class and finish the assignments.” (QS6)

These observations underscore that students in Factor Three consider environmental dissatisfaction, including excessive workload and poor classroom management, as critical factors leading to their boredom in foreign language classes.

5. Discussion

In addressing the research question, this study utilized Q methodology to explore the potential sources of boredom in FL learning within EFL classrooms. Through this approach, three distinct accounts of FLLB emerged, which were subjected to analysis and discussion using factor arrays and qualitative interview data. These three factors delineate prominent student profiles, each representing a significant prototype. Specifically, they are identified as *Disengaging Tasks*, *Teacher-Related Factors*, and *Dissatisfaction with Learning Environments*. It is evident that these factors, either directly or indirectly, play a pivotal role in inducing boredom among non-English-major EFL students. Furthermore, these findings resonate with previous conceptualizations of FLLB [2,6].

Firstly, the emergence of Factor One, named “Disengaging Tasks,” highlights the significant role that instructional tasks and pedagogical practices play in shaping students’ experiences of boredom in English language learning environments. Factor One, accounting for a substantial portion of the variance in the study, highlights the centrality of engagement in determining students’ perceptions of FLLB. The students in this factor overwhelmingly identified disengaging tasks, characterized by passive learning experiences and repetitive exercises, as the primary source of their boredom. Their narratives emphasize the importance of interactive and varied instructional approaches that promote learner engagement and active participation in language tasks [27,54]. These findings resonate with existing literature, which suggests that learner-centered pedagogies and interactive activities enhance motivation [55] and reduce boredom in language learning contexts [36]. Moreover, Factor One illuminates the detrimental effects of task difficulty on students’ engagement and boredom levels. Students in this factor also expressed frustration and disengagement when faced with comprehension difficulties and challenging tasks. This highlights the need for pedagogical strategies that scaffold learning and accommodate diverse learner needs [56,57]. The failure to address individual differences in language proficiency and learning styles can exacerbate feelings of stress and boredom among students [27], ultimately hindering their language acquisition process.

Secondly, Factor Two, labeled as “Teacher-Related Factors,” sheds light on the significant influence of teacher characteristics on Thai EFL university students’ experiences of FLLB. The emergence of this factor highlights the pivotal role that teachers play in shaping the affective dimensions of the language learning environment and highlights the nuanced preferences of students regarding teacher behavior and demeanor. The findings revealed that students within Factor Two exhibit a distinct preference for positive-minded

teachers characterized by traits such as open-mindedness and leniency. These students perceive teachers who are welcoming of new ideas and flexible in their approach as more conducive to reducing boredom in the language classroom. Conversely, strict and discouraging teachers are identified as primary sources of FLLB. This aligns with previous research which highlights the importance of teacher-student rapport and supportive classroom climates in fostering student engagement and motivation [10,58–60]. Moreover, Factor Two elucidates the significance of interpersonal dynamics and teacher-student relationships in shaping students' emotional experiences in the language classroom. Students within this factor prioritize positive interactions and effective communication with their teachers, as evidenced by their preference for approachable and likable teachers. The narratives of QS19 further emphasize the detrimental effects of teacher negativity and lack of empathy on students' motivation and enjoyment of English language learning [61].

Finally, Factor Three, named as "Dissatisfaction with Learning Environment," illuminates the significant impact of classroom dynamics and instructional practices on Thai EFL university students' experiences of FLLB. This factor highlights the pervasive influence of factors such as excessive workload and ineffective classroom management in contributing to students' feelings of boredom and disengagement in the language classroom. The findings revealed that students within Factor Three exhibit a pronounced emphasis on the dissatisfaction aspects of the learning environment, particularly in relation to the workload assigned by teachers. Participants within this factor perceive an excessive workload as a significant source of boredom. Some students highlight the detrimental effects of workload overload on students' motivation and engagement, emphasizing the need for teachers to strike a balance between meaningful practice and cognitive overload [62]. Moreover, Factor Three sheds light on the importance of effective classroom management in fostering student engagement and reducing boredom [48]. Participants within this factor express frustration with teachers who prioritize certain students over others and fail to create inclusive learning environments, as some of them underscore the negative impact of group work and unequal distribution of tasks on students' experiences of boredom and frustration. These findings highlight the importance of equitable participation and individualized support in promoting student engagement and motivation in the language classroom [63].

In sum, the three factors identified—*disengaging tasks*, *teacher-related factors*, and *dissatisfaction with the learning environment*—highlight the varied sources of FLLB among FL learners, which reflects personal disparities in how boredom is experienced. For instance, students loading on Factor 1 emphasized disengagement due to repetitive tasks, indicating that task variety and active participation are crucial for maintaining their interest. In contrast, students associated with Factor 2 were more affected by teacher behavior, suggesting that the interpersonal qualities of instructors, such as openness and approachability, play a significant role in their emotional responses. Meanwhile, those in Factor 3 highlighted dissatisfaction with classroom management and workload, pointing to structural aspects of the learning environment as key boredom triggers. These differences illustrate how individual perceptions and contextual factors can shape the experience of FLLB, which emphasizes the need for diverse intervention strategies that cater to varying student needs.

6. Pedagogical implications

The findings of this study yield several significant pedagogical implications for language teaching and pedagogy. First, Factor One highlights the imperative of transcending conventional, teacher-centered instructional methods in favor of more learner-centered and interactive pedagogies. FL educators should foster learning environments that foster active engagement, collaboration, and meaningful communication to cultivate students' intrinsic motivation and alleviate boredom in language learning settings. Second, Factor Two prompts reflection on its implications for teacher education and professional development. It emphasizes the importance of cultivating positive teacher-student relationships and creating inclusive and supportive learning environments. Training programs should equip teachers with the necessary interpersonal skills and strategies to effectively engage and motivate diverse student cohorts. Lastly, Factor Three highlights broader implications for language teaching and pedagogy. FL educators are urged to recognize the significance of establishing supportive and inclusive learning environments tailored to meet the diverse needs and preferences of students. Implementing strategies such as differentiated instruction, task variation, and student-centered approaches can mitigate boredom and enhance student motivation and engagement levels.

Moreover, the study's acknowledgment of FLLB as a crucial concern underscores the imperative for FL educators to heighten their understanding of its importance. They must educate students about the potential risks associated with FLLB and employ a range of pedagogical strategies to alleviate it, thereby fostering an environment in the EFL classroom that is more conducive and inclusive. Additionally, the array of perspectives uncovered in the study underscores the significance of teachers recognizing the individual disparities among FL learners. This awareness is crucial for tailoring teaching strategies to address the specific needs of different learner prototypes. For instance, teachers can adapt tasks to provide appropriate levels of challenge and stimulation or employ suitable boredom-prevention strategies based on the reasons behind students' boredom. In essence, the key components from this study offer guidance for FL teachers in adapting their teaching strategies to align with student preferences and mitigate boredom in FL classrooms, thereby enhancing students' overall language learning experience.

7. Conclusions

This study employed Q methodology to investigate the varied views of Thai undergraduate students studying EFL in tertiary education regarding FLLB. It delineated three distinct student groups, each presenting unique perceptions of FLLB. Notably, the factors influencing FLLB were identified as disengaging tasks, teacher-related aspects, and dissatisfaction with the learning environment. The identification of diverse factors suggests the subjective nature of FLLB experiences among students. The study's findings were

corroborated by retrospective interviews, affirming the credibility of Q methodology in exploring learners' perspectives on FLLB in EFL learning contexts. This study highlights the value of Q methodology in capturing the subjective experiences of language learners, providing a nuanced understanding of factors contributing to boredom. Given its ability to integrate qualitative depth with quantitative rigor, Q methodology is particularly well-suited for exploring complex emotional phenomena in educational contexts.

Despite its contributions, the study has certain limitations. It was confined to a small number of universities in Thailand, with participants predominantly majoring in humanities and social sciences. Consequently, their experiences may differ from those of students in other academic disciplines or institutions. Future research endeavors could delve into the influence of diverse contexts and majors on students' perceptions of FLLB. Hence, while interpreting the findings of this study, caution is warranted. While acknowledging various approaches to exploring FLLB in EFL learning contexts, Q methodology is considered highly effective in capturing the intricacies of language learning systems as it is considered effective in identifying and detailing the complex, often subtle factors that influence how individuals experience and perceive boredom in language learning settings. By amalgamating qualitative and quantitative elements, Q methodology offers a comprehensive avenue for understanding L2 learners' subjective perspectives and evaluations. Future research is encouraged to employ Q methodology to investigate other emotions or learning experiences in diverse settings, as it offers a unique approach to uncovering learner perspectives that may be overlooked by traditional methods.

Data and code availability

Data will be made available on request.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix A. Statements and factor arrays

Sort No.	Factor Group	Factor 1	Factor 2	Factor 3
QS35	F1-1	0.8469*	0.0543	0.2551
QS23	F1-2	0.7917*	0.2448	-0.0546
QS10	F1-3	0.7474*	0.3885	0.1229
QS26	F1-4	0.7169*	-0.047	0.2016
QS24	F1-5	0.6793*	0.019	0.3893
QS18	F1-6	0.5895*	0.4155	0.2577
QS21	F1-7	0.5657*	-0.1476	0.2777
QS20	F1-8	0.5557	0.3659	0.4556
QS8	F1-9	0.5332*	0.4483	-0.0649
QS22	F1-10	0.5298*	0.1442	0.3071
QS14	F1-11	0.517*	0.2935	0.0365
QS33	F1-12	0.5075	0.4878	0.225
QS34	F1-13	0.4246*	0.1772	0.2518
QS11	F1-14	0.4079*	0.092	0.3938
QS31	F1-15	0.3653	0.2171	0.1122
QS30	F2-1	0.4104	0.7535*	0.23
QS9	F2-2	-0.0659	0.7249*	0.442
QS19	F2-3	0.2996	0.6947*	0.2025
QS27	F2-4	0.2792	0.6724*	0.0059
QS13	F2-5	-0.3269	0.6678*	0.1425
QS5	F2-6	0.2555	0.611*	0.285
QS32	F2-7	0.1473	0.5643*	0.1069
QS1	F2-8	0.4135	0.4792	0.4381
QS2	F2-9	0.2197	0.406*	0.0849
QS25	F2-10	0.1798	0.3502	0.1357
QS36	F2-11	-0.0762	0.2915	-0.0521
QS17	F3-1	0.1288	-0.0442	0.7018*
QS6	F3-2	0.214	0.0692	0.6848*
QS16	F3-3	0.2294	0.38	0.6344*
QS29	F3-4	0.0607	-0.1064	0.5579*
QS12	F3-5	0.3606	0.2113	0.5168*
QS3	F3-6	0.0393	0.2261	0.5135*
QS7	F3-7	0.1915	0.3539	0.5091*
QS15	F3-8	0.3055	0.3863	0.4778
QS28	F3-9	0.4461	0.2401	0.4639
QS4	F3-10	0.1219	0.3193	0.4436*

Note. * Factor values indicate statistical significance ($p < .01$).

Appendix B. Factor arrays

No.	Statements	Factor			z-score variance
		1	2	3	
1	I usually yawn in English class.	+1	-1	-3	0.32
2	My mind begins to wander in the English class.	-1	0	-3	0.27
3	It is difficult for me to concentrate in the English class.	-2	-2	-4	0.133
4	So many similar types of English practices make me lose interest.	+3	-2	+3	0.788
5	I find an analysis of long text in English is really dreary.	+1	0	+3	0.115
6	It would have been more interested if other multimedia resources were utilized in class rather than PPT slides loaded with text.	-3	-1	+1	0.315
7	Doing English homework is a dull activity.	-1	-3	-1	0.045
8	My English teacher isn't likable (e.g., tone or pitch).	+4	+1	+3	0.234
9	The English teacher is uninteresting.	-2	-4	-5	0.277
10	The English teacher spends too much time saying things that are irrelevant to the teaching material.	+2	-5	-2	1.039
11	I'm forced to learn all the subjects including English.	0	-4	+1	0.544
12	Not only learning English, but studying is dull in general.	-1	-3	+2	0.618
13	When the English teacher seems unmotivated to teach, I lose my motivation to listen to him/her as well.	+5	-1	+5	0.833
14	Learning English is very challenging.	+1	+4	+4	0.314
15	I prefer to keep quiet in the class.	-3	+3	+3	0.726
16	I rarely interact with my teacher in class.	-3	+1	+2	0.646
17	I find learning English meaningless.	-5	-5	-5	0.031
18	Activities that are not interesting make me bored.	+2	+1	+2	0.066
19	My teacher does not pay attention to my needs.	+2	0	0	0.028
20	My teacher does not provide variety in language learning.	+3	0	-1	0.348
21	I am taught by being told what to do and/or by memorizing.	+4	+2	+4	0.194
22	I feel like doing nothing in English classes.	-2	-3	0	0.189
23	I'm not interested in learning English.	-5	-4	-4	0.026
24	The teacher assigns too much work.	0	+2	+5	0.74
25	I am aware of what makes English learning difficult for me.	-2	+2	-1	0.396
26	I feel that I am alone in the class.	-4	-3	-3	0.077
27	I look forward to going home because learning English is boring.	-4	-2	-1	0.124
28	My teacher does not recognize my potential.	+1	-1	-3	0.303
29	My teacher does not allow students to perform a language task (e.g., speaking).	+5	-1	-4	1.423
30	In my language class, the teacher is very strict.	+4	+5	+4	0.062
31	In my language class, I keep silent.	-4	-2	-2	0.036
32	Doing group work with my classmates is boring.	-2	-2	+2	0.367
33	During the class, I am afraid of volunteering or answering questions.	-1	+1	+2	0.129
34	The teacher is not easy to reach.	+1	+4	+1	0.308
35	I find it uncomfortable studying English.	-3	+2	-2	0.476
36	The teacher is not open to new ideas.	+3	+5	-1	0.745
37	Seeing no progress in my foreign language class makes me bored.	+2	0	0	0.029
38	The teacher who does not pay attention to my learning progress makes me bored.	0	+1	-2	0.226
39	Being passive in language class makes me bored.	+2	0	-2	0.518
40	The teacher who uses old-fashioned teaching techniques makes me bored.	+3	+3	+1	0.152
41	When the teacher overloads me with language input, I get bored.	0	+3	+1	0.148
42	Activities that do not have clear purpose make me bored.	0	+2	0	0.048
43	Comprehension difficulty in materials or teacher talk makes me bored.	-1	+4	0	0.75
44	An unfriendly teacher makes me bored.	0	+3	0	0.182

References

- [1] J.M. Dewaele, C. Li, Teacher enthusiasm and students' social-behavioral learning engagement: the mediating role of student enjoyment and boredom in Chinese EFL classes, *Lang. Teach. Res.* 25 (6) (2021) 922–945, <https://doi.org/10.1177/13621688211014538>.
- [2] C. Li, J.M. Dewaele, Y. Hu, Foreign language learning boredom: conceptualization and measurement, *Appl. Ling. Rev.* 14 (2) (2023) 223–249, <https://doi.org/10.1515/applirev-2020-0124>.
- [3] F. Alrabai, The role of mixed emotions in language learning and teaching: a positive psychology teacher intervention, *System* 107 (2022) 102821, <https://doi.org/10.1016/j.system.2022.102821>.
- [4] C. Li, A positive psychology perspective on Chinese EFL students' trait emotional intelligence, foreign language enjoyment and EFL learning achievement, *J. Multiling. Multicult. Dev.* 41 (3) (2020) 246–263, <https://doi.org/10.1080/01434632.2019.1614187>.
- [5] Q. Yu, A review of foreign language learners' emotions, *Front. Psychol.* 12 (2022) 827104, <https://doi.org/10.3389/fpsyg.2021.827104>.
- [6] M. Kruk, M. Pawlak, M.E. Shirvan, M. Shahnama, The emergence of boredom in an online language class: an ecological perspective, *System* 107 (2022) 102803, <https://doi.org/10.1016/j.system.2022.102803>.
- [7] C. Li, L. Wei, Anxiety, enjoyment, and boredom in language learning amongst junior secondary students in rural China: how do they contribute to L2 achievement? *Stud. Sec. Lang. Acquis.* 45 (1) (2023) 93–108, <https://doi.org/10.1017/S0272263122000031>.
- [8] P. Resnik, J.M. Dewaele, Trait emotional intelligence, positive and negative emotions in first and foreign language classes: a mixed-methods approach, *System* 94 (2020) 102324, <https://doi.org/10.1016/j.system.2020.102324>.
- [9] R. Pekrun, T. Goetz, L.M. Daniels, R.H. Stupnisky, R.P. Perry, Boredom in achievement settings: exploring control-value antecedents and performance outcomes of a neglected emotion, *J. Educ. Psychol.* 102 (3) (2010) 531–549, <https://doi.org/10.1037/a0019243>.

- [10] E.C. Westgate, T.D. Wilson, Boring thoughts and bored minds: the MAC model of boredom and cognitive engagement, *Psychol. Rev.* 125 (5) (2018) 689–713, <https://doi.org/10.1037/rev0000097>.
- [11] A. Thumvichit, Understanding emotion-regulation strategies among foreign language teachers in response to classroom stressors: findings from a Q methodology study, *Soc. Psychol. Educ.* 26 (6) (2023) 1593–1620, <https://doi.org/10.1007/s11218-023-09809-8>.
- [12] A.S. Ross, P. Wasanasomithi, Emotive responses to the language learning experience across contexts, *Int. J. Innovat. Learn.* 29 (4) (2021) 475–490, <https://doi.org/10.1504/IJIL.2021.115498>.
- [13] Y. Liu, L. Chen, Z. Wang, G. Guo, M. Zhang, S. Chen, Role of alexithymia in predicting internet novel addiction through boredom proneness, *Int. J. Environ. Res. Publ. Health* 19 (14) (2022) 8708, <https://doi.org/10.3390/ijerph19148708>.
- [14] I. Newman, S. Ramlo, Using Q methodology and Q factor analysis in mixed methods research, in: A. Tashakkori, C. Teddlie (Eds.), *Sage Handbook of Mixed Methods in Social and Behavioral Research*, second ed., SAGE Publications, Inc., 2010, pp. 505–530.
- [15] S. Watts, P. Stenner, *Doing Q Methodological Research: Theory, Method and Interpretation*, Sage Publications, 2012.
- [16] N. Fraschini, H. Park, Anxiety in language teachers: exploring the variety of perceptions with Q methodology, *Foreign Lang. Ann.* 54 (2) (2021) 341–364, <https://doi.org/10.1111/flan.12527>.
- [17] C. Li, Foreign language learning boredom and enjoyment: the effects of learner variables and teacher variables, *Lang. Teach. Res.* (2022), <https://doi.org/10.1177/13621688221090324>, 13621688221090324.
- [18] Z. Wang, B. Shen, Y. Zhang, What makes EFL learning enjoyable for Chinese tertiary-level students? Insights from Q methodology, *System* 123 (2024) 103337, <https://doi.org/10.1016/j.system.2024.103337>.
- [19] L.F. Barrett, Categories and their role in the science of emotion, *Psychol. Inq.* 28 (1) (2017) 20–26, <https://doi.org/10.1080/1047840X.2017.1261581>.
- [20] K. Hoemann, M. Devlin, L.F. Barrett, Comment: emotions are abstract, conceptual categories that are learned by a predicting brain, *Emotion Rev.* 12 (4) (2020) 253–255, <https://doi.org/10.1177/1754073919897296>.
- [21] K. Hoemann, F. Xu, L.F. Barrett, Emotion words, emotion concepts, and emotional development in children: a constructionist hypothesis, *Dev. Psychol.* 55 (9) (2019) 1830–1849, <https://doi.org/10.1037/dev0000686>.
- [22] M. Giraud, M. Marelli, E. Nava, Embodied language of emotions: predicting human intuitions with linguistic distributions in blind and sighted individuals, *Heliyon* 9 (7) (2023) E17864, <https://doi.org/10.1016/j.heliyon.2023.e17864>.
- [23] K.A. Lindquist, J.K. MacCormack, H. Shablack, The role of language in emotion: predictions from psychological constructionism, *Front. Psychol.* 6 (2015) 121301, <https://doi.org/10.3389/fpsyg.2015.00444>.
- [24] P. Winkielman, J.D. Davis, S. Coulson, Moving thoughts: emotion concepts from the perspective of context-dependent embodied simulation, *Lang., Cognit. Neurosci.* 38 (10) (2023) 1531–1553, <https://doi.org/10.1080/23273798.2023.2236731>.
- [25] D. Thoma, Language-dependent emotions in heritage and second language bilinguals: when physiological reactions deviate from feelings, *Int. J. BiLing.* 28 (3) (2024) 374–389, <https://doi.org/10.1177/13670069231159840>.
- [26] R.W. Larson, M.H. Richards, Boredom in the middle school years: blaming schools versus blaming students, *Am. J. Educ.* 99 (4) (1991) 418–443, <https://doi.org/10.1086/443992>.
- [27] M. Pawlak, M. Kruk, J. Zawodniak, S. Pasikowski, Investigating factors responsible for boredom in English classes: the case of advanced learners, *System* 91 (2020) 102259, <https://doi.org/10.1016/j.system.2020.102259>.
- [28] A.B. Hill, R.E. Perkins, Towards a model of boredom, *Br. J. Psychol.* 76 (2) (1985) 235–240, <https://doi.org/10.1111/j.2044-8295.1985.tb01947.x>.
- [29] C.D. Fisher, Boredom at work: what, why, and what then? in: D. Lindebaum, D. Geddes, P.J. Jordan (Eds.), *Social Functions of Emotion and Talking about Emotion at Work* Edward Elgar Publishing, 2018, pp. 68–102, <https://doi.org/10.4337/9781786434883.00011>.
- [30] S.A. Fahlman, *Development and Validation of the Multidimensional State Boredom Scale (Unpublished Ph.D. Dissertation)*, York University, Ottawa, Canada, 2009.
- [31] R. Pekrun, E. Meier, *Task Value Questionnaire [Unpublished Manuscript]*, Department of Psychology, University of Munich, Munich, Germany, 2011.
- [32] J.D. Eastwood, A. Frischen, M.J. Fenske, D. Smilek, The unengaged mind: defining boredom in terms of attention, *Perspect. Psychol. Sci.* 7 (5) (2012) 482–495, <https://doi.org/10.1177/1745691612456044>.
- [33] J. Davies, M. Fortney, The mention theory of engagement and boredom, in: *Poster Presented at the First Annual Conference on Advances in Cognitive Systems*, Palo Alto, December 6–8, 2012.
- [34] V.M. Tze, L.M. Daniels, R.M. Klassen, Evaluating the relationship between boredom and academic outcomes: a meta-analysis, *Educ. Psychol. Rev.* 28 (1) (2016) 119–144, <https://doi.org/10.1007/s10648-015-9301-y>.
- [35] A. Derakhshan, J. Fathi, M. Pawlak, M. Kruk, Classroom social climate, growth language mindset, and student engagement: the mediating role of boredom in learning English as a foreign language, *J. Multiling. Multicult. Dev.* (2022) 1–19, <https://doi.org/10.1080/01434632.2022.2099407>.
- [36] M. Kruk, M. Pawlak, M.E. Shirvan, S. Soleimanzadeh, Revisiting boredom in practical English language classes via exploratory structural equation modeling, *Res. Methods Appl. Linguistics* 2 (1) (2023) 100038, <https://doi.org/10.1016/j.rmal.2022.100038>.
- [37] S.J. Vodanovich, J.D. Witt, Self-report measures of boredom: an updated review of the literature, *J. Psychol.* 150 (2) (2016) 196–228, <https://doi.org/10.1080/00223980.2015.1074531>.
- [38] T.W. Acee, H. Kim, H.J. Kim, J.I. Kim, H.N.R. Chu, M. Kim, Boredom research group, academic boredom in under-and-over-challenging situations, *Contemp. Educ. Psychol.* 35 (1) (2010) 17–27, <https://doi.org/10.1016/j.cedpsych.2009.08.002>.
- [39] T. Goetz, U.E. Nett, S.E. Martiny, N.C. Hall, R. Pekrun, S. Dettmers, U. Trautwein, Students' emotions during homework: structures, self-concept antecedents, and achievement outcomes, *Learn. Individ. Differ.* 22 (2) (2012) 225–234, <https://doi.org/10.1016/j.lindif.2011.04.006>.
- [40] C. Li, E. Feng, X. Zhao, J.M. Dewaele, Foreign language learning boredom: refining its measurement and determining its role in language learning, *Stud. Sec. Lang. Acquis.* (2024) 1–28, <https://doi.org/10.1017/S0272263124000366>.
- [41] K. Ire, Q methodology for post-social-turn research in SLA, *Stud. Sec. Lang. Learn. Teach.* 4 (1) (2014) 13–32, <https://doi.org/10.14746/ssllt.2014.4.1.2>.
- [42] A. Thumvichit, Illuminating insights into subjectivity: Q as a methodology in applied linguistics research, *Appl. Ling. Rev.* 15 (2) (2024) 531–554, <https://doi.org/10.1515/applirev-2021-0205>.
- [43] N. Fraschini, Language learners' emotional dynamics: insights from a Q methodology intensive single-case study, *Lang. Cult. Curric.* 36 (2) (2023) 222–239, <https://doi.org/10.1080/07908318.2022.2133137>.
- [44] A. Thumvichit, Unfolding the subjectivity of foreign language enjoyment in online classes: a Q methodology study, *J. Multiling. Multicult. Dev.* 45 (7) (2022) 2427–2444, <https://doi.org/10.1080/01434632.2022.2050917>.
- [45] X. Ding, Y. Liu, J.E. Peng, Straddling burnout and resilience: a Q methodology study among high school EFL teachers, *J. Multiling. Multicult. Dev.* (2023) 1–18, <https://doi.org/10.1080/01434632.2023.2193171>.
- [46] X. Li, The significance of Q-methodology as an innovative method for the investigation of affective variables in second language acquisition, *Front. Psychol.* 13 (2022), <https://doi.org/10.3389/fpsyg.2022.1006111>.
- [47] Z. Chen, P. Zhang, Trait emotional intelligence and second language performance: a case study of Chinese EFL learners, *J. Multiling. Multicult. Dev.* 43 (8) (2022) 731–745, <https://doi.org/10.1080/01434632.2020.1767633>.
- [48] A. Derakhshan, M. Kruk, M. Mehdizadeh, M. Pawlak, Activity-induced boredom in online EFL classes, *ELT J.* 76 (1) (2022) 58–68, <https://doi.org/10.1093/elt/ccab072>.
- [49] S. Brown, *Political Subjectivity: Applications of Q Methodology in Political Science*, Yale University Press, 1980.
- [50] B. McKeown, D.B. Thomas, *Q Methodology*, second ed., Sage Publications, 2013.
- [51] J. van Exel, G. De Graaf, Q methodology: a sneak preview, available from: www.jobvanexel.nl, 2005.
- [52] S. Banasick, KADE: a desktop application for Q methodology, *J. Open Source Softw.* 4 (36) (2019) 1360, <https://doi.org/10.21105/joss.01360>.
- [53] N. Akhtar-Danesh, Impact of factor rotation on Q-methodology analysis, *PLoS One* 18 (9) (2023) e0290728, <https://doi.org/10.1371/journal.pone.0290728>.

- [54] P. Dao, Effect of interaction strategy instruction on learner engagement in peer interaction, *System* 91 (2020) 102244, <https://doi.org/10.1016/j.system.2020.102244>.
- [55] X. Zhou, L.H. Chen, C.L. Chen, Collaborative learning by teaching: a pedagogy between learner-centered and learner-driven, *Sustainability* 11 (4) (2019) 1174, <https://doi.org/10.3390/su11041174>.
- [56] Q.N. Nguyen, Teachers' scaffolding strategies in internet-based ELT classes, *TESL-EJ* 26 (1) (2022) 1–35, <https://doi.org/10.55593/ej.26101a1>.
- [57] C. Piamsai, The effect of scaffolding on non-proficient EFL learners' performance in an academic writing class, *LEARN J.: Lang. Educ. Acquis. Res. Netw.* 13 (2) (2020) 288–305.
- [58] M. Cents-Boonstra, A. Lichtwarck-Aschoff, E. Denessen, N. Aelterman, L. Haerens, Fostering student engagement with motivating teaching: an observation study of teacher and student behaviours, *Res. Pap. Educ.* 36 (6) (2021) 754–779, <https://doi.org/10.1080/02671522.2020.1767184>.
- [59] Y. Meng, Fostering EFL/ESL students' state motivation: the role of teacher-student rapport, *Front. Psychol.* 12 (2021) 754797, <https://doi.org/10.3389/fpsyg.2021.754797>.
- [60] R. Pekrun, E. Vogl, K.R. Muis, G.M. Sinatra, Measuring emotions during epistemic activities: the epistemically-related emotion scales, *Cognit. Emot.* 31 (6) (2017) 1268–1276, <https://doi.org/10.1080/02699931.2016.1204989>.
- [61] Q. Zhang, The role of teachers' interpersonal behaviors in learners' academic achievements, *Front. Psychol.* 13 (2022) 921832, <https://doi.org/10.3389/fpsyg.2022.921832>.
- [62] X. Xin, M. Zhang, Effects of flipped English learning designs on learning outcomes and cognitive load: workload of out-of-class activities versus during-class activities, *J. Comput. Assist. Learn.* (2024) 1–21, <https://doi.org/10.1111/jcal.12978>.
- [63] M. Barahona, S. Darwin, Balancing being a 'good teacher' and a 'motivating teacher of English': analyzing the sense of professional responsibility of pre-service EFL teachers, *Lang. Teach. Res.* (2023), <https://doi.org/10.1177/13621688231183905>, 13621688231183905.