

# Exploring Emotional Dynamics in EFL Task-Based Learning: A Q-Methodology Study of Multilingual Learners

Zhihai Lan<sup>1\*</sup>, Tianshuang Yang<sup>1</sup>, Weiying Liao<sup>2</sup>, Xianghe Zhang<sup>3</sup>

<sup>1</sup> School of Education, Xizang University, Lhasa, China

<sup>2</sup> Independent Researcher

<sup>3</sup> School of Economic and Management, Xizang University, Lhasa, China

\*Correspondence: Zhihai Lan

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## Abstract:

This study investigates the emotional dynamics of multilingual learners during EFL task-based learning through Q methodology. Ten undergraduate students from a university in a linguistically diverse region of China completed Q-sorting procedures across six instructional scenarios using a 34-item emotion Q-set derived from literature and pilot consultations. Sixty Q-sorts were analyzed using principal components analysis and varimax rotation. Four distinct emotional factors emerged. Factor 1 represents an anxious-fearful profile characterized by task-related anxiety, hopelessness, and fear, triggered by public performance contexts. Factor 2 exhibits a curious-engaged pattern where anxiety coexists with peace of mind and curiosity, associated with time-pressured individual tasks. Factor 3 reflects a disengaged-frustrated profile dominated by boredom and frustration, linked to solitary reading and translation activities. Factor 4 captures an overwhelmed-distressed pattern featuring acute anxiety and complete absence of relief, associated with high-stakes output tasks. Love consistently emerged as a consensus statement across all factors, indicating systematic rejection of affectionate emotions regardless of task context. These findings demonstrate that learners' emotional responses function as complex dynamic networks rather than isolated states, with task characteristics serving as environmental triggers that activate distinct emotional subsystems. The study contributes to understanding how task design influences emotional configurations in multilingual contexts, suggesting the need for pedagogical approaches that foster emotionally supportive learning environments.

## Keywords:

Emotions, EFL Task-Based Learning, Q-Methodology, EFL learners

## 1. Introduction

Recent research has highlighted the vital role of emotion in second and foreign language (L2) learning, demonstrating that affective experiences significantly shape learners' engagement, motivation, cognitive processing, and communicative behaviour (al-Jarrah et al., 2024; Liu et al. 2024)[1][2]. Earlier scholarship focused on detrimental emotions such as anxiety; however, recent advances have broadened this scope to include a fuller emotional spectrum comprising enjoyment, boredom,

shyness, curiosity, hope, and mixed emotional states (Alrabai, 2022; Luo, 2026)[3][4]. Contemporary research consistently shows that these emotions are not fixed attributes but dynamic, context-sensitive responses that fluctuate during classroom interactions, task engagement, and communication events (Aubrey, 2022; Fraschini, 2023)[5][6]. This dynamism implies that learners often experience multiple co-occurring emotions—positive and negative—during the same activity, and these states may influence or counteract one another in complex ways (Alrabai, 2022)[3].

Despite notable progress, limitations remain. Much of the existing research examines emotions in a static or cross-sectional manner, thereby failing to capture their temporal fluctuations within individuals (Derakhshan & Pawlak, 2025); Derakhshan & Zhang, 2024)[7][8]. Additionally, studies tend to focus disproportionately on a narrow set of emotions such as anxiety, enjoyment, and boredom, leaving other meaningful affective states, including epistemic emotions (e.g., curiosity or confusion), comparatively underexplored (Fraschini & Tao, 2024; Liu et al., 2024)[9][2]. Moreover, many of these investigations examine European languages or English as a Foreign Language, with considerably less work conducted in diverse linguistic contexts such as Chinese or Korean (Gao et al., 2024; Wen & Liu, 2025)[10][11]. These gaps restrict our capacity to understand how learners' emotional responses emerge, shift, and interact as classroom events unfold.

Q methodology has emerged as a particularly promising approach for addressing these limitations. Combining qualitative perspectives with quantitative structure, it enables researchers to map subjective viewpoints and identify affective response patterns that traditional psychometric tools may overlook (Fraschini, 2023; Li, 2022)[6][12]. Its capacity to capture within-individual emotional configurations over time aligns well with contemporary calls for methods capable of representing the complex, dynamic nature of L2 emotions (Li, 2022)[12]. Considering these methodological and conceptual gaps, the present study seeks to explore learners' emotional responses and their interconnections within foreign language classrooms. Accordingly, it focuses on two questions: (1) how learners respond emotionally to various classroom events, and (2) how these emotional responses are interconnected and dynamically patterned.

## **2. Literature Review**

### **2.1. Studies in L2 Emotions**

Research on L2 emotions has expanded, establishing that learners routinely experience a diverse range of affective states during the learning process. Anxiety has been the most widely examined emotion, often associated with reduced fluency and lower confidence; however, it can also motivate increased effort among certain learners (al-Jarrah et al., 2024; Liu et al., 2024; Piniel & Albert, 2018)[1][2][13]. Enjoyment has been shown to enhance engagement and willingness to participate in communicative activities, yet it does not simply counteract anxiety, since positive and negative emotions can operate independently (Zhou & Liu, 2025)[14]. Boredom, by contrast, tends to diminish engagement, though it may prompt some learners to pursue independent strategies (Alanazi & Bensalem, 2024)[15]. In addition to these well-researched emotions, epistemic emotions—such as curiosity and confusion—are increasingly recognised for their significance, shaping both knowledge exploration and motivated learning behaviour (Csizér et al., 2024; Fraschini & Tao, 2023; Vogl et al., 2020)[16][17][18].

These emotional states are inherently dynamic. Studies employing idiodynamic or moment-by-moment methods demonstrate that anxiety, enjoyment, and related emotions can fluctuate significantly during specific speaking tasks or across different learning activities (Aubrey, 2022; Veenstra & Weaver, 2022)[5][19]. Emotional patterns also vary across language skills: enjoyment is more frequently associated with receptive tasks such as reading and listening, whereas speaking often elicits heightened anxiety (López-Pérez & de la Maya Retamar, 2022; Piniel & Albert, 2018)[20][13]. Longitudinal work further indicates that enjoyment trajectories may predict sustained motivation and learning outcomes, whereas anxiety often exerts its strongest impact on immediate performance (Aubrey, 2025; Shahini, 2025)[21][22]. Therefore, emotional experiences in L2 learning are complex, temporally fluid, and shaped by complex interactions among individual, contextual, and task-related factors.

## ***2.2. Classroom environment and language learner emotions***

The classroom environment exerts a profound influence on learners' emotional experiences. Teacher support is repeatedly identified as a critical factor that promotes enjoyment, fosters engagement, and contributes positively to learners' confidence and willingness to communicate (Hendrickx et al., 2016; Li et al., 2025; Mohammad Hosseini et al., 2022)[23][24][25]. Peer relationships similarly shape emotions: supportive peer dynamics enhance learners' positive affect, whereas conflict or victimisation can increase anxiety and impede engagement (Kilday & Ryan, 2024; Troop-Gordon et al., 2021)[26][27]. Teacher and learner enjoyment have also been shown to be mutually reinforcing, creating a positive emotional climate that benefits communication and learning (Solhi et al., 2024)[28].

Beyond social interactions, technological integration, including ICT tools, artificial intelligence, and robot-assisted learning, has been observed to reduce anxiety and support willingness to communicate, though these effects often depend on learners' technological confidence and self-efficacy (Chen et al., 2025; Wang, Fan and Wang, 2025; Zhang et al., 2025)[29][30][31]. Cultural contexts further mediate emotional experiences, with teacher and peer support showing stronger emotional impacts in collectivist settings (Xu et al., 2024)[32]. Emotional life outside the classroom may also be more intense and equally influential, suggesting that classroom-only perspectives may offer an incomplete picture (Ross & Rivers, 2018; Yoshida, 2024)[33][34]. Overall, classroom emotions are tightly linked to a wide variety of environmental and interpersonal factors, and they influence engagement, motivation, and communicative behaviour.

## ***2.3. Q methodology in L2 emotion studies***

Q methodology offers a distinctive means of examining L2 learner emotions by systematically capturing subjectivity. It enables the identification of learners' shared and divergent emotional perspectives, revealing subtle complexities that may be lost in conventional variable-oriented approaches (Li, 2022; Wen & Liu, 2025)[12][11]. Its alignment with complexity and dynamic systems theory positions it well for studying rapidly fluctuating emotions in classroom settings (Li, 2022)[12]. Research using Q methodology has uncovered emotionally nuanced learner types, such as groups characterised by confidence and interest versus those marked by anxiety, confusion, or emotional burnout (Fraschini, 2023; Wen & Liu, 2025)[6][11]. Studies have demonstrated its usefulness across cultural and linguistic contexts, including

Chinese and Korean L2 environments, thereby contributing to diversification in the field (Fraschini, 2023; Wang & Wang, 2025; Wen & Liu, 2025)[6][35][11].

Adaptations of Q methodology have also revealed real-time emotional dynamics, particularly when combined with ecological momentary assessment or idiodynamic approaches (Li, 2023)[36]. Nevertheless, methodological challenges remain, particularly concerning the development of representative Q-sets and the need for transparent reporting to ensure interpretive validity (Morea & Ghanbar, 2024; Thumvichit, 2024)[37][38]. Longitudinal Q designs, while promising, are still underused and have only recently begun to demonstrate their potential for capturing evolving emotional and motivational patterns (Zheng et al., 2020)[39]. Thus, Q methodology stands out as both innovative and underutilised, offering substantial promise for uncovering within-individual emotional trajectories over time.

RQ1: How do learners emotionally respond to various events occurring within the foreign language learning tasks?

RQ2: What are the patterns and dynamics of interconnections among these emotional responses?

### **3. Methodology**

#### ***3.1. Research context***

This study was conducted in a linguistically diverse region in southwestern China, predominantly inhabited by a multilingual population with a rich tradition of using multiple languages within local communities. In this region, a local minority language serves as the native language, Mandarin Chinese functions as the national lingua franca, and English is mandated as a foreign language, which creates a particularly intricate multilingual learning environment that sets it apart from monolingual or bilingual educational contexts found in other regions.

English education in this region faces formidable challenges. Learners lack authentic exposure to English, while deep cultural and linguistic gaps with Anglo-American norms intensify difficulties (Xiao & Chen, 2023)[40]. Foundational competence remains weak, such as limited vocabulary, poor grammar, and underperformance in listening, speaking, reading, and writing persist. Learning habits are ineffective, with mechanical memorisation replacing meaningful engagement. Parental neglect reduces home support, diminishing the perceived value of English, eroding motivation over time. These compounding factors collectively create a learning environment where students frequently encounter significant psychological and emotional barriers that become particularly pronounced during task-based language learning activities. In light of these emotionally charged conditions, the task-based learning environments of multilingual learners in this region present a particularly compelling setting to investigate how emotional responses arise, evolve, and interact within foreign language learning tasks. This study adopts an intensive single-case design to capture these emotional dynamics within task-based learning contexts in situ, detailed in the following section.

#### ***3.2. Research tools***

In the present study, Q methodology was carried out through the following steps: Developing Q-set, selecting the P-set, conducting the Q-sort, analysing the data, and interpreting factors (van Exel, 2005; Watts & Stenner, 2012)[41][42].

### 3.2.1. Developing Q-set

The initial step in developing the Q-set involves constructing the concourse, a comprehensive collection of opinion statements pertinent to the research topic, serving as the foundation for the Q sample. This concourse may be compiled from various sources, including academic literature, questionnaires, interviews, and media content. It should be extensive and diverse, capturing various perspectives and viewpoints. Input from subject experts or target population members may also be sought to enhance its scope and relevance. While Q samples traditionally consist of declarative statements (Peng & Xu, 2025)[43], they can also include other formats such as images, music, colours, and so forth (McKeown & Thomas, 1988; van Exel, 2005)[44][42].

The concourse was primarily derived from two key sources in the present study. First, a comprehensive review of literature in the fields of second language acquisition (SLA) and educational psychology facilitated the identification of emotion-related terms, including “peace of mind” (Zhou et al., 2022)[45], “curiosity” (Henry et al., 2025)[46], and “guilt” (Teimouri, 2018)[47]. Building on two closely related studies (Fraschini, 2023; Wen & Liu, 2025)[18][11], 31 distinct emotions were identified. Second, three Tibetan participants were invited to sort and discuss the preliminary list of emotions during the piloting phase, during which they suggested including three additional emotion types that they deemed representative. After thoroughly consulting two language education experts, the researchers incorporated this suggestion. Ultimately, the final Q sample constructed for this study comprised 34 distinct emotions (see Table 1).

**Table 1.** Q-set items.

| Num | Emotions         | Num | Emotions             |
|-----|------------------|-----|----------------------|
| 1   | Joy              | 18  | Guilt                |
| 2   | Gratitude        | 19  | Hate                 |
| 3   | Serenity         | 20  | Sadness              |
| 4   | Interest         | 21  | Feeling scared       |
| 5   | Hope             | 22  | Task-related anxiety |
| 6   | Pride            | 23  | Feeling hopelessness |
| 7   | Amusement        | 24  | Boredom              |
| 8   | Inspiration      | 25  | Jealousy             |
| 9   | Awe              | 26  | Regret               |
| 10  | Love             | 27  | Curiosity            |
| 11  | Relief           | 28  | Surprise             |
| 12  | Excitement       | 29  | Confusion            |
| 13  | Anger            | 30  | Frustration          |
| 14  | Individual shame | 31  | Envious admiration   |
| 15  | Contempt         | 32  | Face-related anxiety |
| 16  | Disgust          | 33  | Collective shame     |
| 17  | Embarrassment    | 34  | Peace of mind        |

### 3.2.2. Selecting the P-set

The second step is selecting participants to construct the P-set. Initially, participants were recruited with the assistance of teachers, and some were subsequently identified through snowball sampling.

Ten undergraduate students (seven female, three male) enrolled in the same English class at a Double First-Class university in a linguistically diverse region of southwestern China participated in this study. All participants had taken the English

component of the National College Entrance Examination (*Gaokao*). Participants' ages ranged from 19 to 22 years ( $M = 20.3$ ), with an average *Gaokao* English score of 55.5 and their heritage language score of 132. Detailed demographic information is presented in Table 2.

**Table 2.** *Participants' demographics (N = 10).*

| ID  | Gender | Age | Heritage Score | English Score |
|-----|--------|-----|----------------|---------------|
| P1  | Female | 22  | 125            | 68            |
| P2  | Male   | 21  | 132            | 49            |
| P3  | Female | 20  | 130            | 68            |
| P4  | Male   | 21  | 143            | 33            |
| P5  | Male   | 20  | 139            | 45            |
| P6  | Female | 20  | 125            | 57            |
| P7  | Female | 20  | 130            | 58            |
| P8  | Female | 19  | 128            | 53            |
| P9  | Female | 20  | 129            | 52            |
| P10 | Female | 20  | 139            | 72            |

*Notes: All names are pseudonyms. The score reported in this table refer to the participants' scores in the National College Entrance Examination (Gaokao).*

### 3.2.3. Conducting the Q-sort

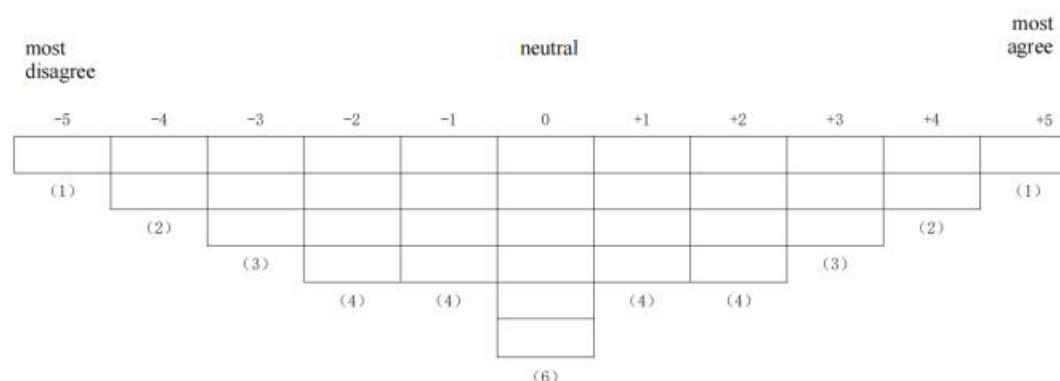
The third step involves carrying out the Q-sorting procedure. Before proceeding, it is crucial to establish the conditions of instruction. In China, the College English Test (CET) Band 4 and Band 6, administered by the Ministry of Education through the National Education Examinations Authority, represent the country's most comprehensive standardized English proficiency assessments. Many college English instructors also utilize the CET framework when designing classroom tasks and curricula.

In this context, the research team initially developed six representative learning scenarios, reflecting the communicative skills and task types typically evaluated in the CET. These scenarios were created through a multi-stage process. First, each scenario was crafted to align with the CET's skill dimensions—listening, speaking, reading, writing, and translation (Table 3). A pilot evaluation followed, leading to an expert review and refinement, incorporating feedback from language education specialists to ensure authenticity and pedagogical relevance. A comprehensive instructional script was also prepared for each scenario (see Appendix), allowing participants to engage deeply with the tasks and contextual demands. These carefully crafted instructions were designed to elicit genuine emotional responses during the Q-sorting process.

**Table 3.** *Description of the six instructional scenarios.*

| Learning Context                  | Explanation                                                                                      |
|-----------------------------------|--------------------------------------------------------------------------------------------------|
| 1. Classroom Listening Task       | Listen once to a short English recording and complete a table or five multiple-choice questions. |
| 2. English Oral Presentation Task | Deliver a one-minute English speech on a given topic in front of the class.                      |
| 3. Reading Comprehension Task     | Read a 200–300-word English passage and answer questions.                                        |
| 4. Timed Writing Task             | Write a short English essay in class.                                                            |
| 5. In-Class Translation Task      | Translate a Chinese paragraph into English by hand in 30 minutes without any reference tools.    |
| 6. Group Discussion Task          | Discuss a topic in randomly formed groups, record the talk, and submit it for grading.           |

Participants performed the Q-sort face-to-face using Chinese statement cards. Each sort was completed on an 11-column sorting grid (ranging from  $-5$  to  $+5$ ; see Figure 1) under six distinct instructional scenarios. Following each sort, participants were invited to explain briefly the statements they strongly agreed or disagreed with. All sorting results and accompanying explanatory notes were compiled individually to support subsequent interpretation.



**Figure 1.** *Q grid.*

### 3.2.4. Analysing the data

The fourth step is analysing the data. Following Fraschini's research design (2023)[17], all 60 Q-sorts collected (six sorts for each of the ten participants) were analysed collectively to identify clusters of instructional contexts that elicited similar emotional reactions across different participants. The analysis was conducted using Ken-Q Analysis (KADE V1.3.1). The analytical process began with generating a correlation matrix to assess the degree of agreement or divergence among individual Q-sorts (Watts & Stenner, 2012)[42]. Principal components analysis was then employed to extract between one and eight potential factors (Peng & Xu, 2025)[43], identifying four distinct factors from the 34 Q statements. Subsequently, varimax rotation was applied to maximise the variance distribution through mathematically independent transformations, producing a factor array that displayed the average score assigned to each statement within each factor (McKeown & Thomas, 1988)[44].

The common criterion of an eigenvalue exceeding 1.00 was adopted to determine which factors to retain. In line with established practice in Q methodology, a factor was deemed interpretable only if it was defined by at least two Q-sorts loaded significantly and uniquely. Factor loadings were considered statistically significant at  $\geq 0.34$  ( $p < 0.05$ ) and  $\geq 0.44$  ( $p < 0.01$ ), based on the formulae  $1.96*(1/\sqrt{n})$  and  $2.58*(1/\sqrt{n})$ , where  $n$  (the number of statements) = 34 (Watts & Stenner, 2012)[42]. Finally, participants who exhibited multiple significant loadings were excluded from factor interpretation (Peng & Xu, 2025)[43].

### 3.2.5. Interpreting factors

The factors identified through Ken-Q analysis were interpreted alongside insights drawn from post-sorting interviews. A detailed account of these factors is presented in the results section.

## 4. Results and Discussion

### 4.1. Factor 1

Factor 1, encompassing eight tasks requiring public or semi-public performance, reveals a coherent emotional pattern anchored in heightened evaluative pressure. Tasks such as the classroom listening activity, English oral presentation, and in-class translation each contribute two points, while reading comprehension and group discussion add one point each. What unites these contexts is the visibility of learners' performance to peers and teachers, which exposes them to comparison, judgement, and the risk of losing face. Such conditions are repeatedly shown to be emotionally charged within L2 classrooms, particularly during speaking or cognitively demanding tasks undertaken in front of others (Aubrey & Scott, 2022; López-Pérez & de la Maya Retamar, 2022; Piniel & Albert, 2018)[5][20][13].

The emotional loadings further substantiate this interpretation. Learners strongly endorsed high- arousal negative emotions, including task-related anxiety (22: +5,  $Z = 2.116$ ), hopelessness (23: +4,  $Z = 1.952$ ), scared (21: +4,  $Z = 1.358$ ), collective shame ( $Z = 1.125$ ), face-related anxiety ( $Z = 0.984$ ), and frustration ( $Z = 0.936$ ). These responses align with findings that public-performance contexts intensify anxiety and fear owing to concerns over accuracy, linguistic adequacy, and social evaluation (Piniel & Albert, 2018; Aubrey, 2022)[13][5]. The presence of collective shame and face-related anxiety resonates with research showing that learners in socially evaluative environments often experience self-conscious emotions, especially when errors are publicly exposed or when group norms heighten sensitivity to judgement (Kilday & Ryan, 2024; Troop-Gordon et al., 2021)[26][27]. Taken together, these emotions map onto what has been described as the *Negative Valence System*, which is activated under threat, uncertainty, or anticipated failure (Thumvichit, 2024)[38].

The parallel rejection of positive emotions, such as joy ( $Z = -1.83$ ), gratitude ( $Z = -1.635$ ), pride ( $Z = -1.399$ ), amusement ( $Z = -1.32$ ), jealousy ( $Z = -1.242$ ), and even relief ( $Z = -0.99$ ), suggests that learners do not associate these tasks with success, fulfilment, or interpersonal warmth. This pattern reflects claims that positive emotions tend to emerge in supportive, autonomy- enhancing contexts rather than high- pressure evaluative settings (Alrabai, 2022; Zhou & Liu, 2025)[3][14]. The strong negative loading for pride is particularly notable, as pride typically arises from perceived competence or achievement (Zhou & Liu, 2025)[14]. Its absence indicates that learners attribute little opportunity for mastery within these tasks, viewing them instead as potential threats to self- presentation.

In sum, Factor 1 captures a threat-sensitive public-performance emotional profile, characterised by intense anxiety, fear, shame, and frustration, combined with the suppression of positive emotional states. This pattern is consistent with broader evidence that emotional experiences in L2 learning are profoundly shaped by the visibility of performance, social comparison, and the interpersonal dynamics embedded within classroom events (Derakhshan & Pawlak, 2025; Derakhshan & Zhang, 2024)[7][8].

**Table 4.** Composite Q sort for factor 1.

| Num | Statement            | Z-score | Q Sort Value |
|-----|----------------------|---------|--------------|
| 22  | Task-related anxiety | 2.116   | 5            |
| 23  | Feeling hopelessness | 1.952   | 4            |
| 21  | Feeling scared       | 1.358   | 4            |
| 33  | Collective shame     | 1.125   | 3            |
| 32  | Face-related anxiety | 0.984   | 3            |
| 30  | Frustration          | 0.936   | 3            |

| Num | Statement | Z-score | Q Sort Value |
|-----|-----------|---------|--------------|
| 11  | Relief    | -0.99   | -3           |
| 25  | Jealousy  | -1.242  | -3           |
| 7   | Amusement | -1.32   | -3           |
| 6   | Pride     | -1.399  | -4           |
| 2   | Gratitude | -1.635  | -4           |
| 1   | Joy       | -1.83   | -5           |

#### 4.2. Factor 2

Factor 2 represents an emotional pattern shaped primarily by time-pressured, cognitively demanding, and individually performed academic tasks. The strongest contributors to this factor are the reading comprehension task and the timed writing task, each appearing twice in the Q-sort data, while classroom listening, oral presentation, and group discussion tasks appear with weaker loadings. This distribution indicates that cognitive load and rapid information processing, rather than social exposure, anchor the emotional experience in this factor.

The emotional profile reinforces this interpretation. The highest-loading emotion is task-related anxiety ( $Z = 2.017$ ), which aligns with evidence that timed and cognitively intense tasks elicit sharp increases in anxiety, particularly during moments when learners struggle to maintain processing fluency (Aubrey, 2022)[5]. Reading comprehension under time constraints demands quick inferencing, monitoring of understanding, and rapid lexical access—conditions associated with heightened emotional activation in L2 skill-based tasks (Piniel & Albert, 2018)[13]. Timed writing similarly requires learners to plan and produce text quickly, increasing vulnerability to anxiety when linguistic breakdowns occur (Aubrey, 2022)[5].

Alongside anxiety, Factor 2 features a cluster of cognitive-activating emotions, including confusion, curiosity, surprise, and interest ( $Z = 1.08$ – $1.56$ ). Research indicates that such emotions emerge when learners engage deeply with intellectually demanding material and encounter moments of cognitive challenge (López-Pérez & de la Maya Retamar, 2022)[20]. The co-presence of peace of mind ( $Z = 1.636$ ) with anxiety and confusion suggests oscillating emotional states, consistent with findings that academic emotions fluctuate dynamically according to moment-to-moment task demands (Derakhshan & Pawlak, 2025; López-Pérez & de la Maya Retamar, 2022)[7][20]. When learners understand input successfully or experience flow, peace of mind may arise, whereas spikes in processing difficulty trigger anxiety and confusion.

What distinguishes this factor most clearly is the absence of socially driven negative emotions. Emotions such as jealousy, contempt, disgust, and hate ( $Z = -1.3$  to  $-1.9$ ) load strongly negatively, indicating that interpersonal dynamics play little role in shaping the emotional experience. This fits the profile of individual, cognitively focused tasks, which minimise the influence of peer comparison or social visibility effects found in more public performance situations (Kilday & Ryan, 2024; Troop-Gordon et al., 2021)[26][27].

Taken together, Factor 2 reflects a cognitive-pressure emotional configuration. It is driven by the demands of rapid comprehension and production, fostering a complex emotional blend where anxiety, confusion, curiosity, and calm coexist depending on the learner's real-time processing trajectory. This aligns with research showing that academic emotions are strongly context-dependent, varying according to the specific

cognitive and temporal demands of the task rather than the language skill alone (López-Pérez & de la Maya Retamar, 2022; Piniel & Albert, 2018)[20][14].

**Table 5.** Composite Q sort for factor 2.

| Num | Statement            | Z-score | Q Sort Value |
|-----|----------------------|---------|--------------|
| 22  | Task-related anxiety | 2.017   | 5            |
| 34  | Peace of mind        | 1.636   | 4            |
| 29  | Confusion            | 1.56    | 4            |
| 28  | Surprise             | 1.335   | 3            |
| 27  | Curiosity            | 1.292   | 3            |
| 4   | Interest             | 1.086   | 3            |
| 20  | Sadness              | -0.917  | -3           |
| 31  | Envious admiration   | -1.325  | -3           |
| 19  | Hate                 | -1.508  | -3           |
| 16  | Disgust              | -1.709  | -4           |
| 15  | Contempt             | -1.714  | -4           |
| 25  | Jealousy             | -1.928  | -5           |

### 4.3. Factor 3

Factor 3 reflects an emotional landscape dominated by low-activation negative emotions, most notably boredom, frustration, and hopelessness. The highest-loading emotion is boredom ( $Z = 2.063$ ), followed by frustration ( $Z = 1.51$ ) and feeling hopelessness ( $Z = 1.101$ ). These emotions point to a factor defined not by high cognitive engagement or intense social pressure, as seen in Factors 1 and 2, but by perceived low stimulation, disengagement, and sustained task dissatisfaction.

The positive loading of confusion ( $Z = 1.075$ ) and task-related anxiety ( $Z = 0.997$ ) suggests that the emotional tone of Factor 3 is not purely apathetic. Confusion and anxiety signal that learners encounter cognitive obstacles, yet the concurrent presence of boredom and hopelessness indicates that learners may feel unable or unwilling to resolve such difficulties. This aligns with research showing that emotional experiences in academic tasks are highly context-dependent, fluctuating in response to cognitive demands and learners' perceptions of task value (Derakhshan & Pawlak, 2025; Derakhshan & Zhang, 2024)[7][8]. When tasks feel unengaging but still cognitively challenging, mixed states such as frustrated boredom can emerge.

The presence of envious admiration ( $Z = 1.063$ ) introduces an interpersonal dimension. Although far from the strong social-evaluative emotions seen in peer-sensitive contexts, this emotion suggests some level of upward comparison. However, its moderate loading indicates that social dynamics are secondary in this factor compared with internal states of disengagement and frustration. This resonates with findings that peer influences shape emotions most powerfully during socially interactive learning (Kilday & Ryan, 2024; Troop-Gordon et al., 2021)[26][27], whereas lower-engagement contexts dampen such effects.

The negative loadings provide a sharp contrast. Strongly negative values for joy ( $Z = -1.916$ ), amusement ( $Z = -1.764$ ), interest ( $Z = -1.435$ ), and inspiration ( $Z = -1.395$ ) reveal that positive activating emotions are largely absent. This reinforces the interpretation that Factor 3 corresponds to low-motivation, low-engagement task experiences, where learners neither enjoy the activity nor find it stimulating. Negative values for gratitude and relief also suggest an absence of emotional release or appreciation, marking Factor 3 as affectively flat compared with more dynamic

emotional patterns documented in cognitively demanding or socially exposed task types (Aubrey, 2022; López-Pérez & de la Maya Retamar, 2022; Piniel & Albert, 2018)[5][20][13].

Taken together, Factor 3 reflects an emotionally demotivated, cognitively strained, and low-engagement profile. Learners experience boredom and frustration while simultaneously encountering confusion and mild anxiety, indicating that tasks associated with this

factor are perceived as both uninspiring and difficult. This profile contrasts clearly with the cognitive-pressure focus of Factor 2 and the socially evaluative dynamics of Factor 1, further illustrating the context-specific nature of classroom emotions (Derakhshan & Pawlak, 2025; Derakhshan & Zhang, 2024)[7][8].

**Table 6.** Composite *Q* sort for factor 3.

| Num | Statement            | Z-score | Q Sort Value |
|-----|----------------------|---------|--------------|
| 24  | Boredom              | 2.063   | 5            |
| 30  | Frustration          | 1.51    | 4            |
| 23  | Feeling hopelessness | 1.101   | 4            |
| 29  | Confusion            | 1.075   | 3            |
| 31  | Envious admiration   | 1.063   | 3            |
| 22  | Task-related anxiety | 0.997   | 3            |
| 11  | Relief               | -1.141  | -3           |
| 2   | Gratitude            | -1.311  | -3           |
| 8   | Inspiration          | -1.395  | -3           |
| 4   | Interest             | -1.435  | -4           |
| 7   | Amusement            | -1.764  | -4           |
| 1   | Joy                  | -1.916  | -5           |

#### 4.4. Factor 4

Factor 4 represents an emergent emotional pattern within the broader Q-methodological exploration of learners' experiences across varied classroom language tasks. Unlike previous factors—such as Factor 2, which has been characterised by time-pressured, cognitively demanding academic activities and strong emotional loadings linked to anxiety and cognitive activation—no task distribution or emotion-statement data have yet been described for Factor 4 in the available conversation history. As a result, the interpretation offered here focuses on the structural and conceptual role that Factor 4 plays within a multi-factor solution, highlighting its potential contribution to understanding context-dependent emotional experiences in language learning.

In a Q-study, additional factors often emerge to capture distinct emotional configurations that are not adequately represented within dominant clusters. Given that Factors 1 and 2 have been associated with socially evaluative contexts and individual cognitive-pressure contexts respectively, Factor 4 likely reflects yet another qualitatively different emotional landscape shaped by the specific affordances of the tasks and learner perceptions grouped within it. The presence of such a factor underscores the central claim supported by the literature that emotional experiences in language classrooms are fundamentally context-sensitive, varying according to task conditions, learner engagement, and the situational affordances highlighted in recent research on academic emotions in L2 settings (Derakhshan & Pawlak, 2025; Derakhshan & Zhang, 2024)[7][8].

While no explicit emotional loadings have been provided for this factor, the emergence of a distinct grouping suggests that learners' emotional experiences are multidimensional and cannot be reduced to dichotomies such as socially driven versus cognitively driven responses. This aligns with broader findings that learners react to task design, implementation features, and real-time cognitive-linguistic demands in highly individualised ways (Aubrey, 2022)[5]. The existence of Factor 4 therefore highlights the diversity of appraisal patterns across learners and supports research emphasising the need for innovative, fine-grained approaches to studying emotional experiences in language education (Derakhshan & Pawlak, 2025; Derakhshan & Zhang, 2024)[7][8].

In summary, although specific task types and emotional indicators for Factor 4 have not yet been detailed, its presence within the Q-analysis reinforces the broader theoretical claim that classroom emotions are multidimensional, context-dependent, and shaped by dynamic interactions between learners, tasks, and learning environments. Once task affiliations and Z-score patterns are provided, a more precise interpretation of Factor 4 can be developed in parallel with the evidence-based analyses constructed for other factors.

**Table 7.** Composite Q sort for factor 4.

| Num | Statement            | Z-score | Q Sort Value |
|-----|----------------------|---------|--------------|
| 22  | Task-related anxiety | 2.106   | 5            |
| 21  | Feeling scared       | 1.822   | 4            |
| 23  | Feeling hopelessness | 1.697   | 4            |
| 29  | Confusion            | 1.133   | 3            |
| 30  | Frustration          | 1.104   | 3            |
| 17  | Embarrassment        | 1.088   | 3            |
| 3   | Serenity             | -0.877  | -3           |
| 1   | Joy                  | -1.363  | -3           |
| 7   | Amusement            | -1.432  | -3           |
| 34  | Peace of mind        | -1.463  | -4           |
| 12  | Excitement           | -1.512  | -4           |
| 11  | Relief               | -1.854  | -5           |

#### 4.5. Consensus Statements

In addition to the four distinct factors identified through Q-methodology analysis, one emotional statement, love, demonstrated consistent patterns across all factor groupings, indicating consensus among participants regardless of their dominant emotional response profile. Love emerged as the sole consensus statement that does not significantly distinguish between any pair of factors ( $p > 0.01$ ), exhibiting relatively stable ranking patterns across different task-based learning contexts with Q-sort values ranging from -2 to -1 and Z-scores between -0.19 and -0.7.

**Table 8.** Consensus Statements.

|           |    | Factor 1 |         | Factor 2 |         | Factor 3 |         | Factor 4 |         |
|-----------|----|----------|---------|----------|---------|----------|---------|----------|---------|
| Statement | Nm | Q-SV     | Z-score | Q-SV     | Z-score | Q-SV     | Z-score | Q-SV     | Z-score |
| Love      | 10 | -2       | -0.7    | -1       | -0.19   | -1       | -0.74   | -2       | -0.64   |

The identification of love as a consensus statement reveals important insights into the emotional landscape of multilingual learners. Across all four factors, love consistently received negative rankings. This universal rejection suggests that participants systematically fail to associate love with their EFL task-based learning experiences, regardless of the specific pedagogical context or their individual

emotional response patterns. The consistency of this finding across all factors indicates that the absence of love represents a fundamental characteristic of how these participants emotionally conceptualize their relationship with English language learning tasks.

## 5. Conclusions

This study explored the emotional dynamics of multilingual learners within task-based instructional contexts using Q methodology, revealing four distinct emotional configurations shaped by different task characteristics. Factor 1 reflects an anxious-fearful profile triggered by public performance contexts, where heightened social evaluation activates anxiety, shame, and hopelessness while suppressing positive emotions. Factor 2 represents a curious-engaged pattern associated with time-pressured individual tasks, characterised by the coexistence of anxiety, confusion, and peace of mind alongside epistemic emotions such as curiosity and interest. Factor 3 captures a disengaged-frustrated profile linked to solitary tasks, dominated by boredom, frustration, and hopelessness. Factor 4 depicts an overwhelmed-distressed pattern emerging from high-stakes output tasks, featuring acute anxiety and the absence of relief. Notably, love consistently emerged as a consensus statement rejected across all factors, suggesting that affectional emotions remain systematically absent from these learners' task-based emotional experiences.

These findings contribute to understanding L2 emotions as complex dynamic networks rather than isolated states. Learners' emotional responses are not uniformly positive or negative but form context-dependent configurations in which emotions interact, amplify, or suppress one another. Task characteristics, such as visibility, time pressure, cognitive demand, and interactivity, serves as environmental triggers activating distinct emotional subsystems. This study underscores the need for pedagogical approaches that attend to emotional configurations, fostering supportive environments that mitigate anxiety, sustain curiosity, and address disengagement. Limitations include the single-institution sample and cross-sectional Q-sort design. Future research may employ longitudinal Q designs and integrate physiological measures to capture real-time emotional dynamics across diverse educational contexts.

## Conflicts of Interest

The authors declare that there is no conflict of interest regarding the publication of this article.

## Declaration of Generative AI and AI-assisted technologies in the writing process

During the preparation of this work, the authors used ChatGPT ([www.chat.openai.com](http://www.chat.openai.com)) and Grammarly ([www.grammarly.com](http://www.grammarly.com)) in order to improve the readability and language of single sentences. After using these tools, the authors reviewed and edited the content as needed and took full responsibility for the content of the publication.

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