

Research Article

Reframing Anxiety: How Emotion Regulation Strategies Shape Language Learning

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ABSTRACT

While ample research has demonstrated the critical role of learner emotions in language learning, few empirical studies have focused on how learners regulate these emotions. To address this gap, this three-phase, mixed-methods study set out to identify the strategies used to regulate anxiety, boredom, and enjoyment in academic language learning contexts and examine their links with second language (L2) proficiency. The participants were 252 students from diverse majors, enrolled in EFL courses at six universities in Japan. Students first engaged in a preparatory session on emotions and emotion regulation (ER) and next responded to an anonymous open-ended questionnaire that asked them to list strategies to regulate anxiety, boredom, and enjoyment in an academic language learning context. L2 proficiency was measured by self-reported TOEIC scores. Content analysis of the questionnaire responses yielded 14 distinct ER strategies and striking differences in the use of these ER strategies among the three emotions. ER strategies commonly used to regulate anxiety were approach-oriented (e.g., competence development) while those for boredom were predominantly avoidance-oriented (e.g., distraction). A few strategies (e.g., intrinsic value enhancement) were linked to L2 proficiency. The study offers nuanced empirical insights into the roles of emotions and suggests classroom approaches to support students in managing their emotions in a way that benefits their academic growth.

Keywords: emotion regulation, emotion regulation strategy, anxiety, boredom, enjoyment

INTRODUCTION

Learning a new language is an emotional endeavor, and a wealth of research has documented that the different emotions that language learners experience have a profound impact on their language performance and achievement. For example, anxiety and boredom are among the most researched emotions for their negative characteristics (MacIntyre & Gregersen, 2021; Pawlak et al., 2020), while enjoyment is widely recognized for its facilitative role (Dewaele & Alfawzan, 2018; Nakamura & Leis, 2024). Such empirical insights highlight the importance of equipping learners with sufficient knowledge and skills to successfully manage their own emotions for optimal learning outcomes. This concept is known as *emotion regulation* (ER).

While ER in psychology is commonly viewed as the process or actions of regulating emotions (Gross & Barrett, 2011; Webb et al., 2012), ER in educational contexts is conceptualized as learners' capacity to use their emotions as a source of energy, while modifying their emotional experiences when they interfere with the pursuit of important goals (Boekaerts, 2011; Boekaerts & Pekrun, 2015).

Despite increasing recognition of ER as a key factor in academic achievement and student well-being (Boekaerts, 2011; Burić et al., 2016; Stockinger et al., 2025), it is only recently that ER in language learning contexts has begun to receive attention as an independent area of inquiry (Morris, 2025; Nakamura, 2023). Although some studies have found associations between certain ER strategies and affective constructs (Yildirim & Atay, 2024; Yu et al., 2022), little is known about how language learners regulate specific L2 learning emotions or how such regulation is associated with L2 achievement.

To shed further light on these under-researched areas, this three-phase, mixed-methods study identifies the ER strategies that students use to regulate their anxiety, boredom, and enjoyment in academic L2 learning contexts and examines links between ER strategies and L2 proficiency. Drawing from theory-informed yet data-driven approaches, we aim to deepen understanding of the emotional dimension of

language learning and highlight the practical and theoretical significance of ER strategies in language learning.

LITERATURE REVIEW

Emotion Regulation and Emotion Regulation Strategies in Psychology and Education

Originating in the 1990s in the study of ego defense, developmental psychology, and stress and coping (e.g., Gaensbauer, 1982; Lazarus & Folkman, 1984; Parker et al., 1998), research on ER has flourished in the psychological sciences. While a number of theoretical frameworks have been developed, Gross's process model (Gross, 1998, 2015) is perhaps the most widely adopted ER framework across various academic domains and clinical disciplines.

The model theorizes that emotions can be regulated at different points in the emotion-generative process, namely, before, during, and after an emotion occurs. Accordingly, the model proposes antecedent-focused ER (*situation selection, situation modification attentional deployment, cognitive change*) and response-focused ER (*response modulation*), and further ER strategies have been developed within this taxonomy. *Distraction* and *concentration* (as attentional deployment), reappraisal (as cognitive change), and *suppression* (as response modulation) are among the most researched ER strategies (see Aldao et al., 2010; Gross & Thompson, 2007; Nakamura, 2023; Webb et al., 2012 for a comprehensive overview of ER and ER strategies).

While categorizing ER strategies along the temporal stages of the emotion-generative process has been a common practice in psychology, educational scholars have taxonomized ER strategies from different theoretical lenses. For instance, Pekrun and his colleagues have conceptualized ER strategies based on the control-value theory of achievement emotions (CVT) and grouped them into four dimensions: emotion, appraisal, competence, and situation (Pekrun, 2006; Stockinger et al., 2025). While the CVT recognizes conceptual similarities to Gross's model, it stresses

competence-oriented strategies as unique to achievement settings. This argument is also supported in a study by Burić et al. (2016), who emphasized the importance of modifying learners themselves through the act of competence development, contrasting with Gross's model where modifying the *situation* is central to the ER strategy. Burić et al. (2016) also highlighted a social aspect of ER, coined as *seeking social support*.

Another significant contribution has been made by Nett et al. (2010), who proposed a taxonomy of strategies regulating boredom in academic settings. Nett et al. (2010) identified four *boredom-related coping strategies: cognitive approach, behavioral approach, cognitive avoidance, and behavioral avoidance*. Strategies are viewed as approach-oriented when they are used to address the source of boredom, while avoidance-oriented strategies are those used to evade or flee from it.

Several important implications are highlighted from the above-reviewed research. First, there is no universal model or framework that can be used to fully capture the complexity of ER and ER strategies across various domains. Second, given the complexity of educational contexts, traditional psychological models may not address the need for a more nuanced view of ER in these contexts. By extension, language learning may pose additional considerations when weighing the unique subject-domain-specific characteristics of emotions (Goetz et al., 2006).

Another implication is in the development of taxonomies specific to language learning. Current ER models offer little insight into the utility of those strategies for desired L2 learning outcomes. For instance, creating a supportive learning environment and skipping a class can both be categorized as situation selection. While both may be effective in regulating emotions, the former is adaptive and pedagogically useful, and the latter most likely leads to negative educational outcomes. As such, it is critical to consider whether the ER strategies used by language learners facilitate learning goals.

Emotions and Emotion Regulation in Language Learning

The field of language learning has widely recognized the critical role of learner emotions. Among them, anxiety is by far the most researched emotion (MacIntyre & Gregersen, 2021), with enjoyment and boredom receiving increasing attention (Botes et al., 2022; Pawlak et al., 2020). Generally, studies have illustrated a positive role of enjoyment, linking it to language performance (Botes et al., 2022; Dewaele & Alfawzan, 2018), self-perceived language proficiency (Li, 2022), motivation (Dewaele & Ergün, 2020), grit (Shirvan et al., 2021), growth mindsets, and mastery goal orientations (Nakamura & Leis, 2024). By contrast, boredom has been recognized for its negative characteristics, including its association with disengagement (Nakamura et al., 2021b; Pawlak et al., 2020), fixed mindsets (Nakamura & Leis, 2024), and decreased academic grit and mindfulness (Hosseini et al., 2023). While some scholars have illustrated a more nuanced assessment of anxiety for its facilitative role (Ellis, 2012; MacIntyre, 1995; Nakamura, 2023; Pekrun, 2006), anxiety has long been maligned for its negative impacts on language achievement (Dewaele, 2007; MacIntyre & Gregersen, 2021), self-efficacy and motivation (Ushioda, 2012), and autonomy (Zhou, 2016).

Despite the extensive literature on how these emotions affect L2 learning and achievement, little research has been done to understand how they can be regulated. One reason for this gap is that the concept of regulating emotions has traditionally been subsumed under *affective strategies* designed to regulate language-learner emotions, motivations, and attitudes (Oxford, 1990), and *motivational strategies*, coined as *satiation* and *emotion control* (Dörnyei, 2001). Accordingly, research on strategies to regulate L2 emotions has been conducted in the domain of strategy training, focusing on anxiety reduction (e.g., Bielak, 2018; Mostafavi & Vahdany, 2016) rather than a separate area of inquiry.

Among a handful of L2 studies that have investigated ER as a distinct construct, two common types of methodologies can be identified. The first methodology involves adopting existing instruments to measure the link between established ER strategies

and L2-related affective constructs, such as emotions and burnout (Yildirim & Atay, 2024; Yu et al., 2022). While their findings illustrated important characteristics of ER strategies, such as associations between maladaptive ER strategies (i.e., situation avoiding, suppression, venting) and burnout as well as between suppression and lower levels of positive emotions, empirical insights into the link between ER strategies and language achievement are largely missing.

The other common methodology focuses on identifying specific ER strategies used by language learners. Bielak and Mystkowska-Wiertelak (2020), for instance, adopted a vignette methodology and identified ER strategies among English majors at a Polish university. While they classified the strategies according to Gross's model, their analysis revealed numerous sub-categories, including acceptance, reassurance, effort-oriented decision making, wishful thinking, and excusing oneself, as sub-domains of cognitive change. Such detailed taxonomy also illuminated how the use of ER strategies was dependent on particular L2 learning situations (e.g., self-study vs. classroom study). Another critical insight has been offered by Nakamura et al. (2021a) that identified Thai ELF learners' strategies to cope with boredom in language classrooms. Their analysis, guided by Nett et al.'s (2010) taxonomy of boredom coping, showed contrasting approach and avoidance orientations of boredom regulation strategies, which led to engagement in and disengagement from L2 learning activities. Furthermore, their findings highlighted that learners used these strategies proactively to pre-empt the arousal of boredom.

The above review highlights two critical gaps in the current literature on L2 ER strategies. First, while research has continued to show that anxiety, boredom, and enjoyment have profound impacts on language learners' performance, achievement, and psychology, little empirical insight is available into how learners regulate these emotions. Second, the scope of research on L2 ER strategies has been limited to the investigation into a few types of ER strategy (e.g., reappraisal, suppression) and L2 affective variables (e.g., emotion), pointing to the need for further research into the link between learning success and a wider variety of strategies, such as those found in

studies by Bielak and Mystkowska-Wiertelak (2020) and Nakamura et al. (2021a). Investigation into these under-researched areas will enrich the understanding of L2 emotions and their regulation and provide pedagogical insights into how teachers could support students with their specific emotional experiences.

RESEARCH METHODS

Study Aims and Objectives

The aim of this study was to identify ER strategies used by language learners in academic contexts as well as links between these strategies and L2 proficiency. To this end, we adopted a three-phase, mixed-methods exploratory approach, with the first two phases serving as preliminary studies informing the focal study. The objective of Preliminary Study 1 was to obtain empirical insights into emotions relevant to the participants in their own L2 learning contexts. Preliminary Study 2 sought to gain further insights into the emotions most frequently reported in Preliminary Study 1 and evaluate their applicability for the investigation of ER strategies. Informed by these studies, the Focal Study, conducted in the last phase, addressed the following research questions:

RQ1: What emotion regulation (ER) strategies do language learners use in relation to academic L2 learning activities?

RQ2: How commonly are the ER strategies used to regulate enjoyment, boredom, and anxiety?

RQ3: To what extent are the ER strategies related to L2 proficiency?

In this study, we defined ER strategies as thoughts and behaviors that language learners consciously choose and enact to self-regulate emotions in language learning contexts. These strategies may be used proactively to influence the likelihood of experiencing—or not experiencing—certain emotions, or responsively to manage emotions after they arise. Academic L2 learning activities were defined as both in-

class and out-of-class activities including attending classes, doing homework and assignments, reviewing and previewing content and materials, and preparing for tests and other classroom tasks.

Preliminary Study 1

This preliminary study sought to identify L2 emotions most relevant to participating learners. This was a critical first step for determining the focal emotions in the investigation of ER strategies without relying solely on prior literature.

Methods and Analysis

We administered a questionnaire anonymously via Google Forms to 252 students (169 female, 81 male, 2 unspecified) from diverse majors, all enrolled in English courses taught by the first and second authors at six universities in Japan. In the questionnaire (Appendix A), students were asked about the extent to which they typically experience 15 discrete emotions during academic L2 learning activities and to rate the frequency on a six-point Likert scale (1 = never, 6 = always). Each emotion was presented in both English and Japanese. Provided with detailed examples of the L2 learning activities, students were instructed to consider a wide range of academic L2 learning contexts, rather than any one specific L2 course, when responding to the questions. The data were imported into R (Version 2024.12.1), and descriptive statistics were generated.

Results

Table 1 provides descriptive statistics for the 15 discrete emotions, with higher values indicating a higher frequency of experiencing the emotion. Notably, the most frequently reported emotion in academic L2 learning activities was gratitude, followed by admiration, empathy, enjoyment, curiosity, pride, and hope. The most frequently experienced negative emotion was anxiety, accompanied by related emotions such as embarrassment and shame, closely followed by boredom. Disappointment, hopelessness, frustration, and anger were among those less frequently experienced.

Table 1. *Descriptive Statistics for the Frequency of Emotions*

Emotion	Mean	SD
Gratitude	4.85	1.19
Admiration	4.78	1.14
Empathy	4.53	1.16
Enjoyment	4.46	1.32
Curiosity	4.36	1.21
Pride	4.14	1.19
Hope	3.92	1.44
Anxiety	3.81	1.51
Embarrassment	3.56	1.44
Shame	2.99	1.49
Boredom	2.96	1.28
Disappointment	2.75	1.33
Hopelessness	2.37	1.32
Frustration	2.29	1.26
Anger	1.77	1.03

Note. *SD* – standard deviation.

Preliminary Study 2

The objectives of this study were to gain further insights into the experiences of emotions frequently reported in Preliminary Study 1 and examine their relevance and applicability for the Focal Study. Based on the findings (Table 1) and the literature on language learning emotions, gratitude, admiration, enjoyment, anxiety, embarrassment, and boredom were selected for investigation. More specifically, we selected the two most frequently experienced positive emotions (gratitude, admiration) and negative emotions (anxiety, embarrassment), with two additional emotions from the literature (enjoyment, boredom). Given that the study was embedded within an existing instructional context, the range of emotions addressed in the focus group interviews was intentionally limited to avoid placing excessive burden on student participants.

Methods and Analysis

Out of the 252 student-respondents, we conducted two focus group interviews with 13 students from two classes ($n = 5$, $n = 8$). In the interviews, students were first introduced to the overall aim of the interviews and presented with the findings from Preliminary Study 1. They were then encouraged to share their ideas and experiences regarding each of the six emotions. Lastly, they were introduced to the concept of ER and asked if/how they regulate these emotions. The interviews were led by the first author and conducted in Japanese. Notes were taken during the sessions and immediately reviewed and expanded upon afterward to ensure accuracy and completeness.

Results

When presented with the survey results, students expressed surprise at gratitude being the most frequently reported emotion. However, the interviews revealed that the feeling of gratitude was a habitual—and often subconscious—part of their daily learning experience. When asked about the feeling of gratitude, students described a wide range of situations, people, and experiences. These included classmates, who are friendly and helpful in class, and teachers for their continuous encouragement and academic/linguistic support. Some referred to textbook writers and publishers for helping them pass entrance examinations while others referred to their parents for paying tuition. When asked how they regulated gratitude, they said that the feeling was part of their daily, natural learning experience, and not something they regulated.

The second most reported emotion, admiration, was highlighted as a response directed at peers for their L2 skills, knowledge, and learning attitudes. Interviewees expressed admiration for those students willing to make mistakes and make efforts to actively participate in class. While some students commented that they found motivation in being around people they admired, they did not feel that admiration was an emotion to be regulated.

Regarding enjoyment, receiving praise and succeeding in tasks was commonly described as a major source. Notably, the interview revealed that strategies to -

enjoyment were not as common as those used to down-regulate negative emotions, although students discussed some approaches such as selecting the contents they liked.

A range of typical situations and reasons for anxiety, embarrassment, and boredom were described among the students in the interviews. Anxiety and embarrassment were most commonly associated with self-conscious evaluation of L2 skills in presentations and other oral performances. Various strategies were reported to cope with these emotions. Boredom was commonly attributed to repetitive tasks or incomprehensible lectures, and students discussed various strategies to cope with it.

Implications of Preliminary Studies 1 and 2 for the Focal Study

Findings from the two preliminary studies informed several aspects of the Focal Study. First, despite our initial intention to focus on the emotions that students reported to experience most frequently in Preliminary Study 1, Preliminary Study 2 revealed that some emotions were less amenable to regulation than others. Such emotions were gratitude and admiration, which students reported to experience most frequently in academic L2 learning contexts. Results illuminated the natural, habitual occurrence of these emotions, without being intentionally upregulated. The two most frequently experienced negative emotions, anxiety and embarrassment, on the other hand, were shown to be common targets for downregulation, and they shared similarities in terms of their antecedents and the strategies used to cope with them. Informed by these findings, of the three positive emotions (gratitude, admiration, enjoyment) and three negative emotions (anxiety, embarrassment, boredom) investigated in Preliminary Study 2, we selected enjoyment, anxiety, and boredom for ER investigation in the Focal Study.

Second, findings from the preliminary studies revealed the novelty of the concept of ER among students. ER, best translated as 感情調整 (*kanjo chosei*), was an unfamiliar term to students, and they needed specific examples and detailed explanations to fully conceptualize it. This finding indicated that, to successfully elicit

information about ER from students under time constraints within the regular course schedule, questionnaire items needed to be specific and narrow in their scope.

In addition to these implications for the Focal Study, results from Preliminary Studies 1 and 2 offer valuable insights into the existing literature on L2 emotions. In the next section, we discuss these insights, focusing on gratitude and admiration.

Discussion of Preliminary Studies 1 and 2

The preliminary studies showed that gratitude was the most frequently experienced emotion in academic L2 learning contexts, which students described as a feeling that arose spontaneously and without deliberate internal effort. This phenomenon may be rooted in cultural foundations. Gratitude—expressed through phrases like *すまない* (*sumanai*) in Japanese—is an interpersonal orientation that permeates many everyday behaviors, from classroom settings to communal functions in Japan (Washizu & Naito, 2015), suggesting that the experience and expression of this emotion may be both automatic and socially reinforced in Japanese culture.

Although it was not further examined in relation to ER strategies in the present study, the prominence of gratitude in the present findings, together with literature linking gratitude to student psychological well-being (Nawa & Yamagishi, 2024), highlights the need to explore this emotion, including its antecedents and roles in language learning and achievement.

Admiration was also reported as a common, spontaneously arising feeling and the second most frequently identified emotion. The findings revealed that admiration was generally directed at peers for their skills, knowledge, and willingness to participate and make mistakes during learning tasks. This echoes the description of admiration in the literature, where admiration is viewed as a positive response to individuals with exemplar traits or characteristics, evoking feelings of inspiration and awe, especially when those traits are perceived as attainable (Algoe & Haidt, 2009).

Furthermore, students stressed feeling motivated when surrounded by students they admired. This follows Archer's (2018, p. 148) assertion that we are motivated "to promote the values we admire in the object of our admiration." Algoe and Haidt (2009) further provide empirical support for this claim, suggesting that admiration is directly linked to success motivation, including the cultivation of skill and talent.

The results also revealed that learners experienced a whole range of emotions still underrepresented in the field of psychology of language learning, including hope (MacIntyre et al., 2022), curiosity (Nakamura et al., 2022), and embarrassment (Khajavy et al., 2025). This highlights the need for further inquiry into the emotional breadth of the learning experience to provide a more holistic representation of learners' affective landscape. Moreover, the results illustrated unique features of ER strategies that varied among individual emotions, underscoring the need for specifying target emotions when investigating ER strategies.

THE FOCAL STUDY

Informed by the two preliminary studies, the focal study sought to identify ER strategies used to regulate enjoyment, boredom, and anxiety in academic L2 learning contexts and to explore the links between ER strategies and L2 proficiency.

Participants

The participants in the focal study were drawn from the same population as those in Preliminary Study 1, with minor variations due to student absences and data exclusions. In total, this phase involved 243 students (65.02% females, 33.33% males, 1.65% unidentified, $M\ age = 19.19$, $SD\ age = 1.02$) enrolled in English courses at six Japanese universities. They were from a variety of departments (e.g., English, Sociology, Art, Business, Education, Agriculture), reflecting a range of academic disciplines. Their TOEIC scores ranged from 100 to 990 ($M = 448.05$, $SD = 172.04$), indicating proficiency levels from A1 to C1 on the CEFR scale. Students were

instructed on the purpose of this study and gave informed consent. They were also informed of their right to withdraw at any time.

Materials and Procedure

Preparatory Session on Emotions and ER

Data collection began with a preparatory session on emotions and ER, which aimed to help students conceptualize target constructs in context to best articulate their responses to the subsequent questionnaire. In the session, students were encouraged to think about and share situations in which they would typically experience enjoyment, boredom, and anxiety in academic L2 learning contexts. Following this discussion, students were introduced to the concepts of ER and ER strategies with relevant examples. Students then reflected on their strategies and shared them in small groups. The session lasted for approximately 20 minutes.

ER Strategy Questionnaire

The ER strategy questionnaire, piloted and finalized prior to the focal study, consisted of two sections and was administered online via Google Forms. The first section addressed demographic information and self-reported TOEIC scores. The second section contained five open-ended items that asked students to list strategies typically employed to regulate target emotions in academic L2 learning contexts.

Three items elicited proactive ER strategies to regulate anxiety, boredom, and enjoyment, worded as “What thoughts or behaviors do you engage in order not to experience [emotion] during English learning activities?” for anxiety and boredom, and “What thoughts or behaviors do you engage in so as to experience [emotion] during English learning activities?” for enjoyment. Students were given the option to state, “I do not do anything.” Two items elicited responsive ER strategies to regulate anxiety and boredom, worded as “When you experience [emotion] during English learning activities, what thoughts or behaviors do you engage in to cope with the [emotion]?” (see Appendix B for the complete questionnaire).

Several aspects regarding this specificity of the questionnaire items warrant attention. First, we focused on the downregulation of anxiety and boredom and the upregulation of enjoyment, reflecting the practical relevance of managing negative emotional experiences and enhancing positive ones in language learning. Second, we focused on proactive regulation of enjoyment, as preliminary findings indicated that students had difficulty conceptualizing responsive upregulation of positive emotions (see Preliminary Study 2). Finally, the questionnaire items were intentionally designed to be specific and narrowly focused to facilitate students' understanding, ensure interpretability of responses, and maintain feasibility within the constraints of the regular course schedule, while minimizing participant burden.

Analysis

ER Strategies

Using different coding techniques (Saldaña, 2009) and content analysis (Leech & Onwuegbuzie, 2007), ER strategies were identified in an exploratory, data-driven manner, with interpretation informed by the relevant literature on ER and ER strategies. First, students' responses to the ER strategy questionnaire were imported into an Excel spreadsheet. The responses were manually organized and translated into English by the first author. Then the first and second authors read through the entire data set to familiarize themselves while confirming the clarity and accuracy of translation. Next, similar responses were grouped together, with the purpose of better organizing the large data set and consolidating the groups into manageable sizes for analysis. Within each group, descriptive coding and in vivo coding (Saldaña, 2009) were used to assign various labels to describe characteristics and concepts expressed in the responses (e.g., avoidance, related to thinking, involving friends) and/or keywords (e.g., study, cellphone). These labels were also examined to see if they corresponded to any of the descriptions of ER strategies in the existing literature. Through ongoing discussion and cyclical analysis of the labels, these labels were refined into concrete codes, using pattern coding (Saldaña, 2009), which were further

grouped to form final ER strategies. Both authors were equally involved in all these processes, resulting in the generation of 14 ER strategies.

Links Between ER Strategies and Proficiency

For each emotion, a binary-coded table was created to indicate whether each student reported using each of the 14 ER strategies (1 = used, 0 = not used). Fixed-effects logistic regression analyses¹ were conducted for each strategy using TOEIC scores as the predictor. To adjust for multiple testing, we applied the Benjamini–Hochberg correction, given the exploratory nature of the analyses (Benjamini, 2010; Benjamini & Hochberg, 1995). Analyses were performed separately for each emotion in R (version 4.4.2) using the `glm()` function with a binomial family. Odds ratios and 95% confidence intervals were computed to aid interpretation of the regression coefficients, and model fit was evaluated using AIC, null deviance, and residual deviance values for each model. While most models showed stable convergence and reasonable fit, a small number of models displayed near-zero variance or identifiability issues due to low frequencies of strategy use. Full model fit statistics are available in the OSF supplementary materials². It should be noted that although regression analyses were used, the results were interpreted as reflecting associations rather than causal relationship, given the cross-sectional design of the study.

Results

ER Strategies

The analysis of the questionnaire responses (hereafter, quotations) yielded 14 ER strategies, as listed in Table 2 with their descriptions and representative quotations, as well as frequency counts in Table 3. Drawing on Nett et al. (2010) and Nakamura et al. (2021), the identified strategies were categorized as follows: Approach-oriented

¹ It should be noted that we initially considered multilevel logistic regression to account for possible clustering by student, given that students typically listed more than one strategy. However, the intra-class correlation was negligible (intra-class correlation ≈ 0), and each observation represented a distinct strategy–emotion pair. Therefore, fixed-effect logistic regression was adopted for this analysis.

² Supplementary materials are available at https://osf.io/y8z2u/overview?view_only=289e9f4c3828426da8ff8cc3a000165a

strategies are those used to support learning and engagement in L2 learning activities, whereas avoidance-oriented strategies involve efforts to evade, suppress, or disengage from emotional experiences, ultimately reducing opportunities for L2 learning. Proactive strategies refer to strategies used in anticipation of emotions, while responsive strategies are those used when and/or after the emotions have occurred.

As shown in Table 3, *competence development* was the most frequently reported approach-oriented strategy across all emotions in both proactive and responsive domains, with particularly frequent use in regulating anxiety. Students reported engaging in various academic practices, including reviewing and previewing content and materials, preparing, and rehearsing for upcoming L2 tasks, and enhancing L2 knowledge, in order to reduce the anxiety that they expected to experience in future L2 learning situations. Competence development was also used when and after students experienced anxiety. Students reported that they searched for and checked aspects of L2 learning activities they felt anxious about, such as vocabulary, grammar, and content.

Social support was the second most frequently reported strategy across the three emotional domains, with the highest incidence being in response to anxiety. Students reported that when feeling anxious about L2 learning activities, such as tests, quizzes, or presentations, they sought the counsel of friends, family, and teachers to discuss their feelings and seek out advice and suggestions.

A third strategy widely used to downregulate anxiety and boredom and upregulate enjoyment was *reappraisal*. Reappraisal involved positively reframing the perception of thoughts and/or situations that evoked or may evoke specific emotions, or the emotions themselves. For example, students managing both prospective and concurrent anxiety reported engaging in encouraging self-talk with statements such as, “It is okay to make mistakes,” and “I have practiced enough.”

The fourth most reported strategy was *self-conditioning*. Students reported engaging in activities, such as listening to music, drinking coffee, and getting sufficient

sleep, to buffer against anticipated anxiety or boredom. Moreover, as a means of alleviating the negative effects of anxiety and boredom after experiencing these emotions, students reported practices like deep breathing, stretching, and taking a short break.

The fifth strategy, *facilitative structuring*, refers to behavioral approaches to creating certain conditions or learning environments to proactively regulate emotions. Facilitative structuring includes behaviors such as listing tasks to be completed, going to cafes to study, or sitting next to friends in the classroom. This strategy was commonly used to promote enjoyment and avoid boredom.

Another strategy widely used with boredom and anxiety was *intrinsic value enhancement*. Students reported that they would remind themselves of the importance and benefits of L2 learning to enhance enjoyment and decrease the chance of experiencing boredom during learning activities. Responses suggesting intrinsic value enhancement included, “I attend the class by reminding myself that I want to improve my English,” and “I set goals.”

The final strategy often used was *engagement*. This strategy was employed across the three emotions in both proactive and responsive ways. Students explained that they actively paid attention to the teacher, participated in class activities, or collaborated with peers to increase enjoyment and decrease boredom and anxiety.

The remaining strategies were comparatively minor. *Personalized learning*, used only as a boredom and enjoyment regulation strategy, involved modifying L2 learning activities according to learner interests, preferences, and goals. When such personalization was limited, students commented that they would focus on the enjoyable aspect of the L2 learning activities. With *acceptance*, students allowed emotions to be present without judgment, reported as, “I feel the anxiety without pushing it away.” *Anticipatory reward*, such as doing something fun with friends after studying, was similar to intrinsic value enhancement in that it was used to motivate

student effort, but the focus was on external incentives irrelevant to the L2 learning activities themselves.

Four ER strategies were identified as avoidance oriented. *Distraction* was by far the most reported strategy, particularly as a means of coping with boredom once it had taken hold. Distraction manifested in both cognitive approaches, such as thinking about what to do on the weekend, and behavioral approaches, like using phones and doing other assignments in class.

The second most common avoidance-oriented strategy was *escape*. Students reported taking active mental or physical leave from the negative emotion(s) or the source thereof, typically described as an “escape from reality”. As such, the notion of “escape” differs from reports of simply “doing nothing” to regulate the emotions. The response of “sleeping” was also labeled as *escape*.

Almost exclusively employed to downregulate boredom, *distractive structuring* was the third avoidance strategy. Distractive structuring is a behavioral approach to creating conditions or environments to distract from negative emotions such as boredom. Students reported bringing materials such as homework from other classes to manage the boredom they anticipated experiencing in the L2 classroom.

Suppression was the final strategy reported at a low rate. It involved actively holding back emotions and/or thoughts that evoked or may evoke negative emotions. Suppression was commonly described as “I try not to think about it.”

Notably, several students reported that they did not use any ER strategies to proactively regulate emotions (28 responses for anxiety, 57 for boredom, and 50 for enjoyment).

Table 2. *Description of ER strategies with Representative Quotations**

ER Strategy	Description	Representative quotations
<i>Approach-oriented strategies</i>		
Competence development	Developing competence through academic practices (e.g., reviewing, previewing, preparing, rehearsing, practicing, expanding L2 knowledge) in relation to English learning activities	I prepare and practice a lot in advance. (anxiety)
Social support	Talking to and/or asking for advice and support from friends, family members, or teachers	I consult with my friends and teachers. (anxiety)
Reappraisal	Reframing perception of emotional stimuli and emotions, and/or self-efficacy in handling them	I tell myself that I can do it, and it'll be finished if I do. (anxiety)
Self-conditioning	Improving physiological and/or emotional states	I avoid eating too much as it makes me sleepy. (boredom)
Facilitative structuring	Creating conditions or environments to promote desired outcomes	I create an environment where I can work hard with friends. (enjoyment)
Intrinsic value enhancement	Intrinsically motivating oneself by highlighting values and/or importance of L2 learning or setting goals	I motivate myself by reviewing my goals. (boredom)
Engagement	Actively participating in an English learning activity individually, with peers, and/or with teacher	I listen to the teacher with focus. (boredom)
Personalized learning	Modifying L2 learning activities in alignment with own interests, preferences, and goals, or taking approaches to highlight the enjoyable aspects of the activities	I start studying the areas I like. (enjoyment)
Acceptance	Allowing emotions to be present	I let myself feel these feelings. (anxiety)
Anticipatory reward	Incentivizing effort with external reward	I plan fun things after English learning activities. (boredom)
<i>Avoidance-oriented strategies</i>		
Distraction	Shifting attention away from emotions or emotional stimulus by engaging in something unrelated to the activity	I use my phone. (boredom)
Escape	Turning away from emotional stimuli and/or unwanted emotions	I escape from reality. (boredom)
Distractive structuring	Creating conditions or environments for distraction	I bring other assignments to do in class. (boredom)
Suppression	Actively holding back emotions and/or thoughts	I try not to think about it. (anxiety)
<i>No use of ER strategies</i>	Not using ER strategies to increase or decrease the likelihood of experiencing emotions	

Note. ER – emotion regulation; * Quotations are comments provided in response to the open-ended questionnaire.

Table 3. Frequency Counts of ER Strategies for Anxiety, Boredom, and Enjoyment

ER Strategy	Anxiety			Boredom			Enjoyment	Grand Total
	Proactive	Responsive	Total (%)	Proactive	Responsive	Total (%)	Proactive (%)	
Approach-oriented strategies								
Competence development	162	41	203 (37.38)	18	6	24 (4.18)	34 (12.83)	261
Social support	12	69	81 (14.92)	9	26	35 (6.10)	16 (6.04)	132
Reappraisal	24	76	100 (18.42)	8	3	11 (1.92)	12 (4.53)	123
Self-conditioning	12	22	34 (6.26)	37	38	75 (13.07)	12 (4.53)	121
Facilitative structuring	2	0	2 (0.37)	32	0	32 (5.57)	55 (20.75)	89
Intrinsic value enhancement	0	3	3 (0.55)	28	7	35 (6.10)	37 (13.96)	75
Engagement	4	7	11 (2.03)	18	15	33 (5.75)	23 (8.68)	67
Personalized learning	0	0	0	13	3	16 (2.79)	17 (6.42)	33
Acceptance	11	15	26 (4.79)	0	3	3 (0.52)	0	29
Anticipatory reward	0	2	2 (0.37)	12	1	13 (2.26)	8 (3.02)	23
Avoidance-oriented strategies								
Distraction	1	15	16 (2.95)	8	146	154 (26.83)	0	170
Escape	6	18	24 (4.42)	4	58	62 (10.80)	0	86
Distractive structuring	0	0	0	19	0	19 (3.31)	1 (0.38)	20
Suppression	4	9	13 (2.39)	0	5	5 (0.87)	0	18
No use of ER strategies	28	-	28 (5.16)	57	-	57 (9.93)	50 (18.87)	135

Note. ER – emotion regulation.

Links Between ER Strategies and Proficiency

Table 4 shows the fixed-effects logistic regression results for strategies that were significantly ($p < .05$) or marginally ($p < .10$) associated with L2 proficiency. Full results for all strategies and emotions are provided in the OSF repository. As shown, a statistically significant positive association was found between proficiency and the use of *intrinsic value enhancement* to regulate anxiety ($\beta = 0.0104$, adjusted $p = .0047$, OR = 1.0104, 95% CI [1.0039, 1.0170]). This suggests that a 100-point increase in TOEIC was associated with approximately 2.8 times greater odds of using intrinsic value enhancement to regulate anxiety. Similar positive trends were observed for the use of intrinsic value enhancement to regulate boredom ($\beta = 0.002$, adjusted $p = .065$, OR = 1.002) and enjoyment ($\beta = 0.002$, adjusted $p = .065$, OR = 1.002). However, neither association reached statistical significance, and the 95% confidence interval for the odds ratio in the enjoyment model included 1, indicating greater uncertainty around this association.

Furthermore, a statistically significant negative association was found between proficiency and reports of no use of ER strategies to proactively regulate enjoyment ($\beta = -0.003$, adjusted $p = .0246$, OR = .997), suggesting that a 100-point increase in TOEIC was associated with approximately 23% lower odds of reporting no use of ER strategies to proactively regulate enjoyment.

Taken together, these findings suggest that higher-proficiency learners may be more likely to use intrinsic value enhancement in regulating their anxiety, and possibly boredom and enjoyment. They may also be more proactive in increasing their enjoyment in L2 learning activities.

Table 4. *Logistic Regression Results for ER Strategy Use and L2 Proficiency*

ER strategy	Emotion	TOEIC estimate (β_1)	Odds ratio	95% CI	Adjusted p
Intrinsic value enhancement	Anxiety	0.0104	1.0104	1.0039; 1.0170	0.0047
	Boredom	0.0020	1.0020	1.0000; 1.0040	0.0654
	Enjoyment	0.0020	1.0020	0.9999; 1.0041	0.0654
No use of ER strategies	Enjoyment	-0.0026	0.9974	0.9955; 0.9993	0.0246

Note. ER – emotion regulation.

DISCUSSION

Informed by two preliminary studies, this study focused on three core objectives. First, it identified the types of emotion regulation (ER) strategies students used in academic L2 learning activities. Second, it analyzed the frequency with which these strategies were used to manage three specific emotions: enjoyment, boredom, and anxiety. Finally, it explored whether L2 proficiency was associated with the use of ER strategies across those three emotions. Drawing on open-ended responses from 243 university students across multiple majors and years, with TOEIC scores ranging from 100 to 990, we conducted content analysis and regression modeling to investigate these questions. While the coding process was grounded in the data, the classification was conceptually informed by prior ER strategy frameworks (e.g., Burić et al., 2016; Gross & Thompson, 2007; Nett et al., 2010; Stockinger et al., 2025).

Emotion Regulation Strategies Identified

To address the first research question, content analysis of open-ended responses yielded 14 distinct ER strategies. Of the 14 strategies, nearly half of them were consistent with those documented in previous educational research (Burić et al., 2016; Pekrun, 2006; Stockinger et al., 2025). They included competence development, social support, reappraisal, distraction, escape, and suppression. This finding indicates that these strategies are commonly used by students in both general academic settings and in language learning contexts.

One finding worth highlighting is in regard to the strategy labeled as acceptance, which revealed itself as a minor yet noteworthy approach-oriented strategy used to manage anxiety. As students reported, they did not try to “push away” their anxiety, but rather approached it without judgement, revealing that they were both mindful of the negative emotion and the utility of being present with patience and resolve. While the notion of acceptance has been under-recognized in educational and L2 ER research, it is well-established in the psychology field as an adaptive strategy fostering well-being (Brockman et al., 2016; Naragon-Gainey et al., 2017). Drawing from this

insight, our findings suggest stepping outside of the anxiety reduction and avoidance model emphasized in previous language learning strategy research (Bielak, 2018; Mostafavi & Vahdany, 2016; Oxford, 1990; Xiong et al., 2024) and instead introducing the strategy of acceptance as an alternative form of coping with anxiety.

The other half of the ER strategies appeared to be less well documented in existing studies—an area that may warrant closer attention. For example, while the strategy we term self-conditioning resembles Gross's (1998, 2015) response modification, there are some key features that set it apart. First, self-conditioning is not merely a response to emotional stimulus but also a preventative measure to create the types of conditions that reduce the likelihood of undesirable emotional states from arising. In relation to boredom in the current study, nearly half of the use of self-conditioning occurred in anticipation of this undesirable emotion, highlighting a conscious and proactive effort to mitigate it before it arose. Second, the preventative nature of self-conditioning appears to be an attempt to modify the internal conditions of the learner rather than the external conditions causing the negative emotion. This echoes Burić et al.'s (2016) findings that the learners modify themselves rather than the situation, suggesting that students assert some degree of agency in shaping their emotional landscape, moving from reacting to something that they cannot control.

Two additional strategies identified and labeled in this study include facilitative structuring and distractive structuring. While both can be placed under the broad category of Gross's (1998, 2015) situation modification, some key differences emerged that may provide a more nuanced view into ER strategies in language learning. Crucially, although these strategies influence emotional impact, they also appear to have a direct relationship with academic outcomes. More specifically, distractive structuring, such as bringing unrelated materials to class, is a form of emotionally driven disengagement in which students preemptively created distracting conditions before boredom set in. This indicates that students are not merely responding to boredom, but rather anticipating it and proactively prioritizing comfort over cognitive focus. Facilitative structuring, in contrast, involves creating conditions

that proactively promote engagement. These behaviors include sitting at the front of the class or studying with friends, thereby creating conditions that may lead to desirable academic outcomes. These findings underscore the importance of recognizing not only whether students are modifying their environment, but *how* those modifications interact with both emotional and learning outcomes.

Intrinsic value enhancement, anticipatory reward thinking, and personalized learning were another set of unique strategies identified and termed in this study. Intrinsic value enhancement involves deliberately reframing learning tasks to connect with goals or meaning, particularly in anticipation of boredom. Anticipatory reward thinking focuses on creating self-imposed external incentives to sustain effort through potentially dull or difficult activities. Personalized learning entails modifying L2 learning activities to align with one's own interests, preferences, or strengths, thereby enhancing both perceived value and perceived control.

Notably, each of these strategies shares ground with Pekrun's control-value theory of achievement emotions (CVT; 2006), in which learners' emotions are shaped by appraisals of control (i.e., perceived ability to influence situations and outcomes) and value (i.e., perceived importance or meaningfulness in the task). Our findings extend this perspective by showing how learners actively construct or amplify these appraisals in a more deliberate, self-directed manner, often *before* the emotions begin. This pattern also echoes previous research emphasizing the proactive and anticipatory nature of regulatory efforts to both boost positive emotions (Quoidbach et al., 2015) and buffer negative emotions (Nakamura et al., 2021a). Collectively, these findings point to ways teachers can help students become proactive about enhancing their emotional experiences in L2 learning.

A final ER strategy identified and labeled in this study was engagement. Although engagement has not been viewed as a type of ER strategy, it is widely recognized as a prerequisite to successful L2 learning (Hiver et al., 2020). While previous studies have primarily focused on identifying pedagogical approaches to foster language learner engagement (Hiver et al., 2020, 2021; Qiu, 2025), our study extends this line

of research by illustrating that students' effort to pre-empt boredom and proactively increase enjoyment can also contribute to proactive engagement in L2 learning activities.

Strategy Use for Enjoyment, Boredom, and Anxiety

Addressing the second research question, when examined by emotion, we observed notable differences in both the type and frequency of strategy use. Enjoyment, often considered one of the most desirable learner emotions (Botes et al., 2022; Dewaele & Alfawzan, 2018; Li, 2022), was shown to be proactively generated through a variety of approach-oriented strategies. Students reported setting goals, reinforcing the value of language learning, and creating motivational incentives. Such behaviors suggest that, for some learners, enjoyment is not simply an outcome of favorable conditions but an emotion that can be deliberately cultivated. However, there is a notable exception in that nearly 20% of quotations (i.e., individual comments describing strategies, provided in response to the questionnaire items) indicated no strategy use for upregulating enjoyment. While previous studies on L2 enjoyment have primarily focused on teacher-related factors as pedagogical approaches to enhancing language learners' enjoyment (Dewaele et al., 2017, 2022), this finding highlights the potential value of strategy instruction aimed at helping learners recognize their own agency in generating enjoyable learning conditions.

Boredom displayed a different trajectory. It was frequently linked to escape and distraction, with students describing behaviors such as checking their phones, mentally disengaging, giving up on tasks, or falling asleep. Unlike anxiety, which in some cases led to proactive coping, boredom seemed to sap students' energy and motivation, producing a kind of emotional flatlining that was difficult to recover from mid-task. These findings suggest that boredom may be one of the more disruptive emotional states in language learning, echoing previous studies demonstrating negative characteristics of boredom in L2 learning (Nakamura & Leis, 2024; Pawlak et al., 2020). From a pedagogical standpoint, explicitly linking tasks to student goals

and interests or offering varied task formats to incorporate learner choice may help reduce the likelihood of boredom, as indicated by the findings regarding proactive upregulation of enjoyment.

Perhaps some of the most intriguing results from this study were related to anxiety. While much of the existing research on L2 learning and anxiety has convincingly demonstrated its detrimental effects on L2 learning (Dewaele, 2007; Xiong et al., 2024), our findings suggest that this characterization may not be the whole picture. When considering the functional role of anticipatory anxiety, our study indicated that anxiety may act as a productive emotional alert, helping students respond to the perceived significance of the task through focus, preparation, and practice. Importantly, this interpretation lends support to a facilitative role of anxiety suggested in the literature (Ellis, 2012; MacIntyre, 1995; Nakamura, 2023; Pekrun, 2006). Pedagogically, these insights encourage teachers to guide students in developing an adaptive relationship with anxiety, rather than focusing solely on removing anxiety from the classroom.

Proficiency and Emotion Regulation Strategy use

Our third research question explored how L2 proficiency may be linked to the use of ER strategies. Fixed-effects logistic regression analyses indicated that higher-proficiency learners were more likely to focus on fostering the intrinsic value of learning tasks as a form of anxiety regulation. Positive associations were also observed for boredom and enjoyment, although these associations did not reach statistical significance. Intrinsic value enhancement has not been established as a distinct ER strategy in previous studies, yet the findings share common ground with the control-value theory of achievement emotions, which conceptualizes students' value appraisals as proximal antecedents of emotions in academic contexts (Pekrun, 2006). Taken together, these findings suggest that recognizing the value of L2 learning activities is important not only for fostering more enriched emotional experiences, but also for supporting L2 achievement.

The analysis also indicated that lower proficiency learners may be less proactive about up-regulating their enjoyment. Importantly, our cross-sectional research design does not support causal claims, such as the assertion that proactively regulating emotions enhances L2 learning achievement, or conversely, that a lack of such regulation leads to unsuccessful L2 learning. Nevertheless, this finding suggests a potential benefit of proactively seeking ways to increase enjoyment of L2 learning activities to optimize learning outcomes.

Notably, of the 14 ER strategies identified, a meaningful link to L2 proficiency was found only for intrinsic value enhancement. Although this study was exploratory, it is somewhat counterintuitive that other ER strategies reflecting an approach orientation toward L2 learning, such as competence development, personalized learning, and engagement, were not associated with L2 proficiency. For strategies with relatively few observations, such as personalized learning and engagement, limited statistical power may have contributed to these null findings. Competence development, on the other hand, was the most frequently reported strategy for regulating anxiety and was supported by a relatively large number of observations in this study. This may suggest that competence development is a common form of anxiety regulation across proficiency levels. Given its facilitative role highlighted in broader academic contexts (Burić et al., 2016; Pekrun, 2006; Stockinger et al., 2025), its potential utility in supporting L2 learning should not be dismissed. Similarly, the findings that distraction was the most frequently reported boredom regulation strategy and that it was not associated with proficiency may suggest that it is widely used across proficiency levels.

CONCLUSION

This study has shed light on how language learners regulate emotions during L2 learning activities, with particular attention to proactive forms of emotion regulation. The findings highlight the importance of learners' agentic engagement with their

emotional experiences and point to promising directions for future research on the role of emotion regulation in L2 development.

Several limitations of this study need to be acknowledged. The first relates to the use of self-reported TOEIC scores as the measure of L2 proficiency. Although nearly half of the students reported the scores based on their actual TOEIC test results, and we provided those who had never taken the test with detailed explanations and instructions to estimate appropriate scores, direct assessment through standardized testing could yield more accurate measures. The second limitation concerns the statistical examination of the links between L2 proficiency and ER strategies. For less commonly reported strategies with fewer observations, the statistical power may have been reduced to detect meaningful relationships. Future research could build on the 14 strategies identified in this study to develop psychometrically sound instruments for measuring ER strategy use. Such instruments could enable more robust statistical analyses of their associations with L2 achievement. Lastly, the current study adopted a relatively narrow scope in its operationalization of ER strategies (e.g., downregulating anxiety and boredom and proactively upregulating enjoyment). Future research could expand this scope by incorporating both proactive and responsive approaches to the up- and downregulation of a wider range of emotions.

Nevertheless, this study advances current understanding of emotion regulation in L2 learning by highlighting the role of proactive, agentic approaches to emotional experiences that can support further L2 learning and development. It also encourages the field to explore anxiety from a productive, functional point of view.

Authors' Contributions

SN was responsible for the overall design of the study. SN and JK participated in the data collection, data analysis, and interpretation of the results. Both authors involved in the writing of the manuscript and approved the final manuscript.

Declaration of GenAI and AI-Assisted Technologies

In the preparation of this work, the authors used ChatGPT to support the clarity and readability of the manuscript. The tool was used for language polishing, wording suggestions, and proofreading support. After using this tool, the authors reviewed and edited the content as needed, verified the accuracy, originality, and appropriateness of the ChatGPT-assisted outputs, and take full responsibility for the content of the publication.

Ethics Approval and Consent to Participate

This study was approved by the University Research Ethics Committee. All participants provided written informed consent prior to enrollment and data collection in the study.

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APPENDICES

APPENDIX A. Questionnaire on Emotions in L2 Learning Activities.

Note. The questionnaire was administered in Japanese. English translations are provided below each item.

[Instruction]

このアンケートは、大学での英語学習活動中にあなたが経験する「感情」に関するものです。英語学習活動には以下のようなものが含まれます。

英語授業への出席

英語授業に関する教室外での取り組み（課題、宿題、予習復習、テスト勉強、など）

これらの英語学習活動を踏まえ、本大学で今までに受講、今学期に受講している英語の授業を総体して考え、アンケートに回答してください。

This questionnaire is about emotions that you experience during L2 learning activities in university settings.

L2 learning activities include:

- Attending English classes
- Engagement outside the classroom related to English classes (assignments, homework, preparation and review, test study, etc.)

Based on these English learning activities, please think about the English classes you have taken so far and are taking this semester at this university in general and complete the questionnaire.

それぞれの項目にある「感情」をどのくらいの頻度で感じますか？自分自身の回答として最も当てはまるものを、以下から選んでください。

To what extent, do you feel the following emotions? Choose the answer that best describes you.

1 全くない Never

2 あまりない very occasionally

3 時々ある occasionally

4 よくある often

5 とても頻繁にある very often

6 いつもある always

enjoyment (楽しさ)

hope (こうなったらいいなということを望む、願う、期待する気持ち)

pride (プラスの意味で、誇りに思うこと、よくやったと思う気持ち)

curiosity (好奇心、何か・誰かに対してもっと知りたいと思う気持ち)

admiration (賞賛、賛美、誰か・何かに対してすごいと思う気持ち)

gratitude (感謝の気持ち)

empathy (他者の状況や感情を読み取ることで、共感する気持ち)

anxiety (不安、心配、緊張)

boredom (退屈)

embarrassment (恥ずかしさ。自分の行動や言動において、人の視線を気にして一瞬恥ずかしいと思う気持ち。)

shame (恥。自分の信念や社会規範に反する行動や言動、大きな間違いをしたことで「私はダメだ」や「自分は価値がない」と感じる気持ち。)

disappointment (落胆、期待はずれ、がっかりする気持ち)

hopelessness (絶望的で、どうしようもないという気持ち)

frustration (フラストレーション、苛立ち)

anger (怒り)

APPENDIX B. Questionnaire on Regulating Anxiety, Boredom, and Enjoyment

Note. The questionnaire was administered in Japanese. English translations are provided below each item.

[Instruction]

このアンケートは、大学での英語学習活動中にあなたが経験する「感情」に関するものです。英語学習活動には以下のようなものが含まれます。

- 英語授業への出席
- 英語授業に関する教室外での取り組み（課題、宿題、予習復習、テスト勉強、など）

これらの英語学習活動を踏まえ、本大学で今までに受講、今学期に受講している英語の授業を総体的に考え、アンケートに回答してください。

This questionnaire concerns the emotions you experience during English learning activities at university. English learning activities include the following:

- Attending English classes
- Engagement outside the classroom related to English classes (assignments, homework, preparation and review, test study, etc.)

With these activities in mind, please respond to the questionnaire based on your overall experience of the English courses you have taken in this university, including those you are currently taking this semester.

Q1. Anxiety (Responsive ER)

英語学習活動中、不安や心配、緊張を感じた時にどのような「考え」や「行動」で対処しますか？（複数回答可）

When you experience anxiety during English learning activities, what thoughts or behaviors do you engage in to cope with the anxiety? (Multiple responses allowed)

Q2. Boredom (Responsive ER)

英語学習活動中、退屈を感じた時にどのような「考え」や「行動」で対処しますか？（複数回答可）

When you experience boredom during English learning activities, what thoughts or behaviors do you engage in to cope with the boredom? (Multiple responses allowed)

Q3. Anxiety (Proactive ER)

英語学習活動中、不安や心配、緊張を感じないようにどのような「考え」や「行動」で事前対策しますか？しない場合は「なし」、する場合はその「考え」や「行動」を書いてください。（複数回答可）

What thoughts or behaviors do you engage in order not to experience anxiety during English learning activities? If there is nothing you do, write “なし(none).” If there is something, please write the thoughts and/or behaviors. (Multiple responses allowed)

Q4. Boredom (Proactive ER)

英語学習活動中、退屈を感じないようにどのような「考え」や「行動」で事前対策しますか？しない場合は「なし」、する場合はその「考え」や「行動」を書いてください。（複数回答可）

What thoughts or behaviors do you engage in order not to experience boredom during English learning activities? If there is nothing you do, write “なし(none).” If there is something, please write the thoughts and/or behaviors. (Multiple responses allowed)

Q5. Enjoyment (Proactive ER)

英語学習活動中、楽しさを感じられるようどのような「考え」や「行動」で事前対策しますか？しない場合は「なし」、する場合はその「考え」や「行動」を書いてください。（複数回答可）

What thoughts or behaviors do you engage in so as to experience enjoyment during English learning activities? If there is nothing you do, write “なし(none).” If there is something, please write the thoughts and/or behaviors.