

## *Original Paper*

# Bidirectional Influence Between Emotions and Language Achievement Based on the Control-value Theory

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Received: November 17, 2023      Accepted: January 19, 2024      Online Published: February 22, 2024  
doi:10.22158/eltls.v6n1p150      URL: <http://dx.doi.org/10.22158/eltls.v6n1p150>

### **Abstract**

*Emotions play a crucial role in language learning, influencing learners' motivation, engagement, and ultimately, their academic achievement. This paper examines the bidirectional relationship between emotions, particularly Enjoyment, Anxiety, and Boredom, and language achievement based on the Control-Value Theory (CVT). Drawing on theoretical frameworks and empirical research, the study explores how emotions and language proficiency interact, shaping students' learning trajectories. By considering the complex interplay between affective states and academic outcomes, educators can develop more holistic approaches to language instruction and support, fostering positive emotional experiences and optimizing students' language learning journeys.*

### **Keywords**

*language achievement, emotion, language learning, education, applied linguistic*

## **1. Introduction**

In the journey of acquiring a foreign language, learners encounter a plethora of emotions influenced by various factors such as class attendance, participation in activities, interactions with educators and peers, and examination experiences. This underscores the pervasive influence of emotions in both academic and language learning contexts, as highlighted by scholars like Pekrun and Linnenbrink-Garcia (2012) and Plonsky et al. (2022).

Considerable attention has been directed towards exploring emotions in Second Language Acquisition (SLA), with a predominant focus on the negative emotion of Anxiety. Scholars have established correlations between Anxiety and various learning variables, including motivation, Willingness To Communicate (WTC), learner personality traits, emotional intelligence, learner-related factors, indicators of language achievement, and other emotional dimensions.

Enjoyment and Anxiety emerge as metaphorical “right and left feet of the language learner” (Dewaele

& MacIntyre, 2016, p. 215) in the language acquisition journey. Consequently, researchers have juxtaposed Anxiety with Enjoyment in their investigations, examining their intertwined effects on language learning outcomes.

Recent developments in Positive Psychology (PP) within educational psychology have prompted a shift in focus among SLA researchers towards exploring positive affective variables. Positive emotions, particularly Enjoyment, have gained prominence as extensively studied constructs in this paradigm shift. Studies on Enjoyment have delved into its conceptualization, measurement, origins, and impacts on foreign language learning. Researchers have also investigated the interconnections between Enjoyment and other learner-related variables, as well as its combined influences with Anxiety on language achievement.

Moreover, despite the extensive focus on Enjoyment and Anxiety, another prevalent emotion experienced by learners in foreign language classrooms is Boredom. Although Boredom has been a longstanding topic in educational psychology, it had not received significant attention in SLA until recently. Research on Boredom has explored its conceptualization, measurement, antecedents, and effects, shedding light on its role in the language learning process.

In the landscape of language learning, learners often navigate the simultaneous experience of Enjoyment, Anxiety, and Boredom. This dynamic interplay of emotions within the educational setting has become a focal point of research, with recent studies delving into emerging diverse emotions and their implications for language learning outcomes.

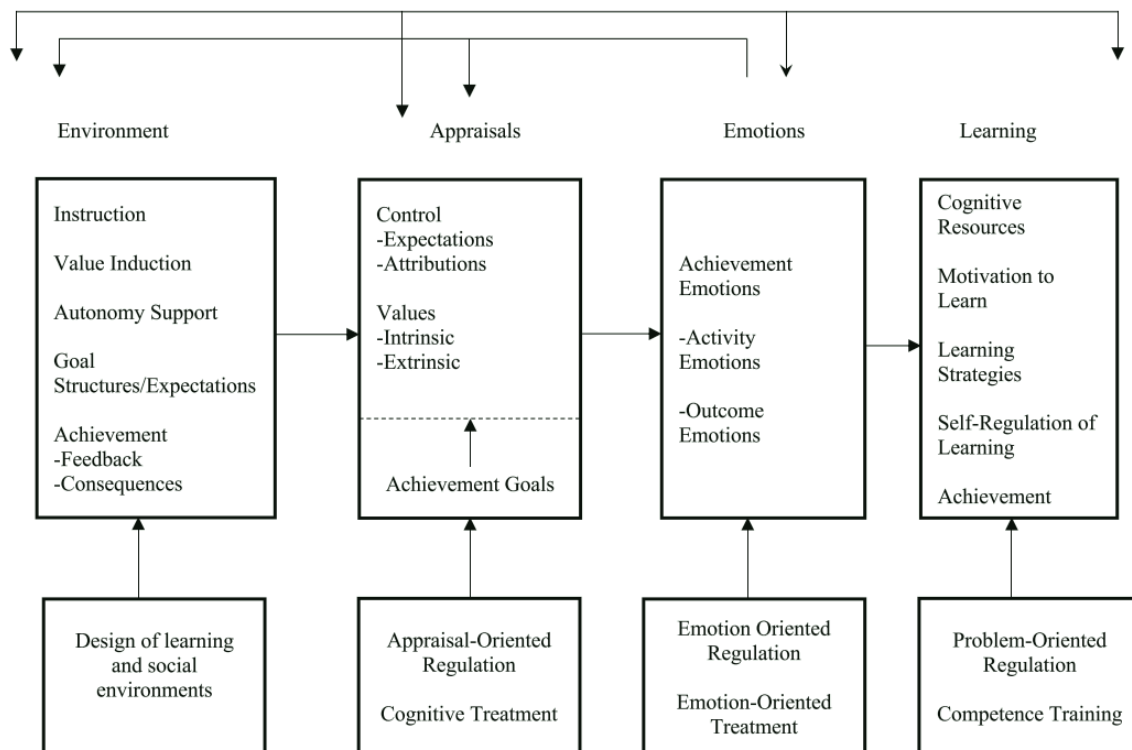
Furthermore, longitudinal studies have provided insights into the enduring effects of these emotions on language learning trajectories. By tracking students' emotional experiences over time, researchers have identified patterns indicating how fluctuations in Enjoyment, Anxiety, and Boredom can predict changes in language achievement levels. These findings highlight the dynamic nature of the relationship between emotions and academic achievement, emphasizing the need for comprehensive interventions to support students' emotional well-being and enhance their language learning outcomes.

## **2. The Control-Value Theory**

The emergence of positive psychology has significantly influenced the development of theoretical frameworks on emotions, leading to a surge in empirical studies investigating the role of emotions in diverse language learning contexts. Two influential theories, the broaden-and-build theory (Fredrickson, 2004) and the Control-Value Theory (CVT) (Pekrun, 2006), have shed light on the crucial role emotions play in students' psychological states and academic performance.

The broaden-and-build theory distinguishes emotions into two valences (positive and negative) and emphasizes the merits of positive emotions in an individual's cognitive, psychological, social, and professional aspects. Empirical research has confirmed the benefits of Enjoyment and the consequences of Boredom and Anxiety in language learning across various studies (Botes et al., 2022a; Derakhshan, 2022; Derakhshan et al., 2022; Li & Han, 2022; Wang & Li, 2022).

In contrast, the CVT focuses on the intricate network among antecedents, achievement emotions, and learning achievement in academic settings (Pekrun & Perry, 2014). Diverging from previous theories, the CVT introduces a three-dimensional taxonomy approach to conceptualize emotions based on valence, activation, and object focus. This approach categorizes Anxiety as a negative, activating, and outcome emotion, Enjoyment as a positive, activating, and activity emotion, and Boredom as a negative, deactivating, and outcome emotion. Figure 1 provides a conceptual model of the pathways of the CVT.



**Figure 1. Conceptual Model of the Pathways of the CVT**

The significance of emotions in learning and achievement, as highlighted by Pekrun's (2006) CVT, cannot be overstated. Positive achievement emotions prompt students to allocate more cognitive resources to their learning tasks, while negative emotions lead to decreased cognitive effort (Pekrun et al., 2007). Moreover, positively valenced emotions foster the use of creative learning strategies and enhance self-regulated learning, whereas negatively valenced emotions deter such behaviors (Pekrun, 2006). These emotional outcomes significantly impact academic achievement, with positive emotions correlating positively and negative emotions correlating negatively with achievement (Pekrun et al., 2007).

Furthermore, the effects on learning and achievement are influenced by problem-oriented regulation and competence training, as posited by the CVT (Pekrun, 2006). The CVT asserts reciprocal links between control and value appraisals, emotions, and the educational environment. It suggests that

appraisals influence achievement emotions, which, in turn, can influence appraisals. Additionally, appraisals of control and value can shape perceptions of the educational environment (Pekrun, 2007). Thus, the CVT underscores the complexity of the relationships between emotions, appraisals, and academic outcomes, indicating that positive emotions may not always yield positive effects, and negative emotions may not always lead to adverse outcomes (Pekrun, 2006).

### **3. Achievement Emotions in Education**

#### *3.1 Enjoyment*

With the advent of Positive Psychology (PP), there has been a noticeable shift in the focus of researchers in general education from exploring negative emotions to delving into more positive aspects. PP was initially introduced by Seligman and Csikszentmihalyi (2000) in a seminal paper, advocating for an emphasis on the positive aspects of human experience and the reasons for their initiation (MacIntyre, 2021). PP is defined as “the scientific study of what goes right in life, from birth to death and at all stops in between” (Peterson, 2006, p. 4). The foundational principles of PP are rooted in the broaden-and-build theory of positive emotions (Fredrickson, 2001) and the CVT of achievement emotions (Pekrun et al., 2002; Pekrun, 2006).

The broaden-and-build theory posits that positive emotions, such as joy, interest, pride, and love, can “broaden people’s momentary thought-action repertoires and build their enduring personal resources” (Fredrickson, 2001, p. 219). On the other hand, the CVT categorizes achievement emotions based on their object focus (activity focus vs. outcome focus), valence (positive vs. negative), and the degree of activation (activating vs. deactivating). Despite these theories, it was only recently that PP research “penetrated the mainstream” in the field of Second Language Acquisition (SLA) (Dewaele et al., 2019b). As PP gained popularity in SLA, researchers shifted their attention from negative emotions to positive factors in language learning, with Foreign Language Enjoyment (Enjoyment) emerging as one of the most investigated emotions.

Dewaele and MacIntyre (2016) defined Enjoyment as “a complex emotion, capturing interacting dimensions of the challenge and perceived ability that reflects the human drive for success in the face of difficult tasks” (p. 216). Enjoyment occurs “when people not only meet their needs but exceed them to accomplish something new or even unexpected” (p. 217). A groundbreaking study by Dewaele and MacIntyre (2014) explored the relationship between Enjoyment and Foreign Language Classroom Anxiety (Anxiety). Using the Enjoyment scale, which comprised 21 items covering various facets of Enjoyment in the foreign language class, they found a significant and negative correlation between Enjoyment and Anxiety, albeit with a small shared variance, indicating that they are distinct emotional dimensions. Additionally, Enjoyment levels were reported to be significantly higher than those of Anxiety, marking a pivotal moment in applying PP to SLA (Wang et al., 2021).

Subsequent research on Enjoyment in both Western and Eastern contexts has expanded, delving into its measurement (Dewaele et al., 2017; Li et al., 2018; Jin & Zhang, 2019; Botes et al., 2021; Jin & Zhang,

2021) and its associations with learner-related variables (Dewaele et al., 2019a; Li et al., 2021a). For instance, building on the Enjoyment scale developed by Dewaele and MacIntyre (2014, 2016), Li et al. (2018) introduced the Chinese Version of the Enjoyment Scale (CEnjoymentS). Through data collected from 2,078 Chinese students, they conducted a Principal Component Analysis, confirming and validating a new Enjoyment scale containing 11 items with three factors (Enjoyment-Private, Enjoyment-Teacher, and Enjoyment-Atmosphere). Participants reported that their Enjoyment arose through direct teachers' intervention and indirect peer interaction.

The exploration of Enjoyment has not only enriched the understanding of positive emotions in language learning but has also been associated with various measures of foreign language performance. Studies have consistently reported significantly positive relationships between Enjoyment and both perceived and actual language achievement (Piechurska-Kuciel, 2017; Li, 2020; Jin & Zhang, 2021; Botes et al., 2022).

Studies examining the relationships between Foreign Language Enjoyment (Enjoyment) and various measures of foreign language performance consistently report significantly positive associations with both perceived and actual language achievement (Piechurska-Kuciel, 2017; Li, 2020; Jin & Zhang, 2021; Botes et al., 2022).

Additionally, Enjoyment has been juxtaposed with Foreign Language Classroom Anxiety (Anxiety) in recognition that "the combination of positive and negative emotions together is more powerful for influencing teaching practice than looking at them individually" (MacIntyre, 2021, p. 11). Li et al. (2019) examined the correlation between Enjoyment and Anxiety, as well as their combined effects on the self-perceived English proficiency and actual English achievement of Chinese EFL students. The results revealed a negative correlation between Enjoyment and Anxiety, consistent with earlier studies (Dewaele & MacIntyre, 2014, 2016; Dewaele et al., 2016), and later confirmed by Dewaele and Proietti Ergün (2020). Moreover, Enjoyment and Anxiety were identified as co-predictors of self-perceived English proficiency and actual English achievement, with Anxiety being the stronger predictor. This result contradicted the findings of Dewaele and Alfawzan (2018) and Li and Wei (2022), which indicated that the positive effect of Enjoyment on performance outweighed that of Anxiety. Thus, the complex relationships between these two emotions and foreign language performance require further exploration.

### *3.2 Boredom*

Boredom stands out as one of the frequently encountered and potentially impactful academic emotions within the classroom setting (Pekrun et al., 2010, 2014). Described as a "mild, unpleasant, or even painful affective state," Boredom encompasses elements of dissatisfaction, disappointment, annoyance, inattention, lack of motivation to pursue set goals, and impaired vitality (Kruk & Zawodniak, 2018, p. 177). Although researchers in psychology and educational psychology have long explored Boredom, its attention in the realm of second language (L2) learning and teaching has been relatively recent.

The exploration of Boredom in L2 learning began with Chapman (2013), who investigated German

learners' and teachers' beliefs about Boredom. Subsequent studies in the Polish educational context delved into changes in Boredom levels (Kruk, 2016a,b), the correlation between learners' Boredom and its manifestation in EFL classes (Kruk & Zawodniak, 2017), and the experience of Boredom in EFL classes (Kruk & Zawodniak, 2018). Other research has focused on Boredom's impacts on Willingness to Communicate (WTC) (Zhang et al., 2022), engagement (Dewaele & Li, 2021; Derakhshan et al., 2022), its causes, effects, and solutions in online classes (Derakhshan et al., 2021a,b; Pawlak et al., 2022), as well as its conceptualization and measurement (Kruk & Zawodniak, 2017; Li, 2021; Li et al., 2021b).

The Foreign Language Learning Boredom Scale (BoredomS), a seven-factor scale with 32 items and robust psychometric properties, was developed by Li et al. (2021b) and used in the current study to assess participants' Boredom. Some studies have also juxtaposed Foreign Language Learning Boredom (Boredom) with other emotions like Enjoyment and Anxiety to elucidate their interrelations and influences on foreign language performance. Li and Han (2022) explored the effects of Enjoyment, Anxiety, and Boredom on Chinese EFL learners' self-perceived and actual achievement in an online learning environment. Boredom exhibited positive relations with Anxiety but a negative association with Enjoyment, maintaining its predictive power on perceived online learning achievement even when combined with Enjoyment and Anxiety. However, Boredom did not directly influence actual test scores when entered into the same regression model with the other two co-predictors, a finding corroborated by Dewaele et al. (2022).

Despite being underexplored in SLA, Boredom's role as a negative predictor of achievement has been substantiated in education studies (Maroldo, 1986; Pekrun et al., 2009, 2010; Ahmed et al., 2013). The CVT further posits that the effects of Boredom can be "detrimental" to academic achievement (Pekrun, 2006). Consequently, Boredom warrants empirical exploration to unravel its complex relationships with other emotions simultaneously experienced by learners and its intricate impacts on various measures of foreign language achievement.

### 3.3 Anxiety

Since the 1970s, affective variables, particularly negative emotions, have been a focal point for researchers in Second Language Acquisition (SLA) (Dewaele et al., 2017). Foreign Language Classroom Anxiety (Anxiety) has emerged as one of the most extensively studied negative emotions in SLA (MacIntyre, 2017). Horwitz et al. (1986) defined Anxiety as a "distinct complex of self-perceptions, beliefs, feelings, and behaviors related to classroom learning arising from the uniqueness of the language learning process" (p. 128), emphasizing the multifaceted nature of Anxiety. Since its introduction in 1986, various scales have been developed to measure Anxiety, with the Foreign Language Classroom Anxiety Scale (AnxietyS) by Horwitz et al. (1986) being widely accepted and utilized by researchers. This five-point Likert scale questionnaire comprises 33 items and has undergone adaptations, abbreviations, and translations in subsequent studies (Tóth, 2008; Dewaele & MacIntyre, 2014; Dewaele & Al-Saraj, 2015; Li & Wei, 2022).

Researchers, using different measures of Anxiety, have delved into its potential sources, effects, and correlations (Dewaele & MacIntyre, 2014). Existing literature has consistently shown that language learners' Anxiety is negatively associated with their motivation (Hashimoto, 2002; Fathi & Mohammaddokht, 2021), their Willingness to Communicate (WTC; MacIntyre et al., 2002), and their engagement in foreign language learning (Feng & Hong, 2022). Moreover, recent studies have revealed an inverse relationship between Anxiety and various language achievement measures (Shao et al., 2013; Li et al., 2019; Zhang, 2019; Botes et al., 2020; Dewaele & Proietti Ergün, 2020; Dewaele et al., 2022; Li & Han, 2022). For instance, Shao et al. (2013) explored emotional intelligence and English classroom learning Anxiety among 510 Chinese EFL students, revealing negative associations between Anxiety and students' self-rated English proficiency as well as English achievement measured by CET-4 scores. Dewaele and Proietti Ergün (2020) investigated the relationship between Turkish pupils' Anxiety and their course marks in two foreign languages, Italian and English, finding that pupils with high Anxiety had lower course marks in both foreign languages.

Nevertheless, in line with Pekrun's (2006) CVT, Anxiety, as an activating, negative, and achievement-related emotion, can have an ambivalent effect on academic achievement. Therefore, the intricate relationship between Anxiety and achievement requires further empirical evidence to be fully understood.

#### **4. The Relationship Between Enjoyment, Boredom, Anxiety, and Language Achievement**

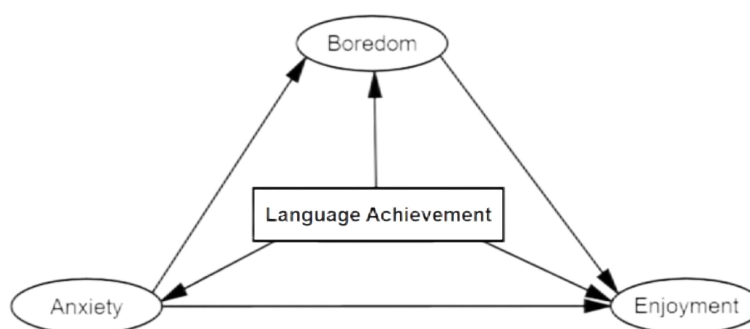
The CVT posits that Enjoyment, Anxiety, and Boredom play significant roles in influencing language achievement. According to CVT, Enjoyment serves as a facilitator, promoting positive attitudes towards language learning and encouraging individuals to engage in language-related activities with enthusiasm and vigor. When learners enjoy the process of acquiring a new language, they are more likely to invest time and effort into mastering it, ultimately leading to improved language achievement. Conversely, Anxiety can act as a barrier to language achievement. High levels of Anxiety, whether stemming from fear of failure, social pressure, or language apprehension, can hinder learners' ability to perform optimally. Anxiety may impair cognitive functions, disrupt concentration, and impede the acquisition and application of language skills. Thus, individuals experiencing Anxiety are less likely to achieve proficiency in a target language compared to those with lower levels of Anxiety.

Moreover, Boredom can also detrimentally impact language achievement. When learners perceive language learning tasks as repetitive, monotonous, or lacking in relevance, they may experience Boredom, leading to disengagement and decreased motivation. Consequently, individuals who feel bored during language learning are less likely to actively participate in language-related activities and may fail to achieve desired proficiency levels.

Motivated by the advocacy for the CVT, a surge of research exploring the link between emotions and language learning achievement has surfaced in recent years. Scholars generally agree that Enjoyment exhibits a positive correlation, whereas Anxiety and Boredom demonstrate negative correlations with

language learning achievement across various contexts. For instance, Derakhshan and colleagues (2022) proposed that the classroom atmosphere and Boredom directly influenced students' engagement among 287 English learners in Iranian universities. This negative impact of Boredom has been corroborated in the online Iranian EFL context, as indicated by previous studies (Derakhshan et al., 2021a, 2021b). Similarly, Botes et al. (2022b) discovered that Anxiety and Enjoyment significantly predicted self-perceived foreign language achievement in a polynomial regression involving 1,039 online learners. Their subsequent meta-analysis, drawing from 56 studies, revealed the positive predictive effect of Enjoyment on Willingness To Communicate (WTC) as well as actual and self-perceived language achievement.

These studies collectively underscore the importance of considering both emotions and language achievement as mutually constitutive factors in the language learning process. They highlight the need to move beyond a unidirectional perspective that views emotions solely as outcomes of language learning experiences and instead recognize their pivotal role in shaping the learning trajectory itself.



**Figure 2. Relationship Among Enjoyment, Boredom, Anxiety, and Language Achievement**

## 5. Conclusion

The examination of emotions in language learning, particularly through the perspectives of Enjoyment, Anxiety, and Boredom has yielded invaluable insights into the complex relationship between affective states and academic success. Scholars have meticulously explored the connections among these emotions, their underlying causes, and their effects on language learning outcomes, illuminating the multifaceted nature of the language acquisition process.

Theoretical frameworks like the CVT have provided a comprehensive understanding of how emotions, appraisals, and academic achievement intersect. Supported by empirical evidence, it's evident that emotions and language achievement share a reciprocal relationship, highlighting the dynamic interplay between affective states and learning outcomes. Experimental studies have effectively showcased how fluctuations in emotions such as Enjoyment, Anxiety, and Boredom can directly impact students' engagement, cognitive processes, and language proficiency, ultimately shaping their academic performance.

Furthermore, recent research has expanded beyond conventional measures of language achievement to

explore the broader implications of emotions on students' language learning trajectories. By investigating the combined influences of multiple emotions, studies have underscored the importance of considering the intricate interplay between positive and negative affective states in educational settings.

By recognizing the bidirectional relationship between emotions and language achievement, educators and policymakers can devise more comprehensive approaches to language instruction and support. Educators and policymakers can devise more comprehensive approaches by understanding how emotions influence language learning outcomes. By fostering positive emotions like Enjoyment and minimizing negative ones such as Anxiety and Boredom, teachers can create emotionally supportive learning environments. This involves promoting a sense of belonging, providing engaging materials, and offering opportunities for student autonomy. Additionally, personalized support tailored to individual emotional needs, coupled with the integration of emotional regulation techniques like mindfulness practices, can empower students to manage emotions effectively, enhancing their overall well-being and engagement in language learning.

In conclusion, the integration of theoretical frameworks, empirical research, and practical implications underscores the importance of emotions in language learning and academic achievement. Continued exploration of the complex dynamics between emotions and language proficiency will contribute to developing evidence-based practices that enhance students' language learning experiences and outcomes.

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