

Emotions in learner-content relationship: a determinant of successful learning

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Abstract

While emotional engagement is increasingly recognized as a key factor in successful language acquisition, its role in English as a Foreign Language (EFL) settings remains underexplored. This study examines how different types of emotional responses, specifically positive emotions (curiosity, enjoyment) and negative ones (frustration, anxiety), affect learning outcomes in EFL learners. Precisely, it aims to examine the impact of emotional content on motivation, cognitive processing, and memory retention. A total of 96 EFL learners from diverse linguistic and cultural backgrounds participated in the study. They were randomly assigned to one of three groups: one exposed to emotionally positive content, another one to neutral content, and a third one to emotionally negative content. This experimental design allows for a comparative analysis of how emotional stimuli influences learners' performance. Findings reveal that positive emotional content significantly enhances learner motivation, mental activities, and retention of information. In contrast, negative emotional experiences reduce focus and impede learning. The study highlights the importance of integrating emotional considerations into EFL instruction, concluding that creating emotionally supportive and engaging classroom environments can lead to improved academic achievement and personal development in language learners.

Keywords

Learner-content relationship, affective engagement, emotional responses, language acquisition, motivation, cognitive processing, memory retention

For citation: Hemaidd G., Abdelhadi A., Hemaiddia M. (2025) Emotions in learner-content relationship: a determinant of successful learning. *Věstník universiteta*, no. 12, pp. 331-340.



Важность эмоционального вовлечения как фактор успешного обучения

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Аннотация

Несмотря на растущее признание важности эмоционального вовлечения как ключевого фактора в успешном овладении языком, его роль в контексте изучения английского как иностранного (далее – EFL) остается недостаточно исследованной. Рассмотрено, как различные типы эмоциональных реакций, в частности положительные эмоции (любопытность, удовольствие) и отрицательные (раздражение, тревожность), влияют на учебные результаты учащихся EFL. Цель настоящего исследования – изучить влияние эмоционального содержания на мотивацию, когнитивную обработку информации и удержание в памяти. В исследовании приняли участие 96 учащихся EFL с разным языковым и культурным фоном. Участники были случайным образом распределены на три группы: одна получила эмоционально положительное содержание, вторая – нейтральное, третья – эмоционально отрицательное. Такая экспериментальная модель позволила провести сравнительный анализ влияния эмоциональных стимулов на учебную деятельность. Результаты исследования показали, что положительное эмоциональное содержание значительно повышает мотивацию, умственную активность и запоминание информации. Напротив, негативные эмоциональные переживания снижают концентрацию и затрудняют обучение. Подчеркнута важность учета эмоциональных факторов в обучении EFL, сделан вывод о том, что создание эмоционально поддерживающей и увлекательной учебной среды способствует улучшению академических результатов и личностному развитию учащихся.

Ключевые слова

Взаимодействие учащегося с учебным содержанием, аффективное вовлечение, эмоциональные реакции, овладение языком, мотивация, когнитивная обработка, сохранение памяти

Для цитирования: Хемайдия Г., Абдельхади А., Хемайдия М. Важность эмоционального вовлечения как фактор успешного обучения // Вестник университета. 2025. № 12. С. 331-340.

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INTRODUCTION

Educational theories have evolved significantly, reflecting changing perspectives on how individuals learn and engage with knowledge [1]. In the past, these theories were mainly shaped by cognitive-focused approaches that viewed learners as passive recipients of information [2]. Traditional models primarily concentrated on the mental processes involved in learning, emphasizing logical structures and systematic instruction. In this perspective, knowledge was seen as something to be delivered by educators and absorbed by students, with little regard for their individual needs and experiences [3; 4].

However, critiques of this model began to emerge, highlighting the limitations of viewing learners merely as repositories of knowledge [5]. Modern educational frameworks have since shifted, adopting constructivist, experiential, and socio-emotional perspectives that see learners as active participants in their education. These newer approaches stress that learning is a dynamic and personalized process, where students' emotions and social interactions play an integral role [6]. According to modern theories of education, students learn better and retain more information when they are emotionally invested in the material [7].

When it comes to teaching English as a foreign language (hereinafter referred to as EFL), the impact of emotional factors is amplified. Anxiety and lack of motivation are common outcomes of learning a new language due to the prevalence of strange sounds, grammar structures, and cultural subtleties [8]. EFL students may face challenges related to linguistic disadvantages or cultural differences, which can result in feelings of detachment from the language content and ultimately hinder their academic progress. Thus, establishing an efficient learning environment where students feel motivated, connected, and empowered to negotiate the complexity of a new language depends on addressing these emotional aspects in EFL environments [9].

To this end, this study aims to:

- investigate the effects of emotional content (positive, neutral, and negative) on EFL learners' motivation, memory retention, and cognitive processing;
- study the relationship between learners' motivation, after exposure to positive emotional stimuli, and their EFL performance;
- examine the role of positive emotional content in enhancing learners' performance in EFL contexts.

GAP IDENTIFICATION AND SIGNIFICANCE

By means of positive emotional learning environments, the study intends to enhance EFL instruction by analyzing these emotional dynamics. Although this study emphasizes it, the emotional connection of English as a Foreign Language learners with content is sometimes disregarded. Typical concerns are linguistic accuracy, cognitive processing, and skill development. Still, new advances in educational psychology highlight the need of affective elements in learning.

The study at hand attempts to investigate whether emotions support academic growth, underlining the need to produce instructional materials that emotionally captivate learners. In this context, the results of the current study can be applied by EFL teachers, curriculum designers, and legislators including affective concepts into pedagogy. Knowing how particular content influences emotions will enable teachers to design more inclusive, sympathetic, and interesting classrooms.

THEORETICAL BACKGROUND

From essentially cognitive approaches to more comprehensive models including emotional, social, and cognitive elements of learning, the evolution of educational theories marks a dramatic change [10].

1. Humanistic Psychology and Its Impact on Education. Carl Rogers and Abraham Maslow introduced theories that stressed addressing learners' emotional needs [10; 11]. In his seminal work, 'Client-Centered Therapy', Rogers advocated for a "person-centered" approach that prioritizes empathy and psychological safety. He urged educators to create a supportive, non-judgmental environment that respects students as whole individuals. Maslow's hierarchy of needs, outlined in his 1943 paper 'A Theory of Human Motivation', highlighted that basic physiological and emotional needs – such as security, belonging, and self-esteem – must be fulfilled before learners can achieve self-actualization, the highest level of personal development [10]. These humanistic perspectives laid the groundwork for modern educational approaches that acknowledge emotional engagement as fundamental to deeper and more meaningful learning.

2. Social and Emotional Learning (SEL) Frameworks. Building on humanistic ideas, Social and Emotional Learning (SEL) models developed to include self-regulation techniques and emotional intelligence into classroom settings. Established in 1994, the Collaborative for Academic, Social, and Emotional Learning (CASEL) identified five basic SEL competencies: self-awareness, self-management, social awareness, relationship skills, and responsible decision-making¹. These competencies are crucial for EFL contexts, where language acquisition requires cross-cultural communication and emotional self-regulation.

3. Cognitive-Affective Theory of Learning. Emphasizing the dynamic interaction between cognitive processes and emotions, the cognitive-affective theory of learning holds that affective reactions shape important elements of learning including memory, attention, and information processing. J.R. Anderson's ACT theory demonstrates how emotions such as curiosity, confidence, and anxiety directly affect the learning process [12]. In his studies, D.H. Schunk further reinforced that emotions greatly influence attention, memory, and information processing [13]. Positive emotions encourage readiness to engage with difficult content, while negative emotions like anxiety can impede cognitive flow.

Students' use of instructional resources is influenced by the intricate learner-content relationship. Their attitudes and feelings toward the content depend on beliefs, expectations, and past knowledge. These factors influence interpretation, attention span, and readiness to learn [2]. For example, enthusiasm and motivation increase resilience and persistence, while frustration and anxiety can hinder learning [14]. Additionally, emotion is especially crucial in foreign language learning. Krashen's affective filter hypothesis holds that "a high affective filter brought on by anxiety, low self-esteem, or lack of motivation can block linguistic input from reaching the language-acquisition mechanisms in the brain" [15, pp. 40–42]. This means high affective filter learners are less likely to engage actively, thus hindering their language development.

Examining how affective engagement influences learning outcomes in English as Foreign Language (EFL) settings is the primary aim of this paper. It is hypothesized that students experiencing positive emotions such as interest, curiosity, and enjoyment will show higher levels

¹ Collaborative for Academic, Social, and Emotional Learning. Social and Emotional Learning (SEL) Framework: CASEL 2020 Report. Access mode: <https://casel.org/casel-sel-framework-11-2020/> (accessed 15.09.2025).

of motivation, cognitive processing, and memory retention than those experiencing negative emotions. This is compatible with affective theories which suggest that negative emotions can impede involvement, while positive emotions enhance cognitive processing and retention [16].

EXPERIMENT DESIGN AND PARTICIPANTS

To guarantee a representative sample of EFL learners with varied backgrounds including variances in language proficiency, cultural backgrounds, and baseline affective dispositions, 96 participants were chosen. This variety makes it possible to investigate more fully how various emotional reactions influence EFL learning on various learner profiles. Three groups – one (31 participants) exposed to materials meant to evoke positive emotions, another one (32 participants) to neutral content, and a third one (33 participants) to content meant to induce negative emotions – were randomly assigned to each participant. Random choice of the target sample reduces possible biases and makes comparisons across groups possible to ascertain how emotional reactions affect involvement and retention. Table 1 presents the characteristics of the selected sample, including demographic information, linguistic background, and group assignment.

Table 1

The selected sample characteristics

Participant Description	Details
Total Participants	N: 96%, F: 100%
Linguistic Background	Diverse
Cultural Background	Diverse
Age Range	21–31
Gender	47 males, 49 females
Language Proficiency Level	Intermediate
Group Assignment	– emotionally positive content group (n = 31/31.6%); – emotionally neutral content group (n = 32/33.7%); – emotionally negative content group (n = 33/34.7%)
Context	English as a Foreign Language (EFL) learners
Study Type	Experimental design with randomized group assignment

Compiled by the authors on the materials of the study

Three sets of materials were created especially for every group in order to generate different emotional reactions. Materials for the first group with positive content included interesting visuals, personal interest stories, and culturally relevant subjects meant to pique curiosity and enjoyment. These subjects were selected to be both relevant and approachable, offering a known setting that promotes confidence and lessens anxiety.

Designed to elicit a minimal emotional response, the second group with neutral content got simple, factual materials from which to base comparisons. By including dense text and abstract subjects to perhaps cause irritation or disengagement, the materials of the third negative-content group were more complex, foreign, and demanding. The study aims to establish a clear link between emotional engagement and language learning outcomes by precisely customizing content for every group, so it helps to clarify the learner-content relationship in EFL environments.

The questionnaire designed for this study aimed to examine the impact of emotional content (positive, neutral, and negative) on three key dependent variables: motivation, cognitive processing, and memory retention. It consisted of a total of 25 items, grouped into three dimensions, each corresponding to one of the target variables.

Each subscale included multiple positively worded items measured on a 5-point Likert scale, allowing the target respondents to indicate their level of agreement with each statement.

- the motivation dimension measured learners’ emotional drive, goal orientation, and interest in the learning content;
- the cognitive processing dimension assessed the extent to which learners mentally engage with, analyze, and make sense of the material;
- the memory retention dimension evaluated learners’ ability to recall and retain information presented in different emotional contexts.

The items were evaluated and revised by three specialists in applied linguistics and educational psychology to guarantee their content validity. In order to ensure the instrument’s face validity, it was pilot tested on 30 participants and reviewed by experts. The reliability analysis was carried out using Cronbach’s alpha (α), which confirmed that all subscales had acceptable to high levels of internal consistency ($\alpha > 0.70$). Because of its good psychometric properties, the final questionnaire was approved for research into the ways in which emotional content affects important parts of the learning process.

STUDY RESULTS

This section examines how different types of emotional content, positive, neutral, and negative, impact key psychological and learning variables among English as a Foreign Language (EFL) learners, including learners’ memory retention, cognitive processing, and motivation, and how these factors in turn relate to their overall language performance. The multivariate analysis results are presented in Table 2.

Table 2

Comparative Analysis of Emotional Content on EFL Learners’ Memory Retention, Cognitive Processing, and Motivation

Test Statistic	Value	F	df (Hypothesis, Error)	Sig.
Wilks’ Lambda	0.220	33.913	(6, 180)	0.000

Compiled by the authors on the materials of the study

Following tests for homogeneity of variance and normality to make sure the data satisfied the required assumptions. Levene’s test indicated that the assumption of equal variances across groups was not violated; the normality test verified that the data followed a normal distribution.

Emotional content, positive, neutral, negative, has a statistically significant multivariate effect on the combined dependent variables (motivation, cognitive processing, and memory retention), since $p < 0.001$ across all tests. The results of the univariate tests are shown in Table 3.

Table 3

Univariate Tests of Group Effects on Motivation, Cognitive Processing, and Memory Retention

Dependent Variable	F	Sig.	R ² (Adj. R ²)
Memory Retention	32.39	0.000	0.413 (0.400)
Cognitive Processing	8.44	0.000	0.155 (0.137)
Motivation	120.94	0.000	0.724 (0.718)

Compiled by the authors on the materials of the study

All three dependent variables show significant group effects ($p < 0.001$), showing notable variations according to follow-up univariate tests. Motivation with its strongest effect ($R^2 = 0.724$, $F(2, df) = 120.94$, $p < 0.001$) was most influenced by emotional content, followed by memory retention ($F = 32.39$, $p < 0.001$), and then cognitive processing ($F = 8.44$, $p < 0.001$). These results show that in an EFL environment, emotionally framed materials influence students' mental engagement, recall, and especially motivating levels. The post-hoc LSD test results are summarized in Table 4, showing how groups differ pairwise across the three dependent variables.

Table 4

Post-Hoc LSD Test Results Comparing Positive, Neutral, and Negative Emotional Content Groups

Dependent Variable	Group Comparison	Mean Difference (I-J)	p-value
Memory Retention	Positive vs Neutral	+ 0.81	0.000
	Positive vs Negative	+ 1.24	0.000
	Neutral vs Negative	+ 0.44	0.006
Cognitive Processing	Positive vs Neutral	+ 0.30	0.020
	Positive vs Negative	+ 0.52	0.000
	Neutral vs Negative	+ 0.22	0.083
Motivation	Positive vs Neutral	+ 1.43	0.000
	Positive vs Negative	+ 2.02	0.000
	Neutral vs Negative	+ 0.58	0.000

Compiled by the authors on the materials of the study

The post-hoc LSD test reveals that the emotional content significantly influences participants' motivation, memory retention and cognitive processing, respectively. More precisely, exposure to positive content (Group 1) consistently led to better outcomes across all three measures. With neutral content (Group 2) also outperforming negative content (Group 3), participants who experienced positive content showed notably better memory retention than those exposed to either neutral or negative content. Though the difference between neutral and negative content was not statistically significant, positive content once more showed a notable cognitive processing advantage over both neutral and negative content.

For memory retention, positive content resulted in significantly higher scores than neutral content by + 0.81 ($p = 0.000$) and negative content by + 1.24 ($p = 0.000$), while neutral content also outperformed negative content by + 0.44 ($p = 0.006$).

In terms of cognitive processing, positive content yielded higher scores than neutral (+ 0.30, $p = 0.020$) and negative content (+ 0.52, $p = 0.000$), although the difference between neutral and negative content (+ 0.22) was not statistically significant ($p = 0.083$).

Motivation showed the clearest pattern: positive content significantly surpassed neutral (+ 1.43, $p = 0.000$) and negative content (+ 2.02, $p = 0.000$), with neutral content also demonstrating a modest but significant advantage over negative content (+ 0.58, $p = 0.000$).

These results highlight the need for emotionally uplifting content in psychological and educational environments since they imply that positive emotional stimuli can motivate learners and improve not only what they remember but also how strongly they interact with content. The correlation between learners' motivation and EFL performance is shown in Table 5.

Table 5

Correlation Between Motivation Following Positive Emotional Stimuli and EFL Performance

Variables		N	Pearson Correlation	p-value
Performance	Motivation	31	0.764	0.000

Note: $p < .01$ (correlation is significant at the level of 1%)

Compiled by the authors on the materials of the study

With a Pearson correlation coefficient of 0.764, the correlation study reveals a strong link between learners' performance and their motivation. This suggests that among the participants, greater performance is linked with greater drive. Based on data gathered from 31 students (Group 1), the study supported the conclusion that performance of EFL learners is much influenced by motivation which is in fact influenced by positive emotional content. Finally, the multiple regression analysis, reported in Table 6, predicts performance based on motivation, memory retention, and cognitive processing.

Table 6

Multiple Regression Predicting EFL Performance from Motivation, Memory Retention, and Cognitive Processing

Predictor	B	Std. Error	Beta	t	Sig. (p)
(Constant)	1.051	0.550	–	1.910	0.067
Memory Retention	– 0.121	0.080	– 0.181	– 1.516	0.141
Cognitive Processing	– 0.120	0.152	– 0.095	– 0.790	0.436
Motivation	0.745	0.114	0.774	6.541	0.000

Note: dependent variable – Performance

Compiled by the authors on the materials of the study

The multiple regression analysis shows a strong positive relationship, with a correlation coefficient (R) of 0.791. The R^2 value of 0.625 indicates that approximately 62.5% of the variance in performance can be explained by the three predictors. The results of the multiple regression analysis indicate that performance is predicted by three factors: motivation, memory retention, and cognitive processing.

Motivation shows a strong positive effect on performance, with an unstandardized coefficient (B) of 0.745, meaning that for every one-unit increase in motivation, performance increases by approximately 0.75 units when controlling for the other variables. This relationship is highly significant ($t = 6.541$, $p < 0.001$), indicating that motivation is a strong and reliable predictor of performance.

In contrast, memory retention and cognitive processing both have negative coefficients (-0.121 and -0.120 , respectively) but neither is statistically significant ($p = 0.141$ and $p = 0.436$), suggesting that these factors do not reliably predict performance in this model. Overall, motivation emerges as the only significant predictor, implying that learners exposed to positive emotional content tend to perform better primarily due to increased motivation rather than memory retention or cognitive processing.

DISCUSSION

This study investigated the impact of positive, neutral, and negative emotions on EFL learners' memory retention, cognitive processing, and motivation, which in turn influence language performance. Multivariate analysis revealed that emotional content significantly influences dependent variables while the univariate analysis demonstrated that emotional content significantly affected all three dependent variables ($p < 0.001$). Among these variables, motivation exerted the most significant influence followed by memory retention and cognitive processing.

The findings indicate that emotional content, particularly positive emotions, influences language learners' engagement and psychological preparedness. The effects were elucidated through post-hoc comparisons of LSD. Positive emotional content enhanced motivation, memory retention, and cognitive processing more effectively than neutral and negative content. Positive stimuli markedly enhanced motivation relative to neutral and negative conditions. Positive content consistently surpassed the other two categories in memory retention and cognitive processing. Despite the lack of statistical significance in the cognitive processing disparity between neutral and negative content, neutral content typically exhibited superior performance. Supported by this, the findings clearly show that positive emotional stimuli enhance learners' psychological engagement, recall, and cognitive interaction with material, whereas negative content may impede these processes.

Furthermore, a strong positive correlation was identified between student motivation and EFL performance when presented with positive emotional content. This proves that motivation mediates the relationship between emotional engagement and performance improvements. Moreover, the multiple regression analysis indicated that performance can be explained by the three predictors combined. Yet, motivation was the strong significant predictor of EFL performance. In other words, motivation propels the linguistic advantages of emotional content in learning.

These findings align with Fredrickson's Broaden-and-Build Theory and Self-Determination Theory (SDT), emphasizing positive emotions' impact on learners' perspectives and resilience. Teaching English as a Foreign Language can boost intrinsic motivation and retention by meeting learners' psychological needs for competence, autonomy, and relatedness.

On this basis, key factors essential for the design of effective EFL instruction are recommended:

1. Emotionally engaging materials in English as Foreign Language (EFL) curricula are crucial, as evidenced by the strong performance of the positive-content group. Content that engages, entertains, and intrigues improves cognitive processing and retention. Teachers should use culturally relevant and relatable materials to create learning environments that match students' intrinsic motivations.

2. The challenges faced by the negative-content group emphasize the need to prevent cognitive overload. Complex or abstract materials can frustrate and disengage lower-proficient learners. Modifying content difficulty to match learners' abilities and providing scaffolding and support can reduce negative emotions and encourage persistence.

CONCLUSION

This study provides strong evidence that positive emotional content is crucial to EFL learning. Language instruction often neglects emotional engagement, which is crucial to student success. Positive emotions spark curiosity, maintain attention, and encourage active learning. Whereas negative emotions can hinder learning, lower students' confidence, engagement, and language internalization.

Since EFL learners are vulnerable in unfamiliar linguistic and cultural environments, emotional challenges can be harmful. This study shows that EFL instruction design and delivery must incorporate emotional and motivational principles. Recognizing and addressing emotional learning helps educators create adaptive, inclusive, and psychologically supportive classrooms. Such environments foster belonging, self-efficacy, risk-taking, and resilience—essential for language learning.

On this premise, this study concludes with a plan to improve EFL curricula and teaching. It stresses the importance of choosing and designing instructional materials that match students' identities, cultures, and emotions. Educators can empower and engage language learners by doing so. Thus, emotionally informed language acquisition is more effective, human-centered, and learner-centered.

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