

Utilizing Jean-Marc Dewaele and Peter MacIntyre 's Scale to Find Out the Dominant Factor to Shaping EFL Learners' FLE

*Suswati Hendriani¹, David², Hendra Eka Putra³, Irman⁴,
Silvianetri⁵, Fadriati⁶

*English Teaching Department, Universitas Islam Negeri Mahmud Yunus Batusangkar, Indonesia,
suswati.hendriani@uinmybatusangkar.ac.id¹

Islamic Education Department, Universitas Islam Negeri Mahmud Yunus Batusangkar, Indonesia,
david@uinmybatusangkar.ac.id²

English Teaching Department, Universitas Islam Negeri Mahmud Yunus Batusangkar, Batusangkar, Indonesia,
hendraeka.p@uinmybatusangkar.ac.id³

Guidance and Counseling Department, Universitas Islam Negeri Mahmud Yunus Batusangkar, Indonesia,
irman@uinmybatusangkar.ac.id⁴

Guidance and Counseling Department, Universitas Islam Negeri Mahmud Yunus Batusangkar, Indonesia,
silvianetri@uinmybatusangkar.ac.id⁵

Islamic Education Department, Universitas Islam Negeri Mahmud Yunus Batusangkar, Indonesia,
fadriati@uinmybatusangkar.ac.id⁶

Abstract

The aim of this study is to investigate the dominant factor contributing to shaping Indonesian EFL learners' Foreign Language Enjoyment (FLE) in their Foreign Language Learning (FLL) in Indonesian Higher Education context. This study was a descriptive quantitative research using cross-sectional design, in which the data were collected once by using FLE Scale constructed by Jean-Marc Dewaele and Peter MacIntyre. Before use, the scale consisting of 21 items was modified and translated into Bahasa. The data analysis technique used was LISREL (Linear Structural Relations), a covariance-based Structural Equation Modeling (SEM) method. Lisrel analysis was used to find out the most dominant factor—among FLE-Private, FLE-Teacher, and FLE-Atmosphere—contributing to the students' FLE. Based on the data analysis, it was found that the FLE-Atmosphere makes the most dominant contribution, followed by FLE-Private and FLE-Teacher. The finding was in contradictory with previous studies, and, thus, will be discussed deeply in the context of the existing literature.

Keywords: Foreign Language Enjoyment (FLE); Foreign Language Learning (FLL); higher education; Indonesian EFL learners.

Introduction

Learners' success in their Foreign Language Learning (FLL) is the target of all teaching and learning activities in FLL. Therefore, all factors influencing the learners in their FLL should be controlled and directed to their FLL success. In general, learners relate their success and failure to both internal and external factors in which the external factors are more prioritized (Mohammadi & Sharififar, 2016), and success was perceived as more external in students' attributions than failure (Gobel & Mori, 2007). The interwoven functioning of all factors, i.e., effort, teacher, confidence and the use of EFL learning for practice will guide to EFL learning success (Lei & Qin, 2009).

Much research on FLL is, lately, more focused on positive feelings or emotions of EFL learners (Zhang & Wang, 2026) such as enjoyment, satisfaction, sense of achievement, resilience, love and so on rather than just negative emotions like anxiety, worry, and anger (Dewaele & Dewaele, 2017; MacIntyre & Vincze, 2017). Among the positive emotions, learners' enjoyment in FLL usually defined as FLE in FLL has been paid more attention from scholars (Raccanello et al., 2019).

Some studies have investigated relationships between L2 Grit and FLE with and students engagement motivation (Jin, 2024); foreign language classroom anxiety (FLCA) and FLE (Yu, 2025); (Dewaele. & Li, 2022; Wu, 2024) FLE and foreign language classroom boredom (FLCB) (Kruk et al., 2025) FLCA, FLE and speed fluency in an oral task (Bielak, 2025); FLE, engagement and willingness to communicate (Lin & Wang, 2025); FLE and various performance and achievement measures, as well as between foreign language classroom anxiety (FLCA), FLCB, and FL performance and achievement measures (Dewaele et al., 2025); the effects of FLE, FLCA, and FLCB and peace of mind on attitude/motivation change with skill level, academic achievement and age (Dewaele & Botes, 2025); Sources and effects FLA, FLCA and FLCB (Dewaele, et al., 2023)).

All previous studies were conducted in many countries whose cultures are different from Indonesia. However, this research was conducted in Indonesian context. This research was conducted to question the FLE scale constructed by Jean-Marc Dewaele and Peter MacIntyre in some aspects: whether the FLE scale developed by them demonstrates a good fit for Indonesian EFL Learners, whether the 21 items of the scale have good validity and reliability, whether each of the three dimensions (the FLE-Private, FLE-Teacher, and FLE-Atmosphere) in the scale make a significant contribution to the EFL learners' FLE in their FLL, and to find out which factor among three dimensions makes the most dominant contribution to shaping their FLE.

Research Question

There is one final question to be answered in this research. The question is: Which factor—among FLE-Private, FLE-Teacher, and FLE-Atmosphere—makes the most dominant contribution to shaping students' Foreign Language Enjoyment (FLE)?

Literature Review

Foreign Language Enjoyment: Defined

Enjoyment is defined as “complex emotion, capturing interacting dimensions of challenge and perceived ability that reflect the human drive for success in the face of difficult tasks.” (J. M Dewaele & MacIntyre, 2016) positive feelings the learners experience in their foreign language learning (Dewaele, J. M., et al., 2018) an emotion that derives from meeting prior expectations or satisfying a need beyond one's expectation (Csikszentmihalyi, M., 1990) “the pleasant feelings that originate from going beyond homeostatic boundaries as well as extending oneself to gain new experiences, particularly when one encounters challenging tasks” (Elahi Shirvan, M et al., 2020); defines enjoyment “as good feelings coming from breaking through homeostatic limits and stretching beyond oneself to accomplish something new or even unexpected, especially in face of some difficult tasks” Relating enjoyment to a foreign language learning, (J. M Dewaele & MacIntyre, 2016) defined FLE as “a complex emotion, capturing interacting dimensions of challenge and perceived ability that reflect the human drive for success in the face of difficult tasks...enjoyments occur when people not only meet their needs, but exceed them to accomplish something new or even unexpected”

Factors Influencing Foreign Language Enjoyment

There are several variables or factors influencing EFL learners' FLE, which can be classified into intrinsic and extrinsic factors. The intrinsic factors include learners' personal identity characteristics, psychological factors, and the ability to learn an FL and other aspects related to this like age, gender, FL proficiency, perceived FL proficiency, multilingualism, attitude towards learning, and time spent learning the FL (Dewaele, J. M., et al., 2018). Other factors include learning attitudes, emotional experiences, behaviour tendencies. The learner-internal factors or personality variables are like age, gender, competence level and foreign language (Barrios and Acosta-Manzano, 2022). Extrinsic or external factors are like social milieu, school environment, and teachers (Liao, J., 2024).

Learners FLE is also influenced by factors like students' perception on their own language ability in FLL classrooms, number of languages they know, their education level, age, general level of the FL and cultural background. (J. M Dewaele & MacIntyre, 2016); teachers' professional and emotional skills and of a supportive peer group (Dewaele, J. M & MacIntyre, P. D., 2014). Positive attitudes towards the FL and the FL teacher, a lot of FL use by the teacher in class, a strong proportion of time spent by students on speaking, a higher relative standing among peers in the FL class and a relative advanced stage of development of the FL all contributed to higher levels of FLE (Dewaele, J. M., et al., 2018).

Methodology

Design of the Study

This research applied a descriptive quantitative method using cross-sectional design. The reasons for choosing the method. In this research, the EFL learners' feelings of enjoyment in learning English was.

Research Respondent

The respondents of the research were 642 EFL learners determined using simple random sampling technique. The google was distributed freshmen learning English language. The total sample of the research was 642 EFL learners. They come from four faculties: 133 male students (20.7%) and 509 female student (79.3%).

Data Collection Technique

In this research, data of the research were collected by distributing google form containing 21 items of Foreign Language Enjoyment (FLE) Scale as constructed by Jean-Marc Dewaele and Peter MacIntyre. The scale was translated into *Bahasa* in order to avoid misunderstanding and to make it easier for the respondents to give their opinions. The scale was, then, changed into a five Likert's Scale questionnaire. The options provided in the scales were: Strongly Agree, Agree, Undecided, Disagree, and Strongly Disagree. (Indonesia).

Data Analysis

The data of the research were analyzed using descriptive statistics for quantitative descriptive data and then continued with the application of LISREL (Linear Structural Relations), a covariance-based Structural Equation Modeling (SEM) method to find out the fit of the items of the questionnaire, the validity and the reliability of each item of the questionnaire, and the significant contribution of each item of the questionnaire,

Results

As mentioned previously, there is one question to answer i.e., relating to the factor that makes the most dominant contribution to shaping students' Foreign Language Enjoyment (FLE)—among FLE-Private, FLE-Teacher, and FLE-Atmosphere—. Using Jean-Marc Dewaele and Peter MacIntyre's FLE scale to find out the dominant factor (to answer the final question), three questions should be answered first. The questions to answer are as follow:

1. Does the theoretical structural model of the Foreign Language Enjoyment (FLE) construct—comprising the FLE-Private, FLE-Teacher, and FLE-Atmosphere dimensions—demonstrate a good fit with empirical data from the field?
2. Are the statement items (Item 1 through Item 21) in this research instrument valid and reliable in representing the Foreign Language Enjoyment (FLE) construct?
3. Does each of three dimensions - the FLE-Private, FLE-Teacher, and FLE-Atmosphere- make a significant contribution to students' Foreign Language Enjoyment (FLE) in learning English?

Question 1 is addressed to answer whether the theoretical structural model of the FLE construct—comprising the FLE-Private, FLE-Teacher, and FLE-Atmosphere dimensions—demonstrates a good fit with empirical data from the field. After the data were analyzed, the results of the confirmatory factor analysis show that the model is not yet fit at first. In fact, the requirements for a fit model are (1) Chi-Square $< 2 \times df$, obtained Chi-Square $197.28 < 276$, the conclusion is met. (2) P-Value > 0.05 , the value obtained is $0.00070 < 0.05$, the conclusion is not met. (3) RMSEA (Root Mean-Square Error of Approximation) < 0.08 , the result obtained is 0.026 . (4) CFI (Comparative Fit Index) ≥ 0.90 , the value obtained = 1.00 , the conclusion is met. (5) NFI (Normed Fit Index) ≥ 0.90 , the value obtained = 0.99 , the conclusion is met. (6) IFI (Incremental Fit Index) ≥ 0.90 , the value obtained = 1.00 . Based on collected data, one of the six model fit requirements was not met.

Thus it can be concluded that the theory or hypothesis regarding the construct structure is not supported by field data. After being observed, one of the causes is due to one insignificant item, namely Item_2 (I can laugh off embarrassing mistakes in the FL) with a standardized solution result of -0.00 with a t-value of -0.08 . If Item_2 is removed, the model is already fit as shown in Figure 1 below:

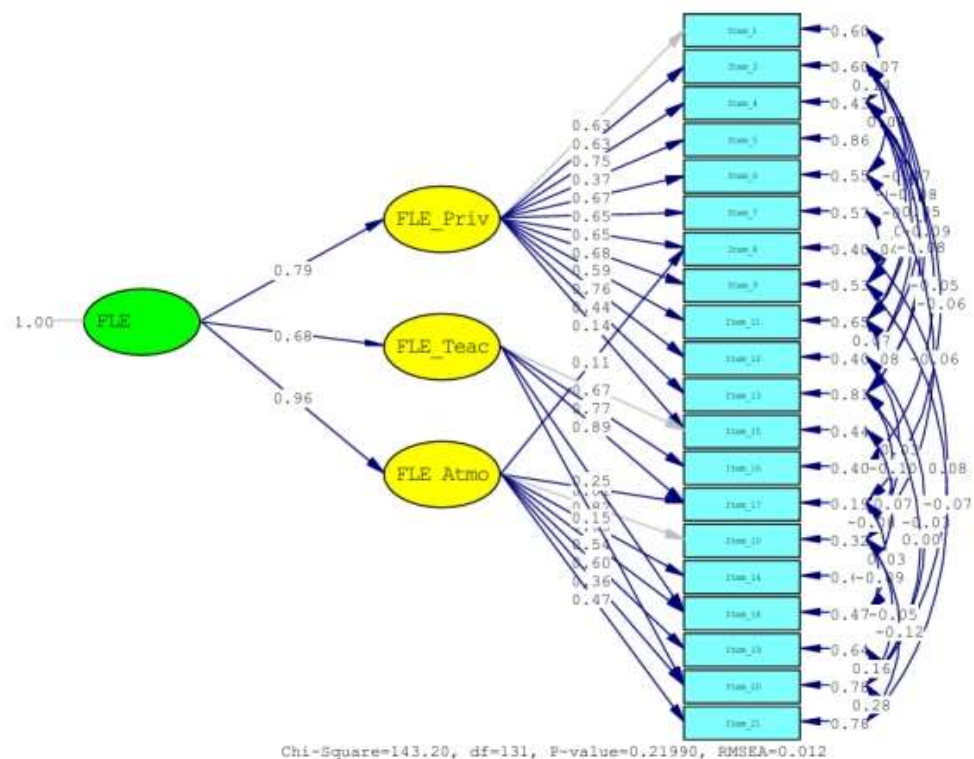


Figure 1: Model Fit with 21 Items

By excluding Item 2, the results of the confirmatory factor analysis show that the model is fit. The requirements for the fit model are (1) Chi-Square < 2 x df, obtained Chi-Square 143.20 < 262. (2) P-Value > 0.05, the value obtained is 0.21990 > 0.05. (3) RMSEA (Root Mean-Square Error of Approximation) < 0.08, the result obtained is 0.012. (4) CFI (Comparative Fit Index) >= 0.90, the value obtained = 1.00. (5) NNFI (Non-Normed fit Index) >= 0.90, the value obtained = 1.00. (6) NFI (Normed Fit Index) >= 0.90, the value obtained = 0.99. (7) IFI (Incremental Fit Index) >= 0.90, the value obtained = 1.00. Based on these results, all 7 model fit requirements are met. Thus, it can be concluded that the theory or hypothesis regarding the construct structure is supported by the field data. In other words, the FLE scale can be utilized for Indonesian EFL learners, as shown in Figure 2 below:

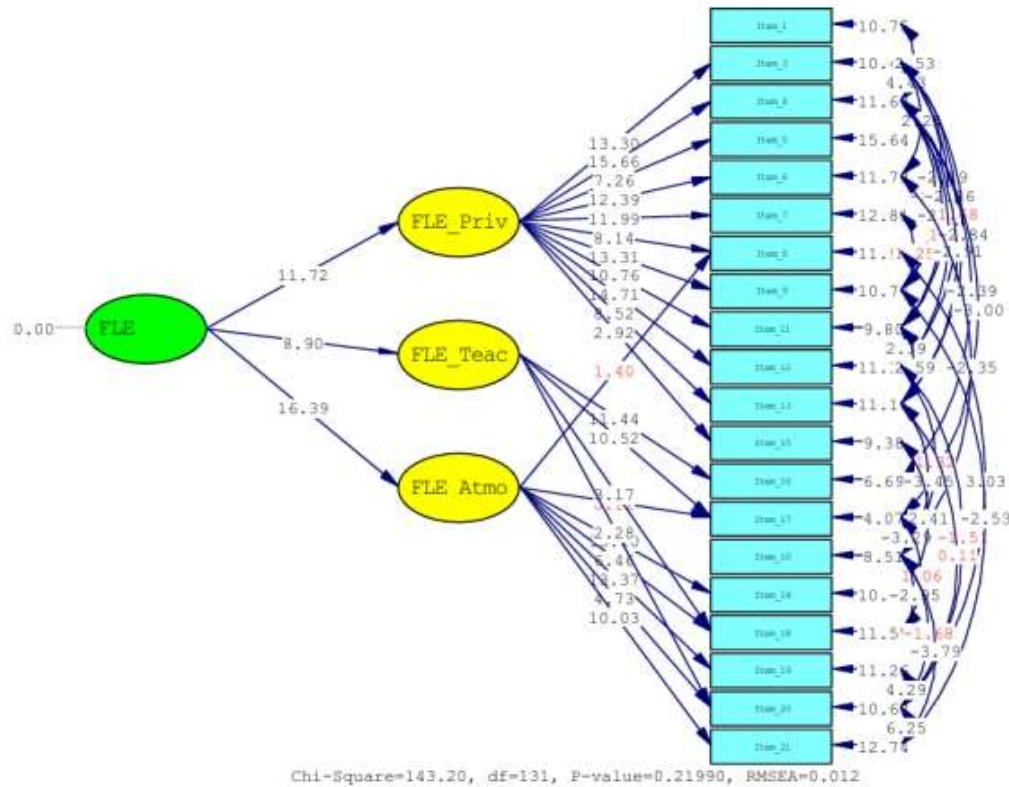


Figure 2: Figure 1: Model Fit with 20 Items

Question 2 is aimed to find out whether Item 1 through Item 21 items of the FLE scale are valid and reliable in representing the FLE construct

To obtain the answer, the next step is to observe each factor loading (convergent validity) on each item to its respective indicator. The factor loading value is accepted if it is ≥ 0.3 or looks at t-values ≥ 1.96 . The factor loading of each item to its indicator is presented in Table 1 below.

No	Variable	Indicator	Item	Standardized Solution	T-Values	Var Error
1	FLE	FLE-Private		0,79	11,72	
			Item_1	0,63		0,60
			Item_3	0,63	13,30	0,60
			Item_4	0,75	15,66	0,43
			Item_5	0,37	7,26	0,86
			Item_6	0,67	12,39	0,55
			Item_7	0,65	11,99	0,57
			Item_8	0,65	8,14	0,40
			Item_9	0,68	13,31	0,53
			Item_11	0,59	10,76	0,65
			Item_12	0,79	14,71	0,40
			Item_13	0,44	8,52	0,81
2	FLE	FLE-Teacher		0,68	8,90	
			Item_15	0,67		0,44
			Item_16	0,77	11,44	0,40
3	FLE	FLE-Atmosphere		0,96	16,39	
			Item_10	0,82		0,32
			Item_14	0,63	13,10	0,40

Item_18	0,54	6,46	0,47
Item_19	0,60	13,37	0,64
Item_20	0,36	4,73	0,78
Item_21	0,47	10,03	0,70

Based on the table 1, it is known that (1) none of the factor loadings in the standardized solution are less than 0.3. (2) The T-values are all above 1.96 at the alpha level (significant at 0.05). Based on these values, it can be concluded that each item (except item 2) meets the requirements for validity and represents the constructed construct.

Once each item is known to be valid, the next step is to calculate construct reliability (CR). The CR calculation uses the following formula:

$$pc = (\sum \lambda)^2 / (\sum \lambda)^2 + \sum var(\epsilon)$$

The calculation yields a CR of 0.94 > 0.7. Based on this value, it can be concluded that this instrument is consistent and reliable. Once the CR is met, the Average Variance Extracted (AVE) is calculated using the following formula.

$$AVE = \sum \lambda^2 \sum \lambda^2 + \sum var(\epsilon)$$

Based on the calculation, the AVE value is 0.44 > 0.3. The higher the factor loading value, the stronger the item represents the construct.

Question 3: Regarding the Significance of Factor Contributions. The question to be answered is: Does each of three dimensions - the FLE-Private, FLE-Teacher, and FLE-Atmosphere- make a significant contribution to students' Foreign Language Enjoyment (FLE) in learning English?

Based on figures 1 and 2, it can be concluded that the dimensions of FLE-Private, FLE-Teacher, and FLE-Atmosphere each significantly contribute to students' Foreign Language Enjoyment (FLE) in learning English, even when item no. 2 is removed.

Since the three questions have been answered indicating that the FLE scale is appropriate to be used to for Indonesian EFL learners, the last main question to answer regarding the dominant factor—among FLE-Private, FLE-Teacher, and FLE-Atmosphere— that makes the most dominant contribution to shaping Indonesian EFL learners' FLE in their FLL.

This study aims to identify dominant factors that contribute to student enjoyment in learning English. Among these factors, the CFA analysis revealed a leading factor from Private to FLE of 0.79, with T-values of 11.72 > 1.96, indicating that Private contributes significantly to FLE. Furthermore, the FLE-Teacher loading factor on FLE was 0.68, with a T-value of 8.90 > 1.96, indicating that FLE Teacher contributes significantly to FLE. Furthermore, the FLE Atmosphere loading factor on FLE was 0.96, with a T-value of 16.39 > 1.96, indicating that FLE Atmosphere contributes significantly to FLE.

Based on this analysis, it can be seen that all three factors contribute significantly. Although three dimensions contribute significantly, it is important to know which factor is the most dominant contributor among them. Based on the data analysis, it was found that the factor that contributes the most to FLE is the Atmosphere factor, followed by FLE-Private at the second rank and FLE-Teacher at the last rank.

Discussion

As seen previously, FLE- Atmosphere is the most dominant factor among the three. A study conducted by (Li, C et al., 2018) revealed that Chinese EFL learners' enjoyment was formulated by the dimensions of FLE-teacher, FLE-private and FLE-atmosphere among which EFL instructors played a crucial role in creating a positive classroom. However, the other two factors also contribute significantly. Even though the FLE-Atmosphere is the most dominant for Indonesian English EFL learners, the learners need to rely on themselves. Besides, the learners also need their teachers' professional and emotional skills to support them other than a supportive peer group (Dewaele, & MacIntyre, 2014); and the teachers may rather focus on boosting FLE in a positive classroom environment rather than worry over FLCA (Dewaele, J. M & MacIntyre, P. D., 2019)..

The results of this study are very different from the results of similar studies conducted by previous researchers. Here, for Indonesian EFL learners, the factor that most makes them enjoy learning English is the learning atmosphere (FLE-Atmosphere), surpassing factors that come from themselves and even the teacher factor. These findings are certainly quite contrast with the research findings by (Li, et al., 2018), showing that the most dominant factor contributing to the EFL learners enjoyment in learning English in previous researched countries was FLE-Teacher, followed by FLE-Privat and FLE-Atmosphere. Indonesian EFL

learners being studied, in contrast, showed that their FLE was mostly influenced by the atmosphere in which the learning process takes place. The contrast between previous research findings and this study seems to be heavily influenced by Indonesian cultural factors, which are also very different from the cultures where earlier research was carried out. Besides, the learners' personality traits might also quite influential in the FLL. According to (J. M Dewaele & MacIntyre, 2016) there are several variables influencing EFL learners' FLE. They are learners' perception on their own language ability in FLL classrooms, number of languages they know, their education level, age, general level of the FL and cultural background. Here is stated among the factors contributing to learners' FLE is cultural background. Moreover, teachers' professional and emotional skills and of a supportive peer group (Dewaele, J. M & MacIntyre, P. D, 2014).

Using these research results, one conclusion can be drawn: Indonesian students will succeed in learning English if the learning environment is supportive. This means that the main task of teachers should be to create an enjoyable English learning process so that Indonesian students, who like to cooperate, care a lot about peer feedback, and are a bit shy, will be helped in learning English. Previous research has demonstrated links between students' behaviors and teachers' emotions (Ruiter et al., 2019); and the teacher creating a positive emotional atmosphere in class contributed to the higher FLE score (Dewaele, J. M & Dewaele, L., 2020). Teachers should tailor their teaching strategies to foster FLE in EFL learning, thereby enhancing students' learning outcomes and well-being (Zhang & Wang, 2026). However, positive atmosphere can be created not only by teachers but also by students, or by a combination of them. (Dewaele, J. M & Alfawzan, M, 2018) state that the positive effect of FLE on performance was stronger than the negative effect of FLCA. It means, FLE seems to matter slightly more than FLCA in foreign language (FL) performance. Therefore, teachers, as facilitators and motivators in teaching-learning process, and the learners themselves, should focus more on students' positive emotions rather than their negative ones. This means that both the teachers and the students should make more effort to create an enjoyable learning atmosphere which will make the learners more relaxed, more motivated, more challenged, more enjoyed, and more engaged which, in turn, will increase the learners' learning outcomes and improve their well-being.

These findings are consistent with evidence from other disciplinary contexts showing that culturally resonant and interdisciplinary resources can strengthen motivation, critical thinking, and resilience in higher education (Morales-Maure et al., 2026; Morales-Maure, García Marimón, & Alfaro Ponce, 2025). From a teacher-development perspective, collaborative reflection through Lesson Study and didactic suitability criteria also offers a structured route for refining the pedagogical decisions that shape supportive learning environments (Morales-Maure, Chacón-Rivadeneira, et al., 2025).

Conclusion

This study shows that almost all items, except item 2, from the FLE scale by Jean-Marc Dewaele and Peter MacIntyre can be used to measure the factors that shape Indonesian EFL learners' FLE. The scale has been proven to be valid and reliable for measuring how much students enjoy learning the foreign language, in this case, English. In addition, the three factors— have been shown to significantly contribute to FLE. So, the scale can be used to investigate which dimension contributes the most to students' FLE among the three dimensions. The measurement results show that for Indonesian students, FLE-Atmosphere is the most influential factor on their enjoyment of learning English, followed by FLE-Private and FLE-Teacher, respectively.

Reference

- Bielak, J. (2025). To what extent are foreign language anxiety and foreign language enjoyment related to L2 fluency? An investigation of task-specific emotions and breakdown and speed fluency in an oral task. 29(3), (3), 911-941
- Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience*.
- Dewaele, J. M & Alfawzan, M. (2018). Does the effect of enjoyment outweigh that of anxiety in foreign language performance?. 8(8.), 21–45.
- Dewaele, J. M., & Botes, E. (2025). How the effects of foreign language enjoyment, anxiety, boredom and peace of mind on attitude/motivation change with skill level, academic achievement and age: A moderated mediation model. 35(4), 2010–2025.

- Dewaele, J. M., Botes, E., G., & reiff, S. (2023). Sources and effects of foreign language enjoyment, anxiety, and boredom: A structural equation modeling approach. *Studies in Second Language Acquisition*. 45(2),(2).
- Dewaele, J. M., & Dewaele, L. (2017). The dynamic interactions in foreign language classroom anxiety and foreign language enjoyment of pupils aged 12 to 18. A pseudo-longitudinal investigation. 1(1), 12–22.
- Dewaele, J. M & Dewaele, L. (2020). Are foreign language learners' enjoyment and anxiety specific to the teacher? An investigation into the dynamics of learners' classroom emotions. 10(1), .(1), 45–65.
- Dewaele, J. M., Guedat, B., D., & Dat, M. A. (2025). Foreign language enjoyment overcomes anxiety and boredom to boost oral proficiency in the first year of English foreign language learning. 35(1).
- Dewaele., J. M., & Li, C. (2022). Foreign language enjoyment and anxiety: Associations with general and domain-specific English achievement. 45(1),(1), 32–48.
- Dewaele, J. M & MacIntyre, P. D. (2014). The two faces of Janus? Anxiety and enjoyment in the foreign language classroom. 4(2), 237–274.
- Dewaele, J. M & MacIntyre, P. D. (2014). The two faces of Janus? Anxiety and enjoyment in the foreign language classroom. *Studies in second language learning and teaching*. 4(2), 237–274.
- Dewaele, J. M & MacIntyre, P. D. (2019). The predictive power of multicultural personality traits, learner and teacher variables on foreign language enjoyment and anxiety. (Pp.). Routledge. 263–286.
- Dewaele, J. M., Witney, J., Saito, K, & Dewaele, L. (2018). Foreign language enjoyment and anxiety: The effect of teacher and learner variables. 22(6,), 676–697.
- Elahi Shirvan, M, Taherian, T., & Yazdanmehr, E. (2020). The dynamics of foreign language enjoyment: An ecological momentary assessment.
- Gobel, P., & Mori, S. (2007). Success and failure in the EFL classroom: Exploring students' attributional beliefs in language learning. *EUROSLA Yearbook*, 7, 149–169. <https://doi.org/10.1075/eurosla.7.09gob>
- J. M Dewaele, & MacIntyre, P. D. (2016). Foreign language enjoyment and foreign language classroom anxiety: The right and left feet of the language learner. 215(236).
- Jin, Y. (2024). Motivating students to actively engage in EFL classrooms: Exploring the role of L2 grit and foreign language enjoyment. 85.
- Kruk, M., Pawlak, M., Elahi, S., M., Taherian, T., & Yazdanmehr, E. (2025). A longitudinal study of foreign language enjoyment and boredom: A latent growth curve modeling. 29(3), 1007–1038.
- lei, I. e. i, & qin, x. (2009). An empirical study of success and failure attributions of efl learners at the tertiary level in china. 11(3), 29-51.
- Li, C, Jiang, G, & Dewaele, J. M. (2018). Understanding Chinese high school students' foreign language enjoyment: Validation of the Chinese version of the foreign language enjoyment scale. ., 76.
- Liao, J. (2024). Reviewing Foreign Language Enjoyment with Foreign Language Learning. (300-337).
- Lin, J., & Wang, Y. (2025). Exploring Chinese university students' foreign language enjoyment, engagement and willingness to communicate in EFL speaking classes. 12(1), 1-13.

- MacIntyre, P. D., & Vincze, L. (2017). Positive and negative emotions in motivation for second language learning. *Studies in Second Language Learning and Teaching*, 7(7), 61–81.
- Mohammadi, A., & Sharififar, M. (2016). Attributions for Success and Failure: Gender and Language Proficiency Differences among Iranian EFL Learners. 6(3).
- Morales-Maure, L., Chacón-Rivadeneira, K., García-Marimón, O., Sáez-Delgado, F., & Campos-Nava, M. (2025). Enhancing mathematics teacher training in higher education: The role of lesson study and didactic suitability criteria in pedagogical innovation. *Trends in Higher Education*, 4(3), Article 39. <https://doi.org/10.3390/higheredu4030039>
- Morales-Maure, L., García Marimón, O., & Alfaro Ponce, B. (2025). Matemáticas y música en la educación superior: Estrategias interdisciplinarias para el aprendizaje y la resiliencia en entornos vulnerables. *Revista Historia de la Educación Latinoamericana*, 27(45), 45–68. <https://doi.org/10.19053/upte.01227238.19488>
- Morales-Maure, L., Torres-Rodríguez, A., Campos-Nava, M., & Rodríguez-Nieto, C. A. (2026). Cinema as a didactic resource in physics and mathematics education: Exploring mathematical connections to foster motivation and critical thinking. *Eurasia Journal of Mathematics, Science and Technology Education*, 22(4), em2807. <https://doi.org/10.29333/ejmste/18152>
- Raccanello, D., Stupnisky, R., Brondino, M., & Lichtenfeld, S. (2019). Enjoyment, boredom, anxiety in elementary schools in two domains: Relations with achievement.
- Ruiter, J. A, Poorthuis, A. M, & Koomen, H. M. (2019). Relevant classroom events for teachers: A study of student characteristics, student behaviors, and associated teacher emotions. *Teaching and Teacher Education*.
- Wu, H. (2024). Foreign language enjoyment and anxiety of Chinese EFL learners at the tertiary level: A pseudo-longitudinal investigation. 14(3).
- Yu, Q. (2025). Examining the relationship between foreign language anxiety and foreign language enjoyment from the perspective of positive psychology. 16.
- Zhang, X., & Wang, Y. (2026). Chinese EFL Teachers' Perceptions of Positive Emotionality and Emotion Regulation Strategies: A Qualitative Study: Chinese EFL Teachers' Perceptions. 35(1), 177–186.