

The Effect of Foreign Language Learning **Adaptation on English Achievement:** In the Flipped Classroom Context

Peng Qiao, Shuangqing Su, Yeqi Hu, Yalan Li

School of Humanities, Hunan City University, Yiyang, China Email: giaopeng20191@gmail.com, 2430266518@gq.com, 19276582565@gq.com, 3507132872@gq.com

How to cite this paper: Qiao, P., Su, S. Q., Hu, Y. Q., & Li, Y. L. (2025). The Effect of Foreign Language Learning Adaptation on English Achievement: In the Flipped Classroom Context. Open Journal of Modern Linguistics, 15, 199-211. https://doi.org/10.4236/ojml.2025.152014

Received: March 11, 2025 Accepted: March 30, 2025 Published: April 2, 2025

Copyright © 2025 by author(s) and Scientific Research Publishing Inc. This work is licensed under the Creative Commons Attribution International License (CC BY 4.0).

http://creativecommons.org/licenses/by/4.0/ ۲ **Open Access**

Abstract

Flipped classroom model is popular in various countries because of its improvement in educational efficiency. Learning adaptation plays an important role in influencing English learning engagement. However, to date there has been little agreement on students' adaptation to the English flipped classroom. Moreover, the effect of adaptability on achievement is quite controversial. Therefore, this study is one of the first attempts to explore the effect of learning adaptation on English achievement in the flipped classroom context. 296 Chinese university students were recruited to participate in the study. The results showed that students' foreign language learning adaptation was in upper middle level, and there were no significant differences in gender or grade. However, the level of foreign language learning adaptation was higher in sophomore year than in other grades. In addition, foreign language learning adaptation and English achievement showed significant correlation, in which teaching content adaptation was a significant predictor of English achievement. The revelation of focusing on flipped classroom teaching content design was highlighted, followed by the implications for teachers.

Keywords

Learning Adaptation, English Achievement, Flipped Classroom, Blended Learning, Learning Psychology

1. Introduction

In the past decade, along with educational innovation, flipped classroom has been implemented around the world. Flipped classroom is a new teaching method that uses asynchronous video lectures and exercises as homework to conduct active, group-based problem-solving activities in the classroom (Bishop & Verleger, 2013). Compared with traditional classrooms, the flipped classroom model can further improve students' achievement (Akçayır & Akçayır, 2018). However, most existing studies have verified the advantages of flipped classrooms over traditional classrooms in improving student performance through quasi-experimental methods, but few have explored how students' adaptation to the model affects performance. Furthermore, current research is limited to exploring engineering major students' adaptation to flipped classrooms (Mason et al., 2013). Nevertheless, more research is needed involving the adaptation of students in other majors to the flipped classroom (Akçayır & Akçayır, 2018).

The flipped classroom model is also widely adopted in China. Therefore, this article is an attempt to explore Chinese students' adaptation to the flipped classroom model, and more importantly, to deeply explore how adaptation affects students' English achievement. The study was expected to shed light on the English teaching and learning.

2. Literature Review

2.1. Learning Adaptation in Flipped Classroom

Learning adaptation (LA) denotes the ability of students to adapt to the learning environment during the learning process (He & Zhong, 2006). Foreign language learning adaptation (FLLA) is the state or tendency of learners to coordinate with their own conditions and external conditions and develop through continuous adjustment in the process of foreign language learning (Guo et al., 2021). The better the learning adaptability, the better the English learning engagement (Wang et al., 2023). With the innovation of new teaching forms, Guo et al. (2021) updated the five-dimensional structure including foreign language teacher adaptation, teaching content adaptation, teaching environment adaptation, online learning adaptation and teaching model adaptation. This model covers a number of emerging educational factors.

Flipped classroom is an approach to teaching and learning activities where students watch a video lesson outside the class through distance learning and have hands-on activities in the class (Zainuddin & Halili, 2016). Traditional and flipped classrooms show different properties. In a traditional classroom, students usually have little time to discuss questions with the teacher and peers. However, the flipped classroom empowers students to spend more time discussing in the classroom by allowing them to be well-prepared before class. In addition, the introductory video in the pre-class phase of the flipped classroom provides better assistance to the slower learners because they can stop, pause, or rewind the lecture video about the solution to the problem (Osman et al., 2014). A prerequisite for the successful implementation of the flipped classroom is that students should be prepared and learn the material before class, as it relies on the motivation of students to engage in active learning and application (Burke & Fedorek, 2017).

However, the flipped classroom, as a teaching model with different characteristics from the traditional classroom, may present challenges to students' adaptation. A study by Chen et al. (2014) found that many students had difficulty adapting to the flipped classroom. Most part-time students suggested that the course was heavy as they did not have time to watch videos online. Johnson (2013) also found that students were not prepared for the transition from the traditional classroom to the flipped classroom. Although they verbalized their preference for the flipped classroom, lecture videos were not watched by the majority of students at home. This suggests that some students do not show initiative and motivation in the out-of-class phase and enter the classroom phase unprepared, which may lead to being unable to adapt to flipped classrooms.

The flipped classrooms generally improve learning efficiency by enabling more in-depth classroom discussions and providing students with more opportunities for interaction. However, it also acknowledges that the model's impact depends on content adaptation—students perform better when they are cognitively and emotionally engaged with the learning material. Compared to other interactive models like problem-based learning (PBL) and task-based language teaching (TBLT), the flipped classroom provides a balance between structured guidance and interactive engagement but may not necessarily lead to better results in certain skill areas, such as oral fluency development.

2.2. Learning Adaptation and Achievement

Learning adaptation and achievement are theoretically linked. Adaptation level theory proposed by Helson (1964) implies that the basis of an individual's judgement of a stimulus is based on their previous experiences and their recollection of how they perceived similar stimuli in the past. Therefore, students at the higher adaptation level will strive for higher grades because they are not personally satisfied with scoring at the same level as students at lower adaptation levels (Pollio et al., 1988).

Author (Year)	Teaching Model	Discipline	Subject	Conclusions
Holliman et al. (2019)	Traditional	General	UK University N = 90	Significantly correlated $(r = 0.347^{**})$
Collie et al. (2017)	Traditional	General	UK University N = 186	Not significantly correlated $(r = 0.05)$
Collie & Martin (2017)	Traditional	Maths	Australia Middle Schools N = 371	Significantly correlated $(r = 0.29^{***}, 0.31^{***})$
Martin et al. (2021)	Fully or partially online	Maths	Australian High school N = 1548	Significantly correlated $(r = 0.272^{***})$
Feraco et al. (2023)	Online	Maths	Italy Grades 6-12 N = 435	Not significantly correlated $(r = 0.10)$

Table 1. The researches about learning adaptation and achievement.

The potential relationship between learning adaptations and achievement has also been empirically revealed across different instructional models, although the findings are found to be relatively inconsistent, as shown in **Table 1**. In the traditional teaching model scenario, Holliman et al. (2019) confirmed a significant positive correlation between academic adaptation and GPA in 90 UK university students. Collie et al. (2017) investigated 186 UK university freshmen and found that academic adaptation and GPA were not significantly correlated, suggesting that adaptation may be influencing achievement through other pathways. Collie & Martin (2017) reported significant correlations between student-reported adaptations, teacher-reported adaptations and maths achievement in 371 Australian secondary school students.

In the online education context, Martin et al. (2021) found a significant positive correlation between academic adaptation and maths achievement with 1548 Australian high school students. However, Feraco et al. (2023) investigated 435 Italian grades 6-12 students but did not find any significant correlation between learning adaptations and maths achievement. In summary, most studies in the field of education have only focused on offline scenarios (i.e., traditional teaching model) and online teaching model scenarios, whilst flipped classroom combining offline and online scenarios have not yet been addressed. In addition, a lot of research findings have been produced in the subject of Mathematics, but few related studies have been seen in the subject of English. Most importantly, the outcomes are rather controversial. There is no general agreement about the correlation between learning adaptations and achievement. Therefore, the purpose of this study is an attempt to elucidate the relationship between FLLA and English achievement in flipped classroom context. The study aimed to address the following research questions:

RQ1: What is the profile of students' FLLA?

RQ2: Are there any significant differences in students' FLLA levels across different gender and grade?

RQ3: How does the FLLA predict English achievement?

3. Research Design

3.1. Instruments

The Foreign Language Learning Adaptation Scale developed by Chinese scholars Guo et al. (2021) was applied. The 18-item scale measures students' adaptation from five factors, including foreign language teacher adaptation, teaching content adaptation, teaching environment adaptation, online learning adaptation and teaching model adaptation. Compared with other scales, this scale is more domain-specific and more appropriate for the flipped classroom model with online and offline features. The scale was measured on a 6-point Likert scale, ranging from "1 (strongly disagree)" to "6 (strongly agree)". The study by Guo et al. (2021) has confirmed the sound validity ($\chi^2/df = 1.15$, CFI = 0.99, TLI = 0.99, RMSEA = 0.03, N = 206) in the Chinese context. In this study, the scale also demonstrated

good reliability (Cronbach's alpha = 0.85).

Students' English achievement is measured by their scores in the College English Test Band 4 test (CET-4 test) administered by the Chinese Ministry of Education. The test consists of writing, listening comprehension, reading comprehension, vocabulary and structure, with a time limit of 125 minutes and a total score of 710 (106.5, 248.5, 248.5 and 106.5 for each part). The reasons for using CET-4 scores as the measurement tool are as follows. Primarily, compared with international tests such as IELTS and TOEFL, the CET-4 test has a wider popularity among Chinese university students. The test is taken by almost every university student before their graduation. Secondly, as a test administered by the Ministry of Education, the CET-4 exam is authoritative and reliable. The proposition, invigilation and assessment are all strictly executed by experts. Therefore, CET-4 score is a favourable tool for measuring students' English proficiency.

3.2. Participants

A total of 296 students were recruited voluntarily to partake in this study through convenience sampling after signing formal consent. The subjects were from a university in China adopting the flipped classroom model. The teaching approach was based on the model of Yuan & Moran (2018), which included a pre-class, inclass, and post-class stages. In the pre-class stage, students undertake autonomous pre-study online with the assistance of their teachers. In the mid-class phase, students and teachers engage in in-depth discussions and presentations of outcomes offline. In the post-class stage, students review online with the assistance of the teacher and complete the assessment.

All students had 8 - 11 years of English learning experience with no overseas study experience. All students' first language was Mandarin Chinese and the second language was English. The average CET-4 score of the students reached 452 (SD = 47.99). According to the criteria proposed by Jin et al. (2022), the cut-offs for CET-4 scores corresponding to the B1 and B2 levels defined in the Common European Framework of Reference for Languages (CEFR) have been set at 388 and 549, respectively. Therefore, the students have achieved an intermediate level of English proficiency. Among the participants, 141 (about 47.6 %) were male and 155 (about 52.4 %) were female. They were from different grades, including 63 (about 21.3 %) freshmen, 71 (about 24 %) sophomores, 98 (about 33.1 %) juniors, and 64 (about 21.6 %) seniors.

3.3. Data Collection and Processing

The questionnaire was distributed to the students with the consent of the school leadership team. Participants were informed of the nature and purpose of the questionnaire, their unconditional right of non-participation and the confidentiality of the data before filling out the questionnaire. Data collection was completed in November 2023. SPSS 27 and AMOS were utilized during the data processing stage. Reliability analysis was employed to test the research instrument. Descriptive analysis was performed to answer RQ1. Independent sample t-test and ANOVA test were applied to answer RQ2. Pearson correlation analysis and structural equation modelling were used to answer RQ3.

4. Results

4.1. Overall Situation of Foreign Language Learning Adaptation

Descriptive statistics were performed to analyze the overall picture of FLLA, as shown in **Table 2**. According to Field (2009), data with skewness values between 0 and ± 3.0 and kurtosis below ± 8.0 were assumed to be normally distributed. Therefore, the data was judged to be approximately normally distributed. It could be inferred from the table that students' FLLA was in the upper-middle level as the mean value was higher than the median (M = 3.95 > 3.5), which suggested that students' adaptation to the flipped classroom was favourable. In detail, students' language teacher adaptation, teaching content adaptation, teaching environment adaptation, and online learning adaptation were all at the upper-middle level (M > 3.5). However, students' teaching model adaptation was at the lower-middle level (M < 3.5). Language teacher adaptation had the highest mean (M = 4.79) and teaching model adaptation had the lowest mean (M = 3.33).

Table 2. I	Descriptive	analysis	of foreign	language	learning	adaptation.
THOIC D. 1	courptive	analyono	or roreign	iunguuge	rear ming	adaptation

Variablas	м	CD.	Ske	ewness	Kurtosis		
variables	IVI	3D	Statistic	Std. Error	Statistic	Std. Error	
FLLA	3.95	0.59	0.49	0.14	1.07	0.28	
LTA	4.79	0.79	-0.56	0.14	0.70	0.28	
TCA	3.54	1.12	0.13	0.14	-0.50	0.28	
TEA	4.01	0.93	-0.23	0.14	0.19	0.28	
OLA	3.82	0.78	0.30	0.14	0.10	0.28	
TMA	3.33	0.98	0.06	0.14	-0.02	0.28	

Note: FLLA = Foreign language learning adaptation; LTA = Language teacher adaptation; TCA = Teaching content adaptation; TEA = Teaching environment adaptation; OLA = Online learning adaptation; TMA = Teaching model adaptation.

4.2. Differences in Foreign Language Learning Adaptation across Gender and Grade

To investigate whether there were gender differences in FLLA levels, an independent sample t-test was performed, as shown in **Table 3**. It can be seen that the average FLLA level of males was 3.93 (SD = 0.59) and females was 3.98 (SD = 0.59). There was no significant difference in FLLA levels between males and females (p > 0.05).

Tab	le 3.	Independ	lent samp	le t-test foi	r gender	differences	in f	foreign	language	learning a	daptation.
-----	-------	----------	-----------	---------------	----------	-------------	------	---------	----------	------------	------------

Gender	N	М	SD	t
Male	155	3.93	0.59	0.72
Female	141	3.98	0.59	-0.72

The ANOVA test was performed with the aim of exploring whether there is a significant difference in FLLA levels between grades. The results are presented in **Table 4**. It is clarified that there is no significant difference in FLLA levels between grades (p > 0.05). It can be concluded from the means plots (**Figure 1**), which represents the mean value of FLLA levels in different grades, that the FLLA levels of sophomores peaked (M = 4.05), followed by juniors (M = 3.96), seniors (M = 3.91), and finally freshmen (M = 3.86).

Table 4.	ANOVA	test for	grade	differences	in	foreign	language	learning	adai	otation.
Tuble 1.	1110011	1001	Since	uniterences	111	IOICISII	iunguuge	icui iiiiig	, uuu	Julion.



Figure 1. Mean plots of foreign language learning adaptation levels in different grades.

4.3. Prediction of Foreign Language Learning Adaptation on English Achievement

In order to investigate the effect of FLLA on English achievement in flipped classroom, the study started with the Pearson correlation analysis between the factors of FLLA and English achievement, as shown in **Table 5**. It could be inferred that FLLA and English achievement were significantly and positively correlated with a small to medium effect size (r = 0.22, 0.1 < r < 0.3, p < 0.01) (Cohen, 1988). More specifically, both teaching content adaptation and teaching model adaptation were significantly and positively correlated with English achievement (p < 0.01), with medium to large effect sizes for teaching content adaptation (r = 0.35, 0.3 < r < 0.5) and small to medium effect sizes for teaching model adaptation (r = 0.23, 0.1 < r < 0.3). However, the correlations between language teacher adaptation, teaching environment adaptation, online learning adaptation and English achievement were not significant (p > 0.05).

 Table 5. Correlation analysis between foreign language learning adaptation and English achievement.

		FLLA	LTA	TCA	TEA	OLA	TMA
EA	Pearson Correlation	0.22**	0.04	0.35**	0.03	0.09	0.23**
	Sig. (2-tailed)	0.00	0.52	0.00	0.57	0.11	0.00

Note: EA = English Achievement.



Figure 2. Fitting model of the relationship between foreign language adaptation and English Achievement.

In order to present a clearer picture of the relationship between FLLA and English achievement, structural equation modelling was utilized. The standardized results applying maximum likelihood estimation are shown in **Figure 2**. It can be inferred that only teaching content adaptation is a significant predictor of English achievement ($\beta = 0.32$, p < 0.001). The other dimensions of foreign language learning adaptation, i.e., language teacher adaptation, teaching environment adaptation, online learning adaptation, and teaching model adaptation could not significantly predict English achievement (p > 0.05).

5. Discussion and Implications

The purpose of this study was to explore in depth the relationship between FLLA and English achievement. Three research questions were designed to address the topics. Firstly, the study found that students' FLLA was in the upper-middle level, which is consistent with the findings of Holliman et al. (2019) in traditional teaching model. Although the flipped classroom with online and offline features is different from the traditional classroom in many ways, students have a sound adaptation to the new model. This may be due to the Chinese University MOOC platform (https://www.icourse163.org/?inref=index bottomlink), which provides high-quality online courses, foreshadows the new era of online education. Before the implementation of the flipped classroom, Chinese university students already had access to online courses for autonomous learning. Therefore, they are adaptable to the flipped classroom model with online courses.

Besides, students' language teacher adaptation, teaching content adaptation, teaching environment adaptation, and online learning adaptation were all at the upper-middle level. This may be due to the fact that although a new flipped class-room teaching model has been adopted, the teacher, content, and environment remain generally stable. Before the adoption of the flipped classroom model, students also had the experience of learning online on other platforms. As a result, students adapted better to these sections. However, students' teaching model adaptation was at the lower-middle level. This may be due to the fact that traditional teaching models are less interactive, whereas flipped classrooms have more efficient classroom time and more time to exercise (Akçayır & Akçayır, 2018). Students are under-adapted in experiencing shifts that require more interaction.

In the exploration of answering RQ2, it was found that there was no significant difference in FLLA levels among students of different genders. This indicates that in the face of the same new teaching environment, both males and females have the same adaptive response. Another finding was that there was also no significant FLLA level difference between different grades. But surprisingly, the FLLA levels of each grade level were in the following descending order: sophomore > junior > senior > freshman. The peak of FLLA during students' sophomore year may be linked to the CET-4 exam. As an exam related to the graduation qualification of almost every Chinese college student, students will put a lot of effort into the up-coming CET-4 exam during their sophomore year. The achievement motivation (Brunstein & Heckhausen, 2018) to pass the exam urges students to adapt to the new teaching model and keep up with the English course as soon as possible.

Online learning adaptation, language teacher adaptation, and teaching environment adaptation were not significantly correlated with English achievement. In the Chinese university context, students have prior experience with online courses, meaning that online learning adaptation may not be a decisive variable. Students may still perform well in English tests even if they struggle with online adaptation, as their performance is heavily influenced by extrinsic motivations (e.g., exams). Since the study used CET-4 scores as the measure of English achievement, which focuses on standardized testing, aspects like online learning engagement might not directly translate into higher scores.

In addition, students in their junior year are required to take the CET-6, which is a more difficult exam than the CET-4. Some of the students who aspire to get a

great job and attend postgraduate school will maintain their achievement motivation and try to adapt to the teaching model. Therefore, the average value of FLLA in junior year is ranked second. Additionally, the third highest FLLA for juniors may be related to the fact that juniors have experienced the model for several years. Freshmen have the lowest level of FLLA because they are new to the pattern. To sum up, it is surprising to find the important role played by the achievement motivation of sophomore and junior semesters in which the FLLA level is raised.

The findings for RQ3 is that FLLA and English achievement are significantly and positively correlated, which means that the higher the FLLA level, the higher the English achievement. The results support the views of Holliman et al. (2019), Collie & Martin (2017) and Martin et al. (2021) in traditional model and online education model. The correlation of learning adaptations in flipped classroom contexts is expanded in this study. In addition, the finding confirms the adaptation level theory (Helson, 1964; Pollio et al., 1988) proposed that students with better adaptations will work towards getting higher grades. Teaching content adaptation and teaching model adaptation were found to be significantly related to English language achievement. This may be due to the fact that the examination content is related to the content learnt, and the ability to keep up with the teaching model affects the acquisition. Language teacher adaptation, teaching environment adaptation, and online learning adaptation were found to be uncorrelated with English achievement, probably because these three factors are relatively objective and stable in Chinese context.

While students had an overall upper-middle level of foreign language learning adaptation (FLLA), their adaptation to the flipped classroom model itself was lower. To address these challenges, the study suggests improving teaching content design to ensure alignment with students' cognitive and emotional engagement. Additionally, increasing student motivation through well-structured video content and interactive classroom activities can enhance adaptation. Teachers should also provide explicit guidance on using flipped classroom resources, as some students struggle with self-regulation and pre-class preparation.

Last but not least, only teaching content adaptation was found to be a significant predictor of English achievement. It makes sense because students can only achieve success in English exams if they are cognitively and emotionally attuned to what they are learning. In addition, more interesting and systematic teaching content can better help students internalize their knowledge and help them achieve success in exams. This reveals that teachers should pay special attention to content design when teaching in a flipped classroom. More time should be spent on well-designed content to ensure that students are motivated to learn. Milman (2012) identified that poor video quality is often a common concern in flipped classroom practice. Enfield (2013) also emphasized that if the content and design of a video lecture is not engaging, students will find it tedious and will be reluctant to watch it.

Thus, bloom's revised taxonomy is recommended to be applied in the content

design of a flipped classroom where creation, evaluation, analysis and application should be implemented during the lesson, while understanding and memorization tasks should be done at home (Zainuddin & Halili, 2016). Additionally, suggestions for video quality were elicited by Enfield (2013). For the length of the video, most of the students agreed that about 20 minutes was just right. The video should be more concise and edited to remove errors, pauses, and redundant instructional content. If the video is too long, it is expected to be cut into multiple parts. Although the content volume remained the same, less burden will be psychologically felt by the students. For video content, questions are expected to be included to prompt deeper thinking.

The study ensured some level of instructional consistency by adopting a structured flipped classroom model, which included pre-class, in-class, and post-class stages. However, instructional quality was not explicitly controlled as a variable, meaning that variations in teacher effectiveness could have influenced students' adaptation scores. For example, if a teacher did not integrate online learning materials effectively into class discussions, students may have found the transition between online and offline learning difficult, lowering their teaching model adaptation. This suggests that future research should examine how variations in instructional strategies influence learning adaptation in flipped classrooms.

6. Conclusion

The present study is one of the first attempts to probe the relationship between FLLA and English achievement in a flipped classroom context. The FLLA of the students was found to be in the upper middle level. There was no significant difference in FLLA by gender and grade. However, the level of FLLA was higher in the sophomore year than in the other grades. Teaching content adaptation was found to be a significant predictor of English achievement. The current study highlights the significant impact of learning adaptation on English achievement in the flipped classroom. This reveals that educational administrators may not abruptly implement a new model while ignoring students' adaptation. Besides, teachers should be attentive to content design. The flipped classroom model, which breaks the time and space constraints of teaching and learning, is the future trend of education. More research needs to be conducted to help students adapt to the model and maximize their language learning outcomes.

Conflicts of Interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Author Contributions

QP: Writing-Original draft & review & editing, Conceptualization, Methodology, Project administration.

Funding

This research was funded by Innovation Project of Guangxi Graduate Education (XYCSR2022028).

Acknowledgments

The authors express sincere thanks to all the participants and anonymous reviewers.

References

- Akçayır, G., & Akçayır, M. (2018). The Flipped Classroom: A Review of Its Advantages and Challenges. *Computers & Education, 126,* 334-345. https://doi.org/10.1016/j.compedu.2018.07.021
- Bishop, J., & Verleger, M. A. (2013). The Flipped Classroom: A Survey of the Research. InD. Lane, & R., Lynch (Eds.), *2013 ASEE Annual Conference & Exposition* (pp. 1-18).American Society for Engineering Education.
- Brunstein, J. C., & Heckhausen, H. (2018). Achievement Motivation. In J. Heckhausen, & H. Heckhausen (Eds.), *Motivation and Action* (pp. 221-304). Springer International Publishing. <u>https://doi.org/10.1007/978-3-319-65094-4_6</u>
- Burke, A. S., & Fedorek, B. (2017). Does "Flipping" Promote Engagement? A Comparison of a Traditional, Online, and Flipped Class. *Active Learning in Higher Education*, 18, 11-24. <u>https://doi.org/10.1177/1469787417693487</u>
- Chen, Y., Wang, Y., Kinshuk, & Chen, N. (2014). Is FLIP Enough? Or Should We Use the FLIPPED Model Instead? *Computers & Education, 79,* 16-27. https://doi.org/10.1016/j.compedu.2014.07.004
- Cohen, J (1988). *Statistical Power Analysis for the Social Sciences* (2nd Ed.). Lawrence Erlbaum Associates.
- Collie, R. J., & Martin, A. J. (2017). Students' Adaptability in Mathematics: Examining Self-Reports and Teachers' Reports and Links with Engagement and Achievement Outcomes. *Contemporary Educational Psychology*, 49, 355-366. <u>https://doi.org/10.1016/j.cedpsych.2017.04.001</u>
- Collie, R. J., Holliman, A. J., & Martin, A. J. (2017). Adaptability, Engagement and Academic Achievement at University. *Educational Psychology*, *37*, 632-647. <u>https://doi.org/10.1080/01443410.2016.1231296</u>
- Enfield, J. (2013). Looking at the Impact of the Flipped Classroom Model of Instruction on Undergraduate Multimedia Students at CSUN. *TechTrends*, *57*, 14-27. <u>https://doi.org/10.1007/s11528-013-0698-1</u>
- Feraco, T., Casali, N., & Meneghetti, C. (2023). Adaptability Favors Positive Academic Responses and Posttraumatic Growth under COVID-19: A Longitudinal Study with Adolescents. *European Journal of Psychology of Education*, 38, 1771-1789. <u>https://doi.org/10.1007/s10212-022-00667-0</u>
- Field, A. P. (2009). *Discovering Statistics Using SPSS: and Sex, Drugs and Rock 'n' Roll* (3rd Ed.). Sage.
- Guo, J., Li, Y., & Liu, X. H. (2021). Construction and Validation of a Foreign Language Learning Adaptation Scale for College Students. *Foreign Language Community, No. 1,* 46-53.
- He, G., & Zhong, Z. (2006). A Study of College Students' Adaptation to Multimedia Tech-

nology-Assisted College English Teaching. *Foreign Language Teaching and Learning, No. 6*, 41-48.

- Helson, H. (1964). Current Trends and Issues in Adaptation-Level Theory. American Psychologist, 19, 26-38. <u>https://doi.org/10.1037/h0040013</u>
- Holliman, A. J., Sheriston, L., Martin, A. J., Collie, R. J., & Sayer, D. (2019). Adaptability: Does Students' Adjustment to University Predict Their Mid-Course Academic Achievement and Satisfaction? *Journal of Further and Higher Education*, 43, 1444-1455. <u>https://doi.org/10.1080/0309877x.2018.1491957</u>
- Jin, Y., Jie, W., & Wang, W. (2022). An Alignment Study between CET-4/6 Tests and CEFR Skills. *Foreign Language World, 209*, 24-32.
- Johnson, G. B. (2013). *Student Perceptions of the Flipped Classroom*. Doctoral Dissertation, University of British Columbia.
- Martin, A. J., Collie, R. J., & Nagy, R. P. (2021). Adaptability and High School Students' Online Learning during COVID-19: A Job Demands-Resources Perspective. *Frontiers in Psychology, 12,* Article 702163. https://doi.org/10.3389/fpsyg.2021.702163
- Mason, G. S., Shuman, T. R., & Cook, K. E. (2013). Comparing the Effectiveness of an Inverted Classroom to a Traditional Classroom in an Upper-Division Engineering Course. *IEEE Transactions on Education, 56*, 430-435. <u>https://doi.org/10.1109/te.2013.2249066</u>
- Milman, N. B. (2012). The Flipped Classroom Strategy: What Is It and How Can It Best Be Used? *Distance Learning*, *9*, 85.
- Osman, S. Z. M., Jamaludin, R., & Mokhtar, N. E. (2014). Flipped Classroom and Traditional Classroom: Lecturer and Student Perceptions between Two Learning Cultures, a Case Study at Malaysian Polytechnic. *International Education Research*, 2, 16-25. <u>https://doi.org/10.12735/ier.v2i4p16</u>
- Pollio, H. R., Eison, J. A., & Milton, O. (1988). College Grades as an Adaptation Level Phenomenon. *Contemporary Educational Psychology*, 13, 146-156. <u>https://doi.org/10.1016/0361-476x(88)90015-x</u>
- Wang, X., Liu, Y., Ying, B., & Lin, J. (2023). The Effect of Learning Adaptability on Chinese Middle School Students' English Academic Engagement: The Chain Mediating Roles of Foreign Language Anxiety and English Learning Self-Efficacy. *Current Psychology, 42*, 6682-6692. <u>https://doi.org/10.1007/s12144-021-02008-8</u>
- Yuan, C., & Moran, C. M. (2018). Flipped Classroom in China: Design, Practice, and Implications. In H. A. Spires, (Ed.), *Digital Transformation and Innovation in Chinese Education* (pp. 119-135). IGI Global. <u>https://doi.org/10.4018/978-1-5225-2924-8.ch007</u>
- Zainuddin, Z., & Halili, S. H. (2016). Flipped Classroom Research and Trends from Different Fields of Study. *The International Review of Research in Open and Distributed Learning, 17*, 313-340. <u>https://doi.org/10.19173/irrodl.v17i3.2274</u>