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(IJEPC)**www.ijepec.com**THE IMPACT OF FLIPPED CLASSROOM ON EFL STUDENTS'
GRAMMATICAL COMPETENCE AND ATTITUDE IN CHINA**Liao Juan^{1*}, Zurina Yasak²

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This work is licensed under [CC BY 4.0](https://creativecommons.org/licenses/by/4.0/)**Abstract:**

This study aims to examine how flipped an English Grammar classroom would affect students' English grammatical competence and attitude. The study was conducted for 6 weeks in two Business English classes of a vocational college in China. There are 50 students in the flipped classroom and 52 students in the traditional classroom. Achievement tests and a survey on learners' attitudes of the model were used for collecting data. It was revealed the flipped classroom model exerted moderate impact on learners' academic achievements compared to the traditional teaching methodology. Besides, students mostly had positive attitude towards applying the flipped classroom model in instructing English grammar.

Keywords:

Flipped Classroom, Grammatical Competence, Attitude

Introduction

It is undisputed English is a widely adopted communication language in international trade, science and technology, culture and other fields. In China, English is a compulsory subject in the standard national curriculum from primary schools to high schools, and many Chinese students begin learning English from as early as kindergartens.

Grammar has long been regarded as an essential part in language learning. Dalil and Harrizi (2013) asserted that grammar played a crucial part in language acquisition. With proper grammar, language learners can write meaningful sentences. It plays an vital role in listening, speaking, reading and writing. Saaristo (2015) claimed that grammar is “the heart of language”, “In linguistics, grammar is a fundamental way of learning any languages” (p95, Matkasimova & Makhmudov, 2020). Good command of grammar can help students express themselves both in oral and written contexts in a precise way, understand listening materials and comprehend reading texts correctly.

In view of the significant position of grammar in language learning, English grammar instructing is of crucial importance in English learning. In the curriculum system of English majors in higher vocational colleges, English grammar courses play a fundamental and supporting role. The aim of this course is to help learners to master the structure and rules of English and improve their grammatical competence, so that they can understand complicated sentences in both listening and reading as well as write and speak correct sentences.

However, currently grammar teaching in China’s vocational colleges still face quite a few problems. Regarding the teaching of English grammar in Chinese colleges and universities, there are the following problems:

First of all, there is a conflict between the heavy English grammar teaching tasks and the schedule of fewer grammar classes (Xian, 2021). English grammar is a complex system with a great number of grammar rules which requires sufficient class hours for this course to ensure instructors’ comprehensive and in-depth explanation as well as students’ full understanding and internalization of grammatical knowledge. In most Chinese colleges and universities, there are only two class sessions per week for the course of English grammar, which is not sufficient at all, thus causing the problem of insufficient teaching and learning.

In China’s colleges and universities, many teachers are still using traditional teaching methods such as the Grammar Translation Method (Sun & Chen, 2021; Ma, 2022; Liu, 2022). In the lecture-based classroom, the spoon-feeding instruction makes students passive learners, besides, the mechanical memorization and practice of grammatical rules make the learning process bland and boring (Zhang, 2019; Sun, 2021; Xie, 2021; Li, 2021; Liu, 2022). The cramming method in teaching grammar cannot effectively promote students’ digestion and absorption of grammar knowledge, and the lecture-based English grammar classes cannot promote students’ autonomy, cooperation, and inquiry in learning (Zhang, 2019).

Another problem in teaching English grammar in China’s colleges and universities is the arise of students’ inimical emotion when they learn English grammar. Quite a few students are afraid of or resistant to English grammar learning due to the complexity of grammar rules (Sun, 2021; Xian, 2021; Wu, 2021). Meanwhile, the traditional teaching methods lead to boring classes and lower students' learning motivation, which make students tired of learning and resistant to English grammar learning. English grammar courses leave many students the impression that they are too complicated to understand, difficult to learn, dull and boring (Zhang, 2019).

The current research investigated the following two questions:

1. How would flipping the English Grammar classroom impact students' grammatical competence?
2. How did vocational college students perceive flipping the English Grammar classroom ?

Literature Review

Three points will be discussed in literature review: benefits of adopting the Flipped Classroom Model in teaching a foreign language, the impact of applying flipped classroom model on academic performance as well as EFL college students' perception towards flipped classroom model.

Lage, Platt, and Treglia (2000) originally put forward the idea of Flipped Classroom to refer to the notion of inverting the traditional classroom (Lage, Platt & Treglia, 2000). It is asserted that "Inverting the classroom means that events that have traditionally taken place inside the classroom now take place outside the classroom and vice versa" (Lage, Platt & Treglia, 2000, p32). Bergmann and Sams are pioneers in flipping the classroom and they made flipped classroom popular across the world. Bergmann & Sams (2012) said in a flipped classroom, what "is traditionally done in class is now done at home", and what "is traditionally done as homework is now completed in class" (p. 13). Students watch the videos posted online before class. They can pause the video when required to note down key points. Besides, students are required to write down questions they have before attending the class (Lage, Platt & Treglia, 2000; Bergmann & Sams, 2012). In-class time is devoted to various student-oriented activities such as projects and presentations involving collaboration and interaction (Mok, 2014).

Quite a few researchers conducted studies to explore the advantages of applying flipped classroom model in English teaching. Alghasab (2020) flipped a writing classroom with some EFL students majoring in English language in a college in Kuwait and found the benefits of the flipped classroom included a more efficient learning setting, elastic learning pace and enhancement of learners' motivation and interaction. Fu Chunhong (2021) applied the flipped classroom model in teaching English grammar at colleges and concluded it greatly increased students' participation in class and learners' zest. Yang (2022) probed the benefits of flipped classroom, concluding flipping English classroom empowered learners to have an active involvement and enabled instructors to provide scaffolding assistance, thus improving students' competence in English. Gustian et al. (2023) did a study to explore the advantages of applying flipped classroom model in EFL teaching and learning and identified a number of benefits including decreasing students' anxiety, enhancing students' self efficacy, improving students' autonomy, increasing motivation, active and collaborative learning.

The Impact of Flipped Classroom Model on Students' Academic Performance

Quite a number of researchers have proved that flipped classroom model exerted a favorable impact on students' academic achievement. Estrada et al. (2019) did a research to examine how flipping the classroom would impact the learning performance and found remarkable differences when comparing the scores of the learners in the flipped and traditional classrooms: the former had better grades compared with their peers in the traditional classroom. This paralleled with the founding in other studies (Jarutas Pattanaphanchai, 2019; Say & Yıldırım, 2020; Cho et al., 2021; Torres-Martín et al., 2022).

With regard to how flipping classroom would affect learners' academic performance in English grammar, some studies have been conducted in that domain. Ishaq Salim Al-Naabi (2020) carried out a study to examine how flipping classroom affected EFL learners' mastery of grammar and to capture students' perception of the model. He found flipping the classroom enhanced learners' comprehension of English grammar rules. Ahmad Noroozi et al. (2020) did a similar study with three score EFL students to assess the effects of flipped classroom model on students' mastery of English grammar. The results revealed the experimental group outperformed the control group. These results are consistent with the finding of Valizadeh and Soltanpour(2020) 's study on the impact of flipping classroom on students' grammatical competence.

Nevertheless, some studies indicated no remarkable difference regarding learning achievement (Cabi, 2018; Stratton et al., 2019; Cui & Coleman, 2020). Emine Cabi (2018) conducted a research to evaluate how flipping the classroom influenced students' academic performance of "Computer I" course and the results revealed that the differences of the experimental and control groups' grades were not remarkable. Stratton (2019) did a study to analyze the impact of face-to-face teaching and flipped classroom on students' academic achievement in seventh grade science classes and the results also showed there were no differences regarding students' academic achievements of the traditional and flipped groups.

EFL College Students' Perception towards the Flipped Classroom

Regarding how EFL college students perceive flipped classroom, positive attitudes were found by many researchers. When Alghasab (2020) flipped an advanced writing class of thirty EFL student teachers, the results revealed that learners' general attitude towards applying the model was quite positive. Similar results was also found by Yu Bin Bin (2019) who did a study to evaluate students' perception of flipping an EFL course in a university in Taiwan and students' positive attitude of flipped classroom model was found generally. Students' positive perception was also identified in the study of Vaezi et al. (2019) when they examined how 80 Iranian EFL students whose major is English translation and literature perceived flipped classroom model. EFL college students' positive perception of flipped classroom model is also found in many other studies (Maharani et al., 2020; Retnaningsih et al., 2022; Al-Jaro et al., 2022; Fathi et al., 2023).

Muhlisoh et al. (2020) did a research to examine 42 EFL sophomore students' attitude towards flipping an advanced writing class at a university in Indonesia and the students perceived the flipped model motivated them in studying materials and made them more engaged in learning tasks. The data collected from questionnaires indicated that mostly the students held favorable attitudes towards the model. Students deemed the activities of flipped classroom model were meaningful and the pre-class activities helped them get ready for the classroom. Besides, they perceived that peer and teacher feedback help them on their writing.

Methodology

In this study, a quasi-experimental design approach is adopted to evaluate how adopting flipped classroom would influence learners' mastery of grammar rules and to capture students' views towards applying the model at a China's higher vocational college. Pre-tests and post-tests were used in the experimental group as well as the control group to collect quantitative data. A survey was given after the intervention to gather data regarding learners' attitude of the flipped classroom. The intervention lasted 6 weeks. Figure 1 illustrates the design process.

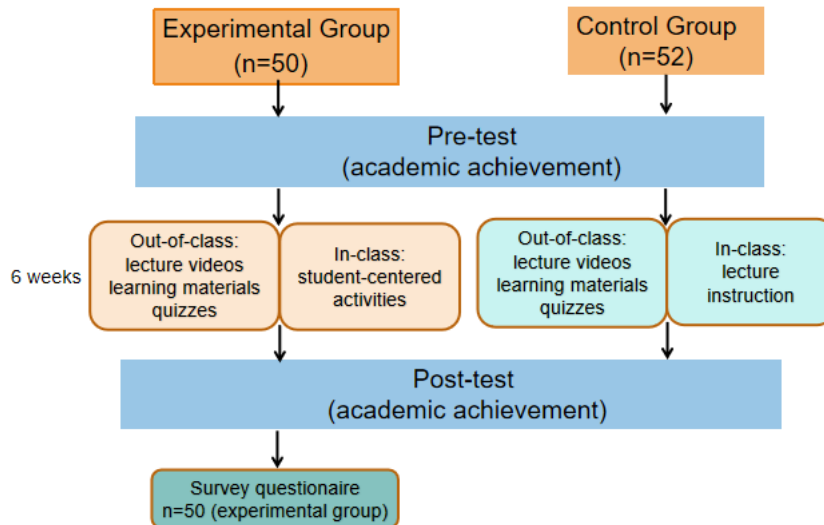


Figure 1 : Research Process

Participants

Two first-year classes were chosen randomly among the 7 classes of students majoring in Business English at a Polytechnic Vocational College located in Guangdong province in China. There were 102 participants altogether: 50 students in the experimental group and 52 in the control group.

Instruments

Grammatical Competence Test

In this study, a pretest and a post-test on grammar knowledge will be used to assess students' grammatical competence. All test items are chosen from the English tests for national college entrance examinations in China so as to assure its reliability. The post-test is the same as the pretest.

Survey of Attitude towards Flipped Classroom

The anonymous survey was developed to measure student attitude towards adopting flipped classroom model to teach English Grammar. The survey consisted of twelve statements and students in the experimental group have to rank opinions of the course-related materials, activities and learning experiences such as videos, group cooperation, interaction with instructors in the flipped classroom. Items were ranked along a five-point Likert scale which vary from "strongly disagree" to "strongly agree".

Data Analysis

In the current study, when comparing the grades of pre-tests and post-tests between the experimental and control groups, paired samples t tests were adopted; Independent samples t test was implemented to examine the changes in scores of both groups. Besides, descriptive analysis has been applied to examine the figures collected from the survey on students' attitude of flipped classroom model.

Results

This study aims to assess the impact of adopting flipped classroom model on EFL learners' academic performance and their attitude towards Grammar English in a vocational college. Score means of pre- and post- tests in both the flipped classroom and traditional classroom were compared to evaluate how adopting flipped classroom model would affect learners' academic performance. Paired samples t test was used to compare the scores with results illustrated in table 1.

Table 1. Paired Samples t-Test

Tests	Experimental Group					Control Group				
	N	M	SD	t	p	N	M	SD	t	p
Pre	50	58.260	10.3860	12.444	.000	52	59.222	11.6008	11.285	.000
Post	50	76.686	11.0993		.000	52	73.087	11.1204		.000

$p < 0,05$

As can be seen in Table 1, the difference between the pre-test scores ($M=58.260$; $SD:10.3860$) and post-test scores ($M=76.686,10$; $SD: 11.0993$) of the experimental group students is notable with much higher post-test scores ($t=12.444$; $p < 0,05$). The difference between pre-test scores ($M=59.222$; $SD=11.6008$) and post-test scores of the control group students' is also remarkable ($M=73.087$; $SD=11.1204$) with much higher post-test scores ($t=11.285$; $p < 0,05$).

Independent samples t-test was applied to compare the grade gain of the two groups. Table 2 and Table 3 illustrates the results.

Table 2: Independent Group's t-Test Results of Pretest Score

Test	Group	N	M	sd	t	p
Academic achievement (pre-test score)	Experimental	50	58.260	10.3860	-.439	.662
	Control	52	59.222	11.6008	-.439	.662

Table 3: Independent Group's t-Test Results of Posttest Score

Test	Group	N	M	sd	t	p
Academic achievement (post-test score)	Experimental	50	76.686	11.0993	1.636	.105
	Control	52	73.087	11.1204	1.636	.105

Table 2 displays the results of the independent groups t-test which was done to assess the difference between the pretest scores of the experimental group students and their peers of the control group. It is found the difference between the "academic achievement pretest scores" of the experimental group and those of the control group is not significant ($p > 0.05$). Table 3 shows the difference in "academic achievement post-test scores" of the experimental group and the control group is not notable ($p > 0.05$).

Table 4: Descriptive Analysis of Survey Questions

No.	Survey Question	Mean	Std. Deviation
1	Video study before class can help me better understand grammar knowledge.	3.96	.903
2	After learning before class, I am more confident and willing to participate in class activities.	3.78	.910
3	Flipped classroom helps me communicate with teachers more effectively in class.	3.76	.938
4	Flipped classroom helps to enrich my learning experience.	3.88	.895
5	I prefer flipped classroom to traditional classroom.	3.68	.913
6	The average video length is consistent with the corresponding grammatical content.	3.98	.714
7	Through classroom discussion and group cooperation, I can master the knowledge more comprehensively and deeply.	4.00	.756
8	Flipped classroom helps to increase my interest in grammar learning.	3.78	.910
9	Compared with traditional classroom, flipped classroom can help me better understand and master grammar knowledge.	3.86	.833
10	Flipped classroom is conducive to the cultivation of self-study ability.	3.94	.867
11	The arrangement of classroom activities is reasonable.	3.88	.799
12	The video content learned before class is moderately difficult.	3.88	.824

For the survey questions, the mean and standard deviation of the responses to all items were calculated and shown in Table 4. According to the survey, 70% of the 65 students said video study before class can help them better comprehend grammar knowledge. 40 of them or 61% said viewing the videos before the class contributed to students' confidence and willingness to participate in class activities. 43 of them or 63% said flipped classroom facilitates them to communicate with teachers more effectively in class. 45 of them or 69% said they liked the flipped classroom better. 40 of them or 61% said flipping the classroom increased their interest in studying English Grammar. 44 of them or 67% said flipped classroom can help them better understand and master grammar knowledge compared with traditional classroom. It can be seen in table 4 that students' ranking of all the six statements were quite high. The lowest mean is 3.68 and the highest mean is 4.0. Students' overall attitude towards the flipped classroom was quite favorable.

Conclusion and Discussion

In the current study, the impact of flipped classroom on students' academic achievement and attitude were investigated. Comparing the results of the academic achievements of both groups with paired t-test and independent t-test, it was found that both groups had a large gain in academic achievement when comparing their post-test scores with pretest scores and the experimental group has a slightly greater increase in test scores, but there was not a remarkable difference in the post-test scores of the flipped class and those of the traditional class. Besides, based on the survey results, students held overall positive attitude towards flipping the English Grammar classroom.

The results of the impact of flipped classroom on academic achievement in this study paralleled with some other studies which indicated no notable difference regarding students' learning performance when flipped classroom model was adopted (Islam et al., 2018; Stratton et al., 2019; Cui & Coleman, 2020; Ajmal & Hafeez, 2021).

Although the results of paired t-test and independent t-test revealed flipped classroom only produced a moderate effect on learners' academic achievement, the survey results showed most students' interest in learning English Grammar increased and a majority of them preferred flipped classroom to traditional classroom. It is thus recommended the flipped classroom model be applied in teaching English Grammar so as to improve students' interest and devotion to learning this course.

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References

- Aidoo, B., Tsyawo, J., Quansah, F., & Boateng, S. K. (2022). Students' Learning Experiences in a Flipped Classroom: A Case Study in Ghana. *International Journal of Education and Development using Information and Communication Technology*, 18(1), 67-85.
- Ajmal, S. F., & Hafeez, M. (2021). Critical Review on Flipped Classroom Model Versus Traditional Lecture Method. *International Journal of Education and Practice*, 9(1), 128-140.
- Alajlan, H. A. (2023). Performance, participation and perception of computer education students toward flipped learning. *Technology, Knowledge and Learning*, 28(3), 1175-1197.
- Alghasab, M. B. (2020). Flipping the Writing Classroom: Focusing on the Pedagogical Benefits and EFL Learners' Perceptions. *English Language Teaching*, 13(4), 28-40.
- Al-Jaro, M. S., Balaswad, F. S., & Abdul-Ghafour, A. Q. K. (2022). EFL University Students' Perceptions of Offline Flipped Classroom in Yemen. In *Handbook of Research on Teacher Education: Pedagogical Innovations and Practices in the Middle East* (pp. 281-301). Singapore: Springer Nature Singapore.
- Al-Naabi, I. S. (2020). Is It Worth Flipping? The Impact of Flipped Classroom on EFL Students' Grammar. *English Language Teaching*, 13(6), 64-75.
- Bergmann, J., & Sams, A. (2012). Flip your classroom: Reach every student in every class everyday[M]. Washington, DC: Internal Society for Technology in Education.

- Cabı, E. (2018). The impact of the flipped classroom model on students' academic achievement. *International Review of Research in Open and Distributed Learning*, 19(3).
- Colomo-Magaña, E., Soto-Varela, R., Ruiz-Palmero, J., & Gómez-García, M. (2020). University students' perception of the usefulness of the flipped classroom methodology. *Education Sciences*, 10(10), 275.
- Cho, H. J., Zhao, K., Lee, C. R., Runshe, D., & Krousgrill, C. (2021). Active learning through flipped classroom in mechanical engineering: improving students' perception of learning and performance. *International Journal of STEM Education*, 8, 1-13.
- Cui, T. C., & Coleman, A. (2021). Investigating Students' Attitudes, Motives, Participation and Performance Regarding Out-of-Class Communication (OCC) in a Flipped Classroom. *Electronic Journal of e-Learning*, 18(6). <https://doi.org/10.34190/jel.18.6.007>
- Dalil, Z., & Harrizi, M. (2013). The importance of grammar in second language teaching. Unpublished Manuscript). Universite Hassan II, Casablanca, Morocco.
- Doo, M. Y. (2021). Understanding flipped learners' perceptions, perceived usefulness, registration intention, and learning engagement. *Contemporary Educational Technology*, 14 (1), ep331.
- Fathi, J., Rahimi, M., & Liu, G. Z. (2023). A preliminary study on flipping an English as a foreign language collaborative writing course with video clips: Its impact on writing skills and writing motivation. *Journal of Computer Assisted Learning*, 39(2), 659-675.
- Filiz, S., & Benzet, A. (2018). A content analysis of the studies on the use of flipped classrooms in foreign language education. *World Journal of Education*, 8(4), 72-86.
- Fu, C.H. (2021). Teaching design of English major grammar courses under the flipped classroom model. *Forest Area Teaching* (08).
- Gustian, K., Aridah, A., & Rusmawaty, D. (2023). The Benefits of Flipped Classroom Model for Efl Learners. *Journal on Education*, 5(4), 13918-13935.
- Ha, A. S., O'Reilly, J., Ng, J. Y., & Zhang, J. H. (2019). Evaluating the flipped classroom approach in Asian higher education: Perspectives from students and teachers. *Cogent Education*, 6(1), 1638147.
- Herreid, C. F., & Schiller, N. A. (2013). Case Studies and the Flipped Classroom. *Journal of College Science Teaching*, 42(5), 62–66. <http://www.jstor.org/stable/43631584>
- Hew, K. F. & Lo, C. K. (2018). Flipped classroom improves student learning in health professions education: a meta-analysis. *BMC Medical Education*, 18(38), 18-38.
- Khalil, L., & Kholofelo Semono-Eke, B. (2020). Appropriate teaching methods for general English and English for specific purposes from teachers' perspectives. *Arab World English Journal (AWEJ) Volume*, 11.
- Khasanah, U., & Anggoro, K. J. (2022). Accessible Flipped Classroom Model for Pronunciation Instruction: Its Effectiveness and Students' Perception. *International Journal of Instruction*, 15(1), 185-196.
- Låg, T., & Sæle, R. G. (2019). Does the flipped classroom improve student learning and satisfaction? A systematic review and meta-analysis. *AERA open*, 5(3), 2332858419870489.
- Lage, M. J., Platt, G. J., & Treglia, M. (2000). Inverting the classroom: A gateway to creating an inclusive learning environment. *The journal of economic education*, 31(1), 30-43.
- Li, M. (2021). College English grammar teaching strategies based on mind mapping. Liaoning Vocational and Technical College of Economics. *Journal of Liaoning Economic and Management Cadre College*, (05), 103-105.

- Liao, A. C. & Peng, L. (2022). Design and effectiveness testing of the flipped classroom teaching model for "Higher Vocational English" in application-oriented universities based on the output oriented approach Proceedings of the Webinar on Educational Theory Research and Practice (1) (pp. 191-195)
- Liu, J. (2022). Exploring China's English Grammar Teaching Methods under Different Concepts and Perspectives in the New Era. *The Educational Review, USA*, 6(12), 848-851. DOI: 10.26855/er.2022.12.009
- Luna, Y. M., & Winters, S. A. (2020). Student Perceptions on Blended/Flipped and Traditional Face-to-Face: A Course Redesign Assessment. *Journal of Curriculum and Teaching*, 9(3), 1-12.
- Ma, J. Z. (2022). Discussion on the importance of college English grammar teaching and improvement measures. *Overseas English*, (20), 140-141+150.
- Maharani, A. V., Hamamah, H., & Nurhayani, I. (2020). Indonesian undergraduate EFL students' perceptions toward flipped classroom. *Edcomtech Jurnal Kajian Teknologi Pendidikan*, 5(1), 1-10.
- Matkasimova, D. B. K., & Makhmudov, K. S. U. (2020). Importance of interactive methods in the English language grammar teaching. *Science and Education*, 1(Special Issue 2), 95-98.
- Milman, N. B. (2012). The flipped classroom strategy: What is it and how can it best be used?. *Distance learning*, 9(3), 85.
- Mingorance Estrada, Á. C., Granda Vera, J., Rojas Ruiz, G., & Alemany Arrebola, I. (2019). Flipped classroom to improve university student centered learning and academic performance. *Social Sciences*, 8(11), 315.
- Mok, H. N. (2014). Teaching tip: The flipped classroom. *Journal of information systems education*, 25(1), 7.
- Muhlisoh, E., Santihastuti, A., & Wahjuningsih, E. (2020). Students' perceptions of flipped approach in EFL classroom: A Survey Research. *Journal of Education, Teaching and Learning*, 5(2), 393-400.
- Noroozi, A., Rezvani, E., & Ameri-Golestan, A. (2020). THE EFFECT OF FLIPPED CLASSROOMS ON L2 LEARNERS' DEVELOPMENT AND RETENTION OF GRAMMATICAL KNOWLEDGE. *Turkish Online Journal of Distance Education*, 21(4), 14-30.
- Pattanaphanchai, J. (2019). An investigation of students' learning achievement and perception using flipped classroom in an introductory programming course: A case study of Thailand higher education. *Journal of University Teaching & Learning Practice*, 16(5), 4.
- Qin, G. H., & Zhang, Q. (2019). Exploration on the application of task-based teaching in grammar teaching for English majors. *Educational modernization*, (81), 164-165. doi:10.16541/j.cnki.2095-8420.2019.81.079.
- Retnaningsih, W., Nugroho, A., Van, D. T. H., & Al Amin, N. H. (2022). Booming the Vocabulary Acquisition by Using Flipped Classroom on EFL Learners' PPA (Performance, Perception and Acceptance). *VELES (Voices of English Language Education Society)*, 6(2), 325-339.
- Saaristo, P. (2015). Grammar is the heart of language: grammar and its role in language learning among Finnish university students. *Voices of pedagogical development—Expanding, enhancing and exploring higher education language learning*, 279-318.
- Say, F. S., & Yildirim, F. S. (2020). Flipped Classroom Implementation in Science Teaching. *International Online Journal of Education and Teaching*, 7(2), 606-620.

- Shi-Chun, D. U., Ze-Tian, F. U., & Yi, W. A. N. G. (2014, April). The flipped classroom—advantages and challenges. *In 2014 International Conference on Economic Management and Trade Cooperation (EMTC 2014)* (pp. 17-20). Atlantis Press.
- Stratton, E., Chitiyo, G., Mathende, A. M., & Davis, K. M. (2019). Evaluating Flipped Versus Face-to-face Classrooms in Middle School on Science Achievement and Student Perceptions. *Contemporary Educational Technology*, 11(1), 131–142. <https://doi.org/10.30935/cet.646888>
- Shukla, N. J., & Mcinnis, E. (2021). Flipped Classroom: Success with First Year Mathematics Students. *International Journal on Social and Education Sciences*, 3(1), 32-47.
- Sun, Y. B. (2021). Research on grammar teaching for English majors based on cognitive linguistics. *English Square*, (13),64-67. doi:10.16723/j.cnki.yygc.2021.13.019.
- Sun, H. R., & Chen, R. H. (2021). Problems and solutions in English grammar teaching in higher vocational colleges. *Journal of Liaoning Teachers College (Social Science Edition)*, (02),53-55.
- Torres-Martín, C., Acal, C., El-Homrani, M., & Mingorance-Estrada, Á. C. (2022). Implementation of the flipped classroom and its longitudinal impact on improving academic performance. *Educational technology research and development*, 70(3), 909-929.
- Tufail, M. (2019). Implementing Flipped Classroom Instruction (FCI) in an Undergraduate Course: Lessons Learnt from Experiences of Teacher and Students. *Pakistan Journal Of Distance And Online Learning*, 5(1), 155-170.
- Vaezi, R., Afghari, A., & Lotfi, A. (2019). Flipped teaching: Iranian students' and teachers' perceptions. *Applied Research on English Language*, 8(1), 139-164.
- Valizadeh, M., & Soltanpour, F. (2020). The Flipped Pedagogy: Effects on the Grammatical Competence and Writing Skill of Basic Users of English. *International Journal of Instruction*, 13(3), 761-776.
- Wu, Y. Y. (2021). Research on grammar teaching issues and strategies for English majors. *Overseas English*, (17),290-292.
- Xian, H.(2021).Investigation and analysis on the current situation of grammar teaching for English majors and research on countermeasures. *Journal of Hebei Energy Vocational and Technical College*, (02), 88-90+93.
- Xie, S. F. (2021).Promoting learning with “continuation”: Research on teaching grammar courses for English majors. *Overseas English*, (05),60-61+77.
- Yu, B.B. (2019). EFL Students' Perceptions of the Flipped English Language Classroom: A Case Study. *International Journal of Learning*, 5(2), 159-163.
- Yang Y.X. (2022). Research on college English teaching strategies based on flipped classroom model. *Journal of Hubei Open Vocational College* (18),
- Yuan, J. (2021).Discussion on the importance of college English grammar teaching and its classroom teaching model. *Science and Education Wenhui* (mid-term issue), (02),176-177. doi:10.16871/j.cnki.kjwhb.2021.01.082.
- Yousufi, U. (2020). An integrative review of flipped classroom model. *American Journal of Educational Research*, 8(2), 90-97.
- Zhao, L. (2010). A review of college English teaching reform and research. *Journal of Huangshan University*, (02),114-117.
- Zhang, S. J. (2019).Research on issues and strategies of grammar teaching for English majors in higher vocational colleges. *Think Tank Era*, (30),163+171.