ISSN 2663-8169 Vol. 8, Issue 4: 56-63, DOI: 10.25236/IJNDE.2026.080409

A Study on Teacher-Student Verbal Interaction in Different Types of High School English Classes Based on iFIAS

Yinghan Jiang

School of Foreign Languages, Zhejiang Normal University, Jinhua, China
2375606680@qq.com

Abstract: *This study employs the improved Flanders Interaction Analysis System (iFIAS) to examine teacher-student verbal interaction in different high school English lesson types, specifically a reading-and-thinking lesson and a listening-and-speaking lesson. Through quantitative coding and qualitative analysis of classroom video recordings, the study explores the characteristics of classroom verbal structure, teacher-student questioning patterns, and teaching styles across the two lesson types. The findings reveal that both lessons demonstrate a well-balanced distribution of teacher talk, student talk, classroom silence, and technology use, with student autonomy showing improvement compared to traditional classrooms. The teacher adopts differentiated questioning strategies and teaching styles in response to the distinct instructional objectives and student performance characteristics of each lesson type. This study provides empirical evidence and practical guidance for optimizing teacher-student interaction in secondary English classrooms, suggesting that teachers should create authentic language contexts to encourage student questioning and integrate technology to enhance interaction quality.*

Keywords: *High School English Classroom; Analysis of Teacher-Student Verbal Interaction; Improved Flanders Interactive Analysis System; Lesson Type*

1. Introduction

China *General Senior High School English Curriculum Standards* states that classroom observation and teacher-student interaction, as two channels for teachers to obtain feedback, help teachers evaluate the progress of classroom teaching and students' learning outcomes timely and effectively [1]. Teacher-student interaction refers to all reciprocal interactions and influences between teachers and students during teaching [2]. In teacher-student interaction, teachers and students communicate and give feedback through verbal or non-verbal media. Verbal interaction is the main form of teacher-student interaction. According to Flanders Interaction Analysis System (FIAS), classroom verbal behaviors are divided into two major categories: teacher talk and student talk. Based on the improved Flanders Interaction Analysis System (iFIAS) improved by Chinese scholar H. G. Fang in 2012, this study compares and analyzes the characteristics of teacher-student verbal interaction in different types of English lessons taught by a senior high school teacher in Province Z, China, so as to provide guidance for optimizing teacher-student interaction in different types of English classrooms.

2. Research Status of Teacher-Student Verbal Interaction

As the most basic and frequent interaction form in classroom teaching, teacher-student interaction has long attracted extensive attention from scholars at home and abroad. In terms of theoretical development, the earliest quantitative analysis of teacher-student behaviors was conducted by American educator Flanders, who designed the FIAS based on numerous classroom observations [3]. This system systematically records and analyzes classroom teacher-student verbal behaviors through preset coding categories, providing an important tool for quantifying classroom interaction. With the development of educational research, many scholars have improved the coding system to adapt to different teaching environments and classroom types. Among them, H. G. Fang proposed the iFIAS based on the normalized application of modern intelligent technology and the mature development of educational big data [4]. This system not only improved the coding system of traditional FIAS but also established a standard score norm [5], providing a scientific basis for quantitative evaluation of

ISSN 2663-8169 Vol. 8, Issue 4: 56-63, DOI: 10.25236/IJNDE.2026.080409

classroom interaction structure and distribution characteristics.

In terms of practical application, scholars have conducted a large number of empirical studies on teacher-student interaction in classrooms based on FIAS or iFIAS. The research scope covers different education types, such as general education [6][7][8], special education [9][10][11], vocational education [12][13][14], and higher education [15], covering various classroom types such as regular classrooms [16][17], flipped classrooms [18][19], and smart classrooms [20][21].

Overall, although existing studies have achieved fruitful results, there are still some practical problems to be solved. Current studies mostly focus on classroom interaction analysis of a single lesson type, lacking systematic comparison of teacher-student verbal interaction characteristics in different lesson types. Therefore, this study takes the improved iFIAS as a research tool, focusing on studying the characteristics and differences of teacher-student interaction in senior high school English classrooms from the perspective of different lesson types, so as to provide support for optimizing teaching practice.

3. Research Design

3.1 Research Tools

The Flanders Coding System requires that in classroom coding, the ongoing interaction behaviors be recorded every 3 seconds and marked with corresponding codes according to the system definitions. Classroom teaching behaviors in the coding system include four categories: teacher verbal, student verbal, classroom silence, and information technology, totaling 14 situations. Codes 1-7 in the scale represent teacher verbal behaviors, among which codes 1-4 are indirect influence verbal behaviors, and codes 5-7 are direct influence verbal behaviors; codes 8-14 represent student verbal behaviors and other categories. The specific meanings of the codes are shown in Table 1.

Table 1 Improved Flanders Interaction Analysis System (iFIAS) (cited from H. G. Fang, 2012).

Category		Code	Behavior	
Teacher Talk	Indirect Influence	1	Accept student feelings	
		2	Praise or encouragement	
		3	Adopt student ideas	
		4	Ask questions	4.1 Open-ended questions
				4.2 Closed-ended questions
	Direct influence	5	Explain	
		6	Give directions	
		7	Criticize or maintain authority	
Student Talk		8	Passive student response	
		9	Initiated student talk	9.1 Active response
				9.2 Voluntary questions
		10	Discussions with peers	
Silence		11	Disruptive silence	
		12	Constructive silence	
Information Technology		13	Teacher operates technology	
		14	Student operates technology	

The classroom verbal structure can be evaluated by calculating the proportion of a specific type of verbal behavior relative to the total verbal behaviors in the lesson. A high proportion of teacher talk indicates a relatively low proportion of student talk, suggesting that the classroom is primarily teacher-dominated, with limited student participation and relatively little interaction. Conversely, a high proportion of student talk suggests that students play a more active role in the classroom, expressing their views and engaging in discussions, indicating a more interactive learning environment. Therefore, by calculating the proportions of teacher talk, student talk, classroom silence, and technology use, the classroom verbal structure can be further analyzed.

A teacher's teaching style is a pedagogical characteristic formed over long-term teaching practice under the influence of multiple factors, including personal teaching philosophy, teaching environment, and student profiles. Teacher verbal behavior not only directly reflects classroom interaction but also reveals the teacher's teaching style. Based on the teacher's tendency toward control over students, the FIAS categorizes teacher talk into two types: indirect influence and direct influence. Indirect influence includes accepting students' ideas, asking questions, and encouraging student expression. Such discourse helps stimulate students' learning motivation, promotes active thinking and verbal expression, and thereby enhances the quality of classroom interaction. In contrast, direct influence is primarily manifested as teacher directives and lecturing. When direct influence accounts for a high proportion of

ISSN 2663-8169 Vol. 8, Issue 4: 56-63, DOI: 10.25236/IJNDE.2026.080409

classroom discourse, it may suppress students' initiative, making them more inclined to receive knowledge passively. Therefore, calculating the ratio of indirect influence to direct influence in teacher talk can help analyze the teacher's classroom teaching style and further assess whether classroom instruction effectively promotes students' active participation.

Given that some teaching behaviors observed in the sample videos of this study were not fully captured by the iFIAS coding scheme, this study provides operational definitions for selected codes based on the actual context of high school English classrooms. First, Code 1, *Accept student feelings*, specifically refers to the teacher's positive responses to students' emotional states, including accepting, clarifying, or anticipating their emotional experiences. This type of verbal behavior typically occurs during the greeting segment at the beginning of a lesson, or when students encounter difficulties in expression or understanding while answering questions and require teacher support and encouragement. Second, Code 12, *Constructive silence*, specifically refers to brief moments of silence that occur when students engage in deep thinking, complete independent exercises, or organize their thoughts. Unlike silence resulting from classroom disorder or loss of teacher control, this type of silence is a pedagogical phenomenon that facilitates students' internalization of knowledge and enhances learning outcomes.

3.2 Research Methods

This study takes the open-class teaching videos of English teachers from a senior high school in Z Province, China as research objects, selecting typical reading-thinking lessons and listening-speaking lessons. Classroom observation and mixed research methods are adopted to systematically analyze teacher-student verbal interaction. Firstly, the OKC video analysis software is used to code the classroom videos based on iFIAS. Then, the coding data are processed by the iFIAS analysis program and statistically analyzed with Excel. Finally, the characteristics and differences of teacher-student interaction in different high school English lesson types are compared from overall and specific dimensions.

4. Research Results and Analysis

This study conducted systematic coding analysis on two selected typical lesson examples. The reading-thinking lesson lasted nearly 50 minutes with 926 valid codes; the listening-speaking lesson lasted about 30 minutes with 621 valid codes. The quantitative statistics of teacher-student verbal interaction based on the iFIAS coding system are shown in Table 2. The following compares and analyzes the teacher-student verbal interaction in reading-thinking lessons and listening-speaking lessons from three dimensions: classroom verbal structure, teacher questioning and student answering, and teaching style.

Table 2 Statistical Table of Teacher-Student Interaction Coding.

Code	Behavior		Reading and Thinking Lesson		Listening and Speaking Lesson	
			Prop. / %	Freq.	Prop. / %	Freq.
1	Accept student feelings		0.97%	9	1.13%	7
2	Praise or encouragement		3.56%	33	4.51%	28
3	Adopt student ideas		5.72%	53	2.74%	17
4	Ask questions	4.1 Open-ended questions	15.98%	61	10.79%	16
		4.2 Closed-ended questions		87		51
5	Explain		15.66%	145	15.78%	98
6	Give directions		9.50%	88	15.14%	94
7	Criticize or maintain authority		0	0	0	0
8	Passive student response		9.83%	91	7.09%	44
9	Initiated student talk	9.1 Active response	13.61%	126	7.41%	46
		9.2 Voluntary questions	0	0	0	0
10	Discussions with peers		9.61%	89	17.71%	110
11	Disruptive silence		0	0	0	0
12	Constructive silence		15.55%	144	10.79%	67
13	Teacher operates technology		0	0	6.92%	43
14	Student operates technology		0	0	0	0
Total			926		621	

ISSN 2663-8169 Vol. 8, Issue 4: 56-63, DOI: 10.25236/IJNDE.2026.080409

4.1 Classroom Verbal Structure

Classroom verbal structure is analyzed by examining the proportions of teacher talk, student talk, classroom silence, and technology use. The proportions of the four types of teacher-student interaction behaviors in the reading-and-thinking lesson and the listening-and-speaking lesson are shown in Table 3.

Table 3 Statistical Table of Teacher-Student Verbal Structure in Different Lesson Types.

	Teacher Talk Ratio	Student Talk Ratio	Disorder and Silence Ratio	Technology Use Ratio
Reading and Thinking Lesson	51.40%	33.05%	15.55%	0
Listening and Speaking Lesson	50.08%	32.21%	10.79%	6.92%
Norm	39.12%-70.25%	10.85%-44.89%	0.70%-18.65%	0.57%-17.12%

Table 2 and Table 3 show that the distribution of verbal behaviors varied slightly across lesson types, though overall patterns were similar. The teacher talk ratios are 51.40% (reading-and-thinking) and 51.08% (listening-and-speaking), while student talk ratios are 33.05% and 32.21%, respectively—all within iFIAS norms. This indicates a well-balanced distribution of teacher talk, student talk, silence, and technology use. Although teacher talk remains dominant, student participation has improved relative to traditional classrooms, signaling a shift toward student-centered instruction.

Notably, student talk ratios were nearly identical across the two lesson types, despite the expectation that listening-and-speaking lessons would emphasize oral practice. Classroom observation revealed two reasons: (1) students in the reading-and-thinking lesson had higher English proficiency and were more willing to participate; (2) as these were public lessons, students in the listening-and-speaking lesson displayed noticeable anxiety, evidenced by the teacher's frequent use of encouraging phrases such as "Come on!" and "Don't be shy."

Classroom silence accounted for 15.55% and 10.79% of the two lessons, respectively, both representing silence beneficial to instruction. The teacher intentionally allowed time for autonomous learning, such as previewing listening materials, reflecting a focus on both cooperative learning and independent study habits.

Technology use differed markedly between the two lesson types. The reading-and-thinking lesson relied primarily on static slideshow resources, while the listening-and-speaking lesson made extensive use of audio materials for listening comprehension training, aligning with the specific demands of listening-and-speaking instruction.

According to the new curriculum reform, classroom teaching should be student-centered, with teachers supporting students' active expression and critical thinking based on their interests and cognitive levels [22]. The present analysis shows progress in reducing teacher talk and increasing student participation. However, the lower student talk ratio in the listening-and-speaking lesson suggests that future instructional design should further optimize interaction patterns to enhance students' oral expression and engagement.

4.2 Teacher Questioning and Student Answering

The pattern of teacher-student questioning and answering in the classroom can be analyzed based on the teacher's questioning rate and the student's questioning rate. The specific details are shown in Table 4.

Table 4 Statistical Table of Teacher-Student Questioning Ratio in Different Lesson Types.

	Open Question	Closed Question	Teacher Questioning Rate*	Student Passive Response	Student Active Response	Student Active Questioning	Student Initiation Rate*
Reading and Thinking Lesson	61	87	31.09%	91	126	0	41.18%
Listening and Speaking Lesson	16	51	21.54%	44	46	0	23.00%

Note:
*Teacher Questioning Rate: The proportion of questions in teacher talk (Standard norm range: 5.07% - 25.60%)
*Student Initiation Rate: The proportion of active student talk in total student talk (Standard norm range: 24.35% - 89.43%)

A comprehensive analysis of Table 4 and Table 2 reveals differences in the teacher's questioning

ISSN 2663-8169 Vol. 8, Issue 4: 56-63, DOI: 10.25236/IJNDE.2026.080409

strategies and student participation between the two lesson types. In terms of teacher questioning rate, the reading-and-thinking lesson (31.09%) exceeds the iFIAS standard norm range, whereas the listening-and-speaking lesson (21.54%) falls within the norm range. This indicates that the teacher tended to employ a large number of questions to stimulate student thinking in the reading-and-thinking lesson. Further analysis reveals that a common feature of both lesson types is that the frequency of closed-ended questions posed by the teacher was higher than that of open-ended questions, with the proportion of open-ended questions in the reading-and-thinking lesson (41.22%) being higher than that in the listening-and-speaking lesson (23.88%). This questioning strategy aligns closely with the instructional objectives of the reading-and-thinking lesson, which emphasizes text interpretation and cognitive development. The teacher employed a carefully sequenced chain of questions to guide students beyond surface-level textual information, facilitating deeper reflection on textual meaning and thereby promoting the development of students' higher-order thinking. The dialogue between teacher and students tended to resemble discussion rather than one-way instruction. In contrast, the listening-and-speaking lesson aimed to train students' listening comprehension and oral expression skills. Consequently, the teacher preferred closed-ended questions to assess whether students had accurately grasped the key points of the listening input and could produce appropriate language output.

Regarding student verbal performance, the frequency of student active responses (126 times) and the student initiation rate (41.18%) in the reading-and-thinking lesson are both higher than those in the listening-and-speaking lesson. Moreover, the student initiation rate in the listening-and-speaking lesson (23.00%) falls slightly below the iFIAS standard norm range. This phenomenon may be attributed to the following two factors. First, classroom video observation revealed that the open-ended question design and relaxed classroom atmosphere in the reading-and-thinking lesson were more conducive to stimulating students' willingness to express themselves, thereby increasing the rate of student active responses. Second, student talk in the listening-and-speaking lesson was largely confined to pre-designed pair or group dialogue activities, which limited students' opportunities for spontaneous expression. Notably, although the teacher designed a student active questioning activity in the listening-and-speaking lesson, due to insufficient student participation, it ultimately evolved into a teacher-dominated questioning-and-answering pattern. Consequently, in the coding process of this study, student questions in this activity were classified under "student passive response." This phenomenon reflects, to some extent, students' psychological barriers to oral expression.

4.3 Teaching Style

By analyzing the ratio of teacher indirect influence to direct influence, the teacher's teaching style across different lesson types can be further explored. Table 5 presents the teacher's control patterns in the reading-and-thinking lesson and the listening-and-speaking lesson.

Table 5 Statistical Table of Teacher Control in Different Lesson Types.

	Indirect Control	Direct Control	I/D Ratio
Reading and Thinking Lesson	243	233	1.04
Listening and Speaking Lesson	119	192	0.62

Table 5 and Table 2 reveal that the teacher exhibited different degrees of control across the two lesson types, demonstrating differentiated teaching styles. Specifically, the ratio of indirect control to direct control in the reading-and-thinking lesson was 1.04, indicating that the proportions of indirect and direct control were roughly equivalent, with a slight tendency toward indirect control. In the listening-and-speaking lesson, the ratio of indirect control to direct control was 0.62, which was significantly lower than that in the reading-and-thinking lesson.

Further integration with classroom observations suggests that this difference in teaching style is closely related to the characteristics of the lesson types and student performance. In the reading-and-thinking lesson, the teacher primarily employed questioning strategies to guide students toward a deeper understanding of the text content and thematic ideas. The instructional sequence followed a questioning–responding–explaining pattern. This teaching approach not only facilitated the development of students' critical thinking but also promoted in-depth interaction between the teacher and students. In contrast, in the listening-and-speaking lesson, due to students' noticeable anxiety and low level of participation, the teacher tended to use direct verbal behaviors such as giving directions and lecturing, rather than indirect questioning, to ensure the smooth progression of instructional activities. Examples of such directives included: "Any volunteers?", "Give me responds, please!", and "What about you?"

ISSN 2663-8169 Vol. 8, Issue 4: 56-63, DOI: 10.25236/IJNDE.2026.080409

5. Characteristics of Teacher-Student Interaction

Through analyzing the proportion of each type of teacher and student verbal behavior, the following characteristics of teacher-student interaction are identified:

In terms of classroom verbal structure, the teacher demonstrated a well-developed ability to allocate verbal behaviors in both reading-and-thinking lessons and listening-and-speaking lessons. Teacher talk accounted for the highest proportion among the four verbal behavior categories, indicating that the teacher still occupies a dominant role in classroom interaction, functioning to organize the class and facilitate the teaching process. Furthermore, classroom silence occurred only when students were thinking about questions or completing in-class exercises. The overall classroom order was well-maintained with no chaos, reflecting the teacher's appropriate control over the pace of the lesson.

In terms of classroom questioning and answering, in the reading-and-thinking lesson, the teacher connected key information from the text through well-designed questions, forming a coherent logical chain, and addressed students' reading obstacles by asking about the meanings of unfamiliar words, thereby facilitating students' construction of textual meaning. Classroom video analysis revealed that the teacher appropriately adjusted questioning strategies based on students' English proficiency levels, ensuring that questions were challenging enough yet not beyond students' cognitive reach. Although the teacher's questioning rate was higher than the iFIAS standard norm range, classroom interaction did not stagnate due to students' fear of responding. On the contrary, teacher-student interaction was natural and smooth, and students' understanding and articulation of the questions were commendable. In the listening-and-speaking lesson, in response to students' brief and incomplete answers, the teacher did not choose to give up questioning and provide answers directly. Instead, the teacher flexibly employed questioning strategies such as repeating questions, explaining questions, providing examples, and extending waiting time. These strategies not only reduced students' cognitive burden but also gradually guided students to formulate more complete answers. With the teacher's positive feedback and patient guidance, students gradually overcame their classroom anxiety, became engaged in the lesson, and performed excellently in the final peer dialogue presentation session, adding considerable highlights to the class.

In terms of teaching style, although the teacher adopted different teaching styles in the two lesson types, the teacher consistently maintained a strong focus on students' learning processes. In the reading-and-thinking lesson, the teacher fostered students' autonomous learning skills through indirect guidance, emphasizing the stimulation of students' depth of thinking. In the listening-and-speaking lesson, the teacher more frequently employed direct instruction and lecturing to build scaffolding for students. Such flexible adjustment of teaching style fully demonstrated the teacher's pedagogical wisdom.

6. Research Implications

Although teacher-student interaction in both the reading-and-thinking lesson and the listening-and-speaking lesson was relatively rich, and the overall classroom atmosphere was positive, some issues still warrant attention. These issues are analyzed below, along with corresponding improvement strategies.

First, students lack awareness of asking questions proactively. Although the proportion of student talk was relatively high in both lessons, and teacher-student interaction behaviors were diverse and frequent, the rate of students' proactive questioning was zero in both cases. Notably, even in the listening-and-speaking lesson, where the teacher deliberately designed an activity in which students asked questions and the teacher answered, students still failed to take full advantage of this opportunity to ask questions proactively. The root cause of this phenomenon may lie in students' psychological factors such as fear of making mistakes and lack of confidence. Moreover, students have long been accustomed to the teacher-dominated model of classroom interaction, resulting in a lack of awareness and motivation to ask questions proactively. To address this issue, teachers can create language situations related to students' real-life experiences based on the teaching content, and reasonably arrange various interactive activities such as role-playing and situational simulations, so that students naturally develop questions in familiar contexts, thereby lowering the psychological barriers to asking questions.

Second, the use of information technology in the classroom needs to be strengthened. In the classroom observations of this study, the teacher's use of information technology remained relatively

ISSN 2663-8169 Vol. 8, Issue 4: 56-63, DOI: 10.25236/IJNDE.2026.080409

limited. Particularly in the reading-and-thinking lesson, teaching activities relied primarily on question chains and the completion of information tables. Although the classroom atmosphere was relatively active, some students may have experienced difficulties such as maintaining concentration or keeping pace with the lesson, potentially affecting the overall quality of classroom interaction. The *General High School English Curriculum Standards* explicitly states that teachers should promote the deep integration of information technology into curriculum and instruction, fully leverage the supporting and service functions of modern educational technology for teaching and learning, and select appropriate digital technologies and multimedia tools to enhance students' learning experience. Therefore, teachers might reasonably integrate information technology into the teaching process. For example, using multimedia resources to enrich classroom instruction without disrupting the teaching pace or overall progress can help improve the quality of teacher-student classroom interaction and achieving a balance between knowledge acquisition and enjoyment.

7. Conclusion

This study employs the iFIAS system to achieve quantitative processing and qualitative analysis of classroom teaching behaviors, and explores the characteristics of teacher-student interaction across different lesson types, aiming to provide empirical support and practical guidance for English classroom teaching. However, this study has certain limitations. First, the research sample is relatively limited. The high school English public lesson cases analyzed in this study may not accurately reflect the actual state of teacher-student verbal interaction in regular high school English classrooms, and therefore cannot be generalized nor are they representative of typical classroom practices. Second, this study does not further analyze the sequential structure of teacher-student interaction behaviors, nor does it conduct an in-depth investigation into the patterns of teacher-student interaction across different lesson types. These issues warrant further research. Future studies may expand in areas such as sample scope and sequential analysis of interaction behaviors to more comprehensively reveal the nature of teacher-student classroom interaction and its impact on teaching quality.

References

[1] Ministry of Education of the People's Republic of China. General Senior High School English Curriculum Standards (2017 edition, 2020 revision)[M]. Beijing: People's Education Press, 2020.
[2] Ye Z, Pang L J. The nature and characteristics of teacher-student interaction[J]. Educational Research, 2001, (04): 30-34.
[3] Flanders N A, Intent, action and feedback: A preparation for teaching [J]. Journal of Teacher Education, 1963, 3 (14): 251-260.
[4] Fang H G, Gao C Z, Chen J. An improved Flanders interaction analysis system and its application[J]. China Educational Technology, 2012, (10): 109-113.
[5] Fang H G, Kong X M, Zheng Z H, et al. A study on the calculation method of standard score norm for interaction behavior data in smart classroom: Based on the improved Flanders interaction analysis system (iFIAS)[J]. Journal of Distance Education, 2023, 41(05): 67-75.
[6] Inamullah H M, Hussain I, Din M N U. Teacher-students verbal interaction at the secondary level[J]. Journal of College Teaching & Learning (TLC), 2008, 5(9): 41-44.
[7] Zhang W T. An analysis of problems and exploration of solutions for teacher-student interaction in primary school classrooms[J]. Teaching and Administration, 2017, (30): 64-66.
[8] Yang C Y, Long Y D, Yang F. A case study of expert high school chemistry teachers' classroom teaching: Based on Flanders interaction analysis system[J]. Journal of Chemical Education, 2016, 37(11): 43-46.
[9] Cameron D L. An examination of teacher–student interactions in inclusive classrooms: teacher interviews and classroom observations[J]. Journal of Research in Special Educational Needs, 2014, 14(4): 264-273.
[10] Huang Z H, Zhu N. A study on teacher-student verbal interaction in Chinese language classrooms of schools for the deaf: Based on Flanders interaction analysis system[J]. Chinese Journal of Special Education, 2019, (03): 48-55.
[11] Zhu H, Wang T T, Deng M, et al. A study on teacher-student verbal interaction in mathematics classrooms of special education schools for students with intellectual disabilities: Based on the improved Flanders interaction analysis system (iFIAS)[J]. Chinese Journal of Special Education, 2022,

ISSN 2663-8169 Vol. 8, Issue 4: 56-63, DOI: 10.25236/IJNDE.2026.080409

(01): 39-46.
[12] Subin K S, Bindu D. A Comparative Study of the Classroom Interaction in Vocational and Non Vocational Classes in the Vocational Higher Secondary Schools in Kerala[J]. Online Submission, 2017, 2(1): 61-68.
[13] Wu H J, He J H. A study on classroom teaching behavior in secondary vocational education from the perspective of classroom revolution: Based on award-winning works from the national vocational college teaching ability competition[J]. Chinese Vocational and Technical Education, 2022, (14): 63-70.
[14] Tang Y B, Qiao Y, Liu S S, et al. What constitutes high-quality classroom interaction in vocational education? An observation of three typical secondary vocational classrooms[J]. Educational Development Research, 2024, 44(Z1): 60-69.
[15] Yang M, Ye Z H, Han Y H. A discourse analysis of teacher-student and student-student interaction in online courses: A case study of the "media-assisted English teaching" course at the open university of China[J]. Chinese Journal of Distance Education, 2019, 40(12): 34-41.
[16] Liu L Y. Characteristics analysis of teacher-student dialogue in primary school mathematics classrooms[D]. East China Normal University, 2012.
[17] Pan Y N, Wang S, Liu Y, et al. A study on teacher-student interaction in junior high school mathematics classrooms: An analysis based on video cases[J]. Theory and Practice of Education, 2015, 35(08): 59-61.
[18] Ye D L, Wan K, Zeng T, et al. A study on teacher-student interaction effects in a participatory teaching model based on flipped classroom[J]. Modern Educational Technology, 2014, 24(12): 77-83.
[19] Feng Z H, Wu W C, Hu X Y. A study on the coding of classroom interaction analysis for flipped classroom[J]. Journal of Distance Education, 2016, 34(04): 59-64.
[20] Shi Y H, Peng C L, Zhang J M, et al. An analysis of teacher-student interaction behavior in university smart classroom environments[J]. Modern Educational Technology, 2019, 29(01): 45-51.
[21] Jiang Y, Wang W, Li C Y, et al. A study on teacher-student interaction behavior in smart classroom environment[J]. Modern Distance Education, 2019, (03): 13-21.
[22] Mei D M, Wang Q. Interpretation of the general high school English curriculum standards (2017 edition, 2020 revision)[M]. Beijing: Higher Education Press, 2020.