

Assessment and Analysis of College English Classroom Teaching Based on Multivariate Dynamic Interpretation Model

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Abstract

The theory of multivariate dynamic interpretation has had a great impact on the education in all countries around the world, which has also been well-received in the education sector in China and adopted as the theoretical basis for new curriculum. However, how to put the multivariate dynamic interpretation theory into teaching practice to exert the intellectual advantages of the students in English learning, promote effective teaching of English and achieve better and more harmonious development of student intelligence has become a common concern in the education industry. The advantages and disadvantages of the multivariate dynamic interpretation model are analyzed, and the multi-dimensional dynamic interpretation model is applied to carry out assessment analysis of the college English classroom teaching. Based on the comparative analysis of the multi-dimensional dynamic interpretation model, it is found that the analysis of college English classroom teaching is conducive to improving the students' performance as well as their self-confidence and interpersonal skills; enhancing the language acquisition ability of the students and improving their language level in a comprehensive manner.

Keywords: *College English Classroom, Teaching Environment, College English Classroom Teaching Analysis, Language Level;*

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1. Introduction

College English classroom teaching is a teaching activity based on the form of the heterogeneous learning groups in which the interaction between the dynamic factors of the teaching is used systematically to promote the learning of the student. The grades of the team are taken as the assessment standard to jointly achieve the teaching goal. It is one of the widely applied classroom teaching organization forms ^[1-2]. The analysis of the college English classroom teaching has its own rich research foundation ^[3]. It is concluded that the analysis of the college English classroom teaching can make the students "more likely to achieve success; more likely to establish a more positive relationship between the students; linked to the higher levels of achievement and more

active partnerships ^[4-5]". College English classroom teaching analysis is a goal-oriented activity that emphasizes the interdependence and cooperative interaction among the team members. The specific teaching strategies include four aspects ^[6-7]: (1) Select the topics and determine the contents and tasks of learning; (2) Divide the study groups rationally. Clarify the responsibilities of the team member, which usually follow the principle of "inter-group homogeneity, intra-group heterogeneity", that is, the overall membership characteristic composition in each group is not much different, but the members in the group should have differences in the aspects of gender, academic records, ability, personality and so on. 4 ~ 5 students are preferred for the cooperation group; (3) Carry out college English classroom teaching analysis

activities, and design different types of cooperative learning activities in accordance with the teaching contents and the actual levels of the students. The members of the group gather together face to face and first complete their own learning tasks in accordance with the division of labor; subsequently, they exchange their learning results with other members of the group; and finally, the learning results are integrated; (4) Submit the learning results and carry out assessment on the results [8-9]. Each group is required to present the learning results as a group to the whole class. Hence, the analysis of the college English classroom teaching is based on the research and utilization of the interpersonal relationships in the classroom teaching, with the goal design as the guide, the student cooperation as the basic motivation, the team activity as the basic teaching method, the group performance as the assessment standard, and the formation of the students' good psychological quality and social skills as the fundamental goal, which is teaching theory and strategy system with great creativity and effectiveness [10-11].

The rapid development of information technology has made the network an important means for college students to learn foreign languages. It was clearly stated in the "Requirements for the Teaching of College English Course" issued by the Ministry of Education issued in 2007 that: "All higher education institutions should make full use of the modern information technology and the computer-based and classroom-based English teaching mode, and improve the single teaching mode based on the lecture of teachers." This new teaching method has certain advantages combined with the analysis method of the college English classroom teaching, while there are also some deficiencies [12-13]. The application of college English classroom teaching analysis in the college English classroom teaching at present focuses on the analysis of the college English classroom teaching in the traditional classroom environment, and there are very few applied research that combines these two

methods. How to give full play to the advantages of the two learning methods and provide convenient and flexible communication channels for the learners in their learning is still a problem that needs to be solved urgently [14-15].

Drawing on and applying the theory of multivariate intelligence to guide our foreign language teaching can help our teachers update their educational concepts, establish a positive, optimistic and multivariate developmental concept for the students, a teaching concept of teaching students in accordance with their abilities and "identifying specific ways to solve problems", a personalized learning concept and a flexible, diverse multivariate assessment view. The application of the multivariate intelligence theory to the practice of the English teaching in primary schools can fully exploit the advantages of each student's intelligence in accordance with the different intelligent characteristics of the students, stimulate the intelligent effect of the whole brain, and establish the optimal intelligent way and personalized, highly efficient learning program that is suitable for each student in the English learning, so as to make all students feel that learning English is just like fish getting to the water and adding wings to a tiger. It is conducive to developing the students' interest and ability to learn, and cultivating the students' sense of innovation and practical ability, which is of great significance to the lifelong learning and development of the students. At the same time, through the research of the subject, the teachers can change the teaching behavior mode, give play to their innovative ability in teaching, and help promote the professional development of the teachers. This is of great inspirational significance to promoting the reform of foreign language education and improving the comprehensive foreign language quality of the students. In this paper, the multivariate dynamic interpretation model is applied to the assessment analysis of the college English classroom teaching to combine the network and classroom learning, so as to improve the learning quality and

efficiency of the learners.

2. College English Classroom Teaching Analysis Process

2.1. Characteristics of College English Classroom Teaching Analysis

College English classroom teaching analysis refers to the cooperative and mutual learning mode in the form of small groups, using the network as a tool to complete the learning tasks and achieve the common learning objectives. The analysis of the college English classroom teaching can eliminate the time and space restrictions and provide convenience to the learners, which has offered sufficient critical thinking time for the refined processing of opinions and structured online discussions, which is conducive to the cultivation of the analytical, reasoning, assessment, reflection, knowledge innovation and other in-depth understanding of the discussion issues. The form of participation is more democratized, hence even those students who are not good at expression can be easily mobilized in their enthusiasm to participate in the discussion. At the same time, the analysis of the college English classroom teaching also has good openness, wide-area and interactivity. Learning is not subject to the restrictions of time and space, and the students can enter the virtual classroom to learn anytime and anywhere. The communication between the teachers and students, between the students and students is carried out through the information technology. The students can browse, download and upload materials on the Internet to improve the depth and breadth of their knowledge. In the teaching analysis, the members of the group can use the form of language and text to improve their comprehension on the language, so as to facilitate the mutual learning and common progress among the members. When the group members discuss topics online, they use different expressions to express their meanings, which are recorded to allow the listeners to listen to the information repeatedly. Such repeatability is the necessary condition for the language learning from

the short-term understanding to the long-term acquisition. The members of the group can obtain the opportunity to practice repeatedly through the video and recording.

The analysis of college English classroom teaching in the traditional classroom environment means that the students carry out group activities within a specified time in the classroom so as to achieve a common goal or complete a common task. Each student in the group should undertake specific tasks, are responsible for their own tasks, and accomplish the common goal through cooperation at last. In the English classroom teaching analysis of the traditional classroom, the students communicate face to face and can make speech expression more accurately and vividly through physical movements, expressions and so on to make their classmates quickly understand their own message. The members of the group can achieve emotional improvement in the long-term cooperation, so as to make progress together.

2.2. Problems in the Analysis of College English Classroom Teaching

The college English classroom teaching environment has its particularity. The directness of its interaction and the lack of social existence can directly lead to the issue that the interaction between teachers and students and that between the students and students rely excessively on the network media. At the same time, the communication between the teachers and students and that between the students and students is carried out through the form of text or audio. These means cannot offer the emotional feelings like the face-to-face communication, which will make the communication between the teachers and students and that between the students and students lack feelings and the sense of distance. In addition, in the absence of immediate communication and encouragement, the students can easily get confused and lost. In the online course, students are more likely to feel loneliness in case they lose their orientation in the online courses that are highly complicated in the structure. For the

college English classroom teaching analysis in the classroom environment, although face-to-face emotional communication and instant communication are feasible, there is also a lack of depth and breadth of the communication contents. The students can only communicate on materials that have been prepared and are not able to effectively obtain new materials in a short period of time. Hence, there are some problems in the analysis of the college English classroom teaching based on the multivariate dynamic interpretation model as well. The solution to the problems is to combine the two methods, take advantage of both strengths and overcome their shortcomings to create a new learning model.

3. Analysis of College English Classroom Teaching Based on the Multivariate Dynamic Interpretation Model

3.1. Construction of the Analytical Model of College English Classroom Teaching

The analysis of the college English classroom teaching based on the multivariate dynamic interpretation model is designed in accordance with Krashen's language input hypothesis and Swain's language output hypothesis theory. In the language acquisition process, teachers should provide students with sufficient and understandable language input. The language input should be at the level that can be understood by the learners or are suitable for the learner. It should not be too difficult or too easy and should be slightly higher than the current language level of the learners. The learners can use the clues of the context to understand the linguistic materials through the language knowledge that they have already mastered. With regard to Krashen's comprehensible input hypothesis theory, it is considered that the role of understandable output is to provide an opportunity to detect the real language communication and carry out retrieval in the context, which is a necessary condition for the acquisition of a second language. Subsequently, the output hypothesis is put forward. It is believed that the language output also has a significant role in the

language acquisition. The students should be provided with sufficient opportunities in the classroom to practice using the language they are learning. It is believed that understanding the language input is only a part of the language learning. In addition, the learners must also have the opportunity to use the language they have learned, that is, to carry out the language output activities. The students of different intelligent types have different learning styles, study habits, sensitivity to different learning content. Hence, the teachers should not always use the same method or the same form in the teaching. There is no such method that is suitable for all students. There is no such student that every methods can apply to either. Hence, in the process of teaching, the teachers must analyze the intelligent differences and composition of the class members, so as to determine the ways to resolve the differences in the learning effects brought about by such differences. Guided by the theory of the multivariate intelligence, reasonable and specific teaching objectives are set, and the multivariate teaching methods are designed in accordance with the goals, which are in line with the intelligence type and intelligent development level of each student. Through the initial understanding of their own intelligent characteristics, the students can have a new understanding of themselves. It will be easier for them to find a suitable learning method and form their own learning style gradually. Through the different intelligent characteristics of the peers in the group, the students can help each other, which can stimulate the enthusiasm of the students and further enhance their interest in participating in the activities. In the participation of the activities, the students can improve their English levels and achieve the intelligent and harmonious development of their capabilities.

3.2. Construction of the Multivariate Dynamic Interpretation Model

In combination of the aforementioned theory with the actual learning process of the students, the author has tried to established the college English

classroom teaching analysis under the college English classroom teaching environment (as shown in Figure 1 as the following). It is composed of two platforms, and each platform consists of four

systems. The two platforms are independent of but closely related to each other, with both the division of labor and the common tasks. In the next section, a brief introduction will be made on each module.

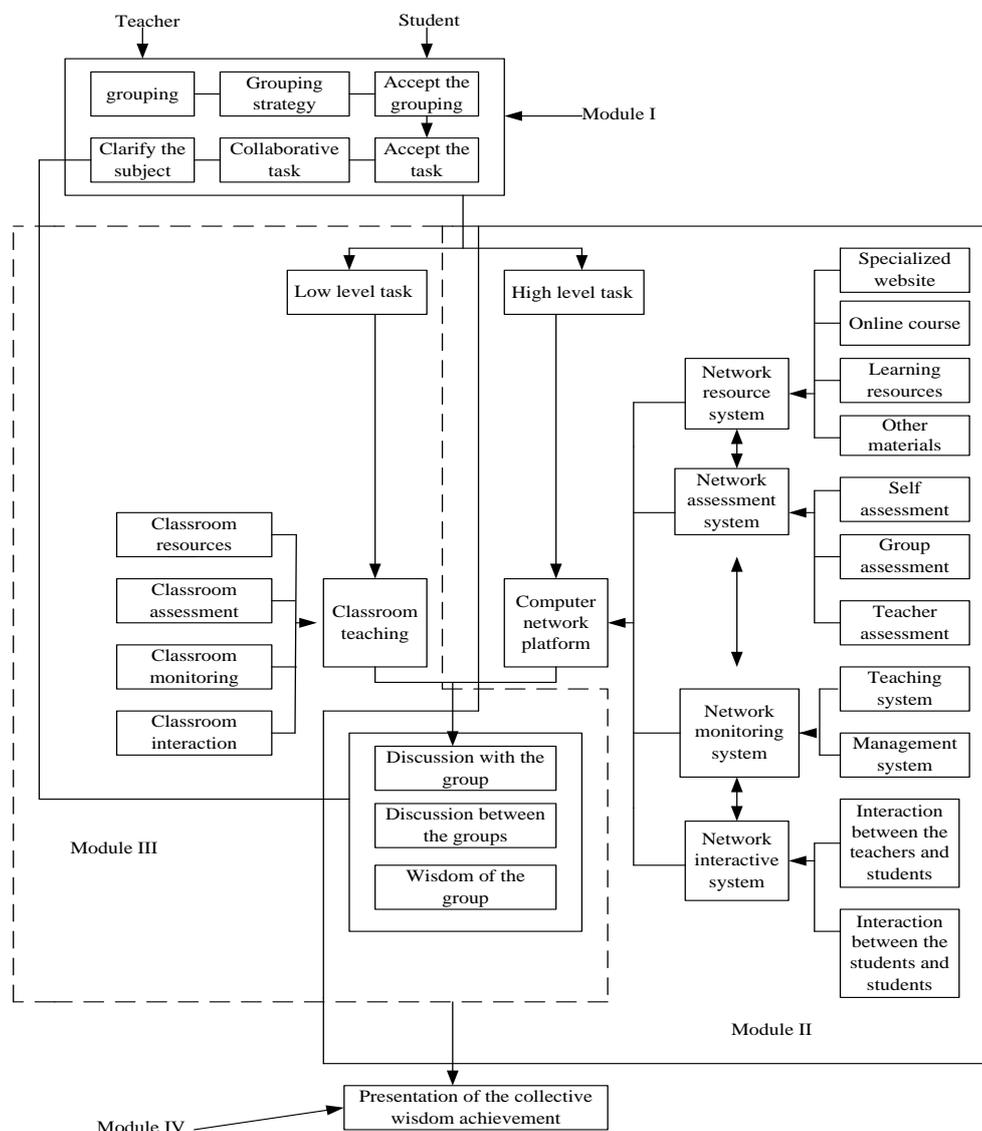


Figure.1 Analysis of the college English classroom teaching based on the multivariate dynamic interpretation model

Module I: Grouping and theme. In accordance with the grouping principle, the teachers carry out grouping of the students before performing the tasks and briefly introduce the purpose and contents of the college English classroom teaching analysis, so that the students can have a general understanding of the contents to be discussed; the actual tasks are combined in the setting of the discussion issues. The

low level problems and high level problems are reasonably matched, so that the students can deepen the discussion of the problems. The low level tasks include some basic knowledge and basic applications, for example: vocabulary, grammar and so on, which are carried out mainly in the classroom teaching platform. The high- level tasks mainly involve the knowledge transfer, various capabilities

and knowledge innovation and so on, which are carried out mainly on the computer network platforms.

Module II: Computer network platform. This platform mainly supports four system data, that is, the network resource system, the network monitoring system, the network assessment system and the network interaction system. The network resource system integrates the information resources to design and develop the special college English learning website, online courses and other learning resources and so on. These information and resources provide students with the language input to prepare for their online discussion output. The network monitoring system can be divided into the teaching system and the management system: The teaching system is implemented by the teachers carrying out analysis on the course and the students. On this basis, structured online courses are designed to implement the teaching system. The relevant course contents are divided into a number of learning modules. Each module has clear learning objectives, learning methods, exams, difficult questions and so on. The system controls the learning pace of the learners by the modules. The management system is used to manage the relevant information of the group cooperation of the students, track the cooperation process of each group, check the analysis of the college English classroom teaching and provide the necessary guidance in a timely manner. The network interaction system includes the teaching forum, the chat room and the network video, QQ, the message board, the online community and so on to provide the teachers and students with the interactive communication that is not limited by time or place. This is a complete output process. The network assessment system adopts an assessment mechanism that combines the

self-assessment, mutual assessment and teacher assessment to carry out assessment from the three aspects of cognitive ability, emotional experience and the learning skills. The students rely on this platform to carry out discussions with the group and between the groups on the high level tasks put forward by the teachers, and finally form the group wisdom. On the basis of the knowledge and resources acquired above, the students output the information and knowledge on this platform.

Module III: Classroom teaching platform. This platform is also composed of four systems, that is, the classroom resources, the classroom assessment, the classroom monitoring and the classroom interaction. Classroom resources mainly refer to the materials used by the students, the teacher reference books and other extracurricular materials. Classroom assessment adopts the forms of teacher assessment, self-assessment and mutual assessment between the students. Classroom monitoring relies on the on-site supervision of the teachers on various group activities, post supervision of the tasks completed by the groups and mutual restraint between the group members. Classroom interaction is the mutual communication and exchange between the teachers and students and between the groups. The students output the information in accordance with the classroom resources that they have mastered. In this platform, each group consults and discusses the low level tasks put forward by the teacher and finally forms the group wisdom.

Module IV: Presentation of the results. The group wisdom formed in the computer network platform and the classroom teaching platform can be presented in the classroom or network. Through the discussion and assessment of all the groups, the collective wisdom of the class can be formed to complete the knowledge output.

4. Experimental Methods and Instructions

4.1. Experimental Objects

Through the cluster sampling method, 163 students from 4 classes in a science and engineering university are selected as the study subjects. The four classes are divided into the experimental class and the control class: There are 40 students in the class A, which is the experimental class. There are 39 students in the class B, 41 students in the class C and 43 students in the class D, which are the control classes. There are no significant differences in the gender, urban and rural ratio of the students, academic records, teachers of the courses and other aspects.

4.2. Experimental Content and Process

The four classes use the same textbook, that is, "New Era Interactive English (New Edition)", Volume 3, published by Tsinghua University Press to complete the same teaching task, that is, the learning contents of the seven units in the textbook, so as to achieve the same teaching objective. The multivariate dimensional dynamic interpretation model combined with the college English classroom teaching analysis mode is applied to the class A in the teaching; while the three control classes, that is, class B, class C and class D, adopt the cooperative teaching method in the college English classroom teaching environment, the cooperative teaching method and the traditional grammar in the traditional classroom environment for the teaching. In the experiment, the initial state is first determined by the pre-test, and then the teaching is carried out in accordance with the established teaching mode. Finally, the post-test and data processing are carried out to obtain the experimental conclusion.

4.3. Experimental Effect Test and Result Analysis

4.3.1. Measurement Tools

In the test, three questionnaires on the interpersonal relationship, self-confidence and interest in learning and two language skills test papers are used. The College English Test Band 4 in June 2012 is used as the pre-test question in the language skill test; and the College English Test Band 4 in December 2012 is used as post-test questions in the language skill test. The 3 questionnaires of the interpersonal relationship, self-confidence and interest in learning are divided into the pre-test and post-test, which are the same questionnaire. The interpersonal relationship questionnaire and the self-confidence include 20 entries each, and the learning interest questionnaire includes 15 entries. Each entry has four options, each of which stands for a different score of 3, 2, 1 and 0 points, in which 3 stands for "highly compliant", 2 stands for "basically compliant", 1 stands for "difficult to judge", and 0 stands for "highly incompliant".

4.3.2. Test Results and Analysis

The statistics on the student conditions in the two stages before and after is carried out, and all the data obtained are statistically analyzed by using the SPSS11.5. The comparison between the experimental class and the control classes is carried out by using the independent sample T test, and the results are shown in Table 1 as the following. Table 1 shows that there is no significant difference in the scores of the interpersonal relationship, self-confidence, interest in learning and pre-test skills between the experimental class and the control classes ($P > .05$). This suggests that the initial conditions of the aforementioned four aspects are the same in the four classes before the experiment. Hence, the experimental class and the control classes are comparable, as shown in the following.

Table 1 Independent sample t test of the experimental class and control class before the experiment

	Experimental class		Control class						T	P
	A Class		B Class		C Class		D Class			
	Average score	Standard deviation	Average score	Standard deviation	Average score	Standard deviation	Average score	Standard deviation		
B	21.175	7.736	21.043	7.887	21.217	7.756	21.439	7.593	-155	.877
C	23.050	10.720	23.172	10.385	23.524	10.207	23.634	10.187	-251	.802
I	19.500	8.0893	19.611	8.0385	19.468	8.0519	19.659	8.0486	-.088	.930
S	53.750	10.786	53.641	10.776	54.329	11.046	54.488	11.050	-.304	.762

(R = interpersonal relationship; C = confidence; I = interest in learning; S = skill)

Table 2 shows that there is a significant difference in the post-test scores between the experimental class and the control classes in terms of the interpersonal relationship, self-confidence, interest in learning and skills ($P < .01$). The difference between the experimental class and the other three control classes is relatively significant. It can be

considered that the network-based and classroom college English classroom teaching analysis model is conducive to the comprehensive and coordinated development of the comprehensive quality of the students and has a great impact on the students' emotional experience and learning skills, as shown in the following.

Table 2 Independent sample t test of the experimental class and control class after the experiment

	Experimental class		Control class						T	P
	A Class		B Class		C Class		D Class			
	Average score	Standard deviation	Average score	Standard deviation	Average score	Standard deviation	Average score	Standard deviation		
B	39.45	6.991	31.327	6.750	29.539	6.641	22.244	6.617	11.37	.000
C	38.225	6.4111	29.760	7.521	30.236	7.463	24.951	9.295	7.48	.000

I	26.075	6.427	23.110	6.873	23.275	6.409	21.707	7.160	2.89	.005
S	65.45	8.006	61.504	8.349	60.298	8.730	58.561	8.928	3.65	.000

(R = interpersonal relationship; C = confidence; I = interest in learning; S = skill)

4.4. Experimental Results

The above experimental results show that the network-based and classroom college English classroom teaching analysis can complement each other and is conducive to the progress of the students. It is mainly reflected in the following aspects:

(1) It is conducive to helping students overcome the sense of loneliness and improving the self-confidence and interpersonal skills of the students. College English classroom teaching analysis is based on the communication through the network. Although the students can communicate through the video, text and audio, it still lack the directness of face-to-face communication and the richness of emotions. At the same time, it is not easy or convenient to retrieve data through the analysis of the college English classroom teaching in the classroom environment, which results in the lack of depth and breadth of the communication between the students. Hence, only by combination of the two learning environments can the above deficiencies be overcome. The students can make use of the network to carry out the college English classroom teaching analysis, retrieve the data, and make the topics of discussion deep and extensive. Subsequently, in the classroom environment, the college English classroom teaching analysis is carried out in accordance with the prepared contents for the face-to-face communication. The students support and encourage each other, their interpersonal relationships can be well developed, the strangeness between the students disappears naturally, and then

they can express their opinions on the issues with full confidence.

(2) It is conducive to enhancing the language acquisition ability and improving language level of the students in an all-round way. Language acquisition is affected by some key factors such as the information input, information output and context. In the analysis of the college English classroom teaching, the students can rely on the rich network resources to enquire the information that is required, which is conducive to the input and output of the language information. In the network situation, the students can carry out instant communication through the video, audio, QQ and so on. These communication methods are storable and repeatable. In a similar way, in order to enable their peers to understand their intentions, they will choose the most understandable way, which will have a positive effect on the language acquisition of the students. At the same time, to make the communication more vivid and emotional, cooperative teaching in the classroom environment shall be combined. The face-to-face communication can deepen the mutual understanding between the students. Through the group communication, the learners can reflect on their lack of understanding of the problems and compare the similarities and differences in their respective views.

5. Conclusions

The assessment of college English classroom teaching based on the multivariate dynamic

interpretation model is conducive to language learners to acquire language knowledge and cultivate innovation and cooperation spirit. It has positive effects on the learning ability, attitude, emotion and experience of the students, which is in line with the characteristics of physical and mental development of the students and the spirit of the college English curriculum reform. However, in the specific teaching experiments, some problems have also been found. In the cooperation group, the students with relatively good grades have shown participation behavior with higher quality than those with relatively poor grades; the students may make a number of grammatical errors or have irregular language behaviors in the group activities. Such language input may have adverse effects on the recipients. How to correct or standardize the language in the group discussion, how the teachers can fully play the role as the organizers and facilitators, how to combine the analysis of the college English classroom teaching with the multi-dimensional dynamic interpretation model, and how to further optimize the internal relationship of the members within the team require further exploration.

References

- [1] Maniraho, S. . (2014). Attitudes and motivation of teacher training college teachers and students toward english learning and use as medium of instruction in rwanda. *European Journal of Mineralogy*, 27(1), 31-50(20).
- [2] Xu, J. , & Zhuang, J. . (2016). Modeling costly learning and counter-learning in a defender-attacker game with private defender information. *Annals of Operations Research*, 236(1), 271-289.
- [3] Winegarden, B. , Glaser, D. , Schwartz, A. ,

& Kelly, C. . (2012). Mcat verbal reasoning score: less predictive of medical school performance for english language learners. *Medical Education*, 46(9), 878-886.

- [4] Park, H. . (2015). Production and perception skill developments of korean coronal obstruents by inexperienced english-speaking learners of korean. *The Journal of the Acoustical Society of America*, 138(3), 1946-1947.
- [5] Liebert, C. A. , Mazer, L. , Bereknyei, M. S. , Lin, D. T. , & Lau, J. N. . (2016). Student perceptions of a simulation-based flipped classroom for the surgery clerkship: a mixed-methods study. *Surgery*, 160(3), 591-598.
- [6] Wang, Y. , Zhao, F. Y. , Kuckelkorn, J. , Spliethoff, H. , & Rank, E. . (2014). School building energy performance and classroom air environment implemented with the heat recovery heat pump and displacement ventilation system. *Applied Energy*, 114, 58-68.
- [7] Zeller, M. H. , Reiterpurtil, J. , & Ramey, C. . (2012). Negative peer perceptions of obese children in the classroom environment. *Obesity*, 16(4), 755-762.
- [8] Eren, B. , Marot, L. , Wisse, M. , Mathys, D. , Joanny, M. , & Travère, Jean-Marcel, et al. (2013). In situ assessment of the reflectivity of molybdenum and rhodium coatings in an iter-like mixed environment. *Journal of Nuclear Materials*, 438, 852-855.
- [9] Bouffard, J. , Renault, L. , Ruiza, S. , Pascual, A. , & Joaquin Tintoré. (2012). Sub-surface small-scale eddy dynamics from multi-sensor observations and modeling. *Progress In Oceanography*,

106(6), 62-79.

- [10] Schultz, D. , Duffield, S. , Rasmussen, S. C. , & Wageman, J. . (2014). Effects of the flipped classroom model on student performance for advanced placement high school chemistry students. *Journal of Chemical Education*, 91(9), 1334-1339.
- [11] Jindal, A. , & Sangwan, K. S. . (2014). Closed loop supply chain network design and optimisation using fuzzy mixed integer linear programming model. *International Journal of Production Research*, 52(14), 4156-4173.
- [12] Calculli, C. , Fassò, Alessandro, Finazzi, F. , Pollice, A. , & Turnone, A. . (2015). Maximum likelihood estimation of the multivariate hidden dynamic geostatistical model with application to air quality in apulia, italy. *Environmetrics*, 26(6), 406-417.
- [13] Martin, P. T. , Corcoran, M. , Zhang, P. , & Katic, A. . (2014). Randomized, double-blind, placebo-controlled, crossover study of the effects of lisdexamfetamine dimesylate and mixed amphetamine salts on cognition throughout the day in adults with attention-deficit/hyperactivity disorder. *Clinical Drug Investigation*, 34(2), 147-157.
- [14] Carpio, J. , Juan, Jesús, & López, Damián. (2014). Multivariate exponential smoothing and dynamic factor model applied to hourly electricity price analysis. *Technometrics*, 56(4), 494-503.
- [15] Zhou, C. , Liu, P. , & Li, Z. . (2014). A superstructure-based mixed-integer programming approach to optimal design of pipeline network for large-scale co₂ transport. *Aiche Journal*, 60(7), 2442-2461.