English Smart Classroom Paths from the Perspective of Student-centeredness

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Abstract: The "student-centered" English wisdom classroom teaching model emphasizes the equality and harmony of teacher-student relationships, the development of students through teaching, self-development, teaching and learning, and the continuous improvement and transcendence of students and teachers. The purpose of this paper is to study the construction of the English wisdom classroom path based on the "student-centered" perspective. We analyze the student-centered teaching perspective and propose the path of English smart classroom from three aspects: pre-class guidance, smart environment, and interactive classroom. The research instrument was used to analyze the experimental data on students' learning engagement and learning efficacy in two parallel classes with the help of a questionnaire and its various dimensions. The experimental results show that the student-centered English smart classroom has higher learning engagement and learning efficacy of students than the traditional classroom teaching.

1. Introduction

Talent is the first resource to support the development of society. The education management of contemporary college students needs to guide, motivate, and improve the public's awareness of education management through active education; Adhere to "people-oriented", respect students' differences, influence and shape students in a way suitable for their development, and finally achieve their development goals [1-2]. Intelligent classroom is a learning mode that uses modern educational information technology equipment to promote students' autonomous learning. And the interactive interest in intelligent classroom encourages students to make positive responses on the basis of analyzing a large amount of data and information, so that students' learning behaviors can get feedback quickly, which plays the role of timely reinforcement and can reduce the error rate, which is beneficial to students' learning [3-4].

Nowadays, the Internet is used in all aspects and the integration of modern information technology is developing rapidly. Therefore, Mohammad Kasem Alrousan explored the model of intelligent teaching of English in universities based on the principle of intelligent talent training. Combining with the author's many years of experience, the implementation strategies of intelligent teaching of college English are proposed: changing the role of teachers to help students learn

intelligently; making full use of the Internet or software to improve students' independent learning; encouraging cooperative learning and free communication with others; and focusing on practical teaching to improve English application skills [5]. Saadeh Sweidan, by means of literature research, briefly discussed the concept. According to the author, the design of an intelligent learning environment should consider three factors: platform, resources, and services. In order to build a smart English learning environment, more attention should be paid to its socialization, mobilization, intelligence, and personalization in order to support easy, engaging, and effective English learning at the university [6]. Therefore, it is relevant to study the construction of English smart classroom paths from the perspective of "student-centeredness".

Based on the existing research, this paper proposes a method for constructing a student-centered English smart classroom based on the problems of English classrooms. Combined with classroom practice and a questionnaire study of School M, it illustrates practical examples of English smart classrooms that attract students' attention and stimulate learning interest.

2. A Study on the Construction of English Smart Classroom Paths from the Perspective of "Student-centeredness".

2.1 A Student-centered View of Teaching

The central idea of student-centeredness: First, the ability to learn is human nature and is the result of the evolution of life. Second, the essence of education is to teach students to learn. The teacher should be the "pastor" of students' learning, not the follower who inspires them to learn. Third, teaching and learning occurs in the minds of students themselves, and education should unleash human potential. Therefore, the essence of education is to encourage, guide, and motivate students to learn, which can be seen as a method or an idea [7-8]. The concept of focusing on and advocating student-centered education is that students have unlimited potential for development and education must give full play to their potential and intrinsic motivation. Students strive to realize their values and learn to acquire knowledge and achieve their skills; teachers respect, trust, and love their students, and establishing good teacher-student relationships is the secret of educational success. Teaching should draw on the knowledge and experiences of students from different occupations, regions, and ages to design appropriate teaching models [9-10].

2.2 Constructing a Student-centered English Smart Classroom

(1) Pre-class guided learning

Pre-class guided learning allows students to prestudy in advance, shift the focus of learning from after class to before class, and listen to the class with questions that facilitate the construction of knowledge. Students receive various types of homework contents assigned by the teacher before class, and students can complete the guided learning tasks in the form of pictures, videos, audio, exercises, etc. as required by the teacher. Resources are an important content and key link in the construction of the smart classroom, mainly including various types of digital English teaching resources and digital book resources generated by English teaching activities [11-12].

(2) Smart environment

The prerequisite for the paradigmatic application of a smart classroom is advanced, convenient, and practical tools and means [13]. Teachers and students can interact and communicate with each other in various mobile devices [14-15]. Teachers can create microlessons, lecture, communicate and evaluate, import PPT with animation and video insertion, write arbitrarily in electronic whiteboard style, implement publishing tasks, correct assignments, and answer questions and answers. Students receive and complete assignments for teacher-student interaction and

student-student interaction.

(3) Interactive Classroom

The interactive classroom board supports students to view the actual classroom recordings and boards produced by the teacher's lectures, and supports students to view their personal classroom performance: the number of roll calls, the number of answers with raised hands, and the accompanying tests [16-17]. At present, information technology has been used to some extent in modern English teaching, but mostly it is only simple multimedia, the most common one is to use slides to assist English teaching, and the mode is relatively single. However, the emergence of new technologies and their integrated use bring new feelings to teachers and students, beyond the limits of time and space, as a simulated and inspiring method of teaching English [18].

3. Investigation and Research on the Construction of English Smart Classroom Paths from the Perspective of "Student-centeredness".

3.1 Smart Classroom Teaching Implementation

In this paper, two parallel classes of third-year students in a university in M city were studied. In the classroom, the teacher pushes through the classroom resources and the students can view and respond through the pads in their hands. After the students answer the questions, the device terminal will also analyze the students' answers to determine the error points and the teacher will solve the problems. This not only promotes teacher-student interaction, but also allows teachers to instantly grasp students' learning progress.

3.2 Data Collection and Analysis

Questionnaires on learning engagement and learning efficacy were distributed to students in two parallel classes for pretesting before the experiment began, and 64 valid questionnaires were collected. After the experiment, a post-test was administered in the experimental and control classes, and 64 valid questionnaires were collected after the students finished answering within the specified time. The results of the questionnaires were analyzed using SPSS.26 software and t-tests were conducted. The t-test formula used in this paper is shown below.

$$t = \frac{\overline{X} - \mu}{\frac{\sigma X}{\sqrt{n}}} \tag{1}$$

$$t = \frac{\overline{X_1} - \overline{X_2}}{\sqrt{\frac{(n_1 - 1)S_1^2 + (n_2 - 1)S_2^2}{n_1 + n_2 - 2}(\frac{1}{n_1} + \frac{1}{n_2})}} \tag{2}$$

Where s is the sample standard deviation and n is the number of samples.

4. Analysis and Research on the Construction of English Smart Classroom Paths from the Perspective of "Student-centeredness".

4.1 Impact of Smart Classroom on Students' Learning Engagement

Independent sample t-tests were conducted on the post-test data of English subjects learning engagement in the experimental and control classes, respectively, and the following results were obtained, as shown in Figure 1.

Table 1: Statistical table of post-test differences in learning participation between experimental class and control class

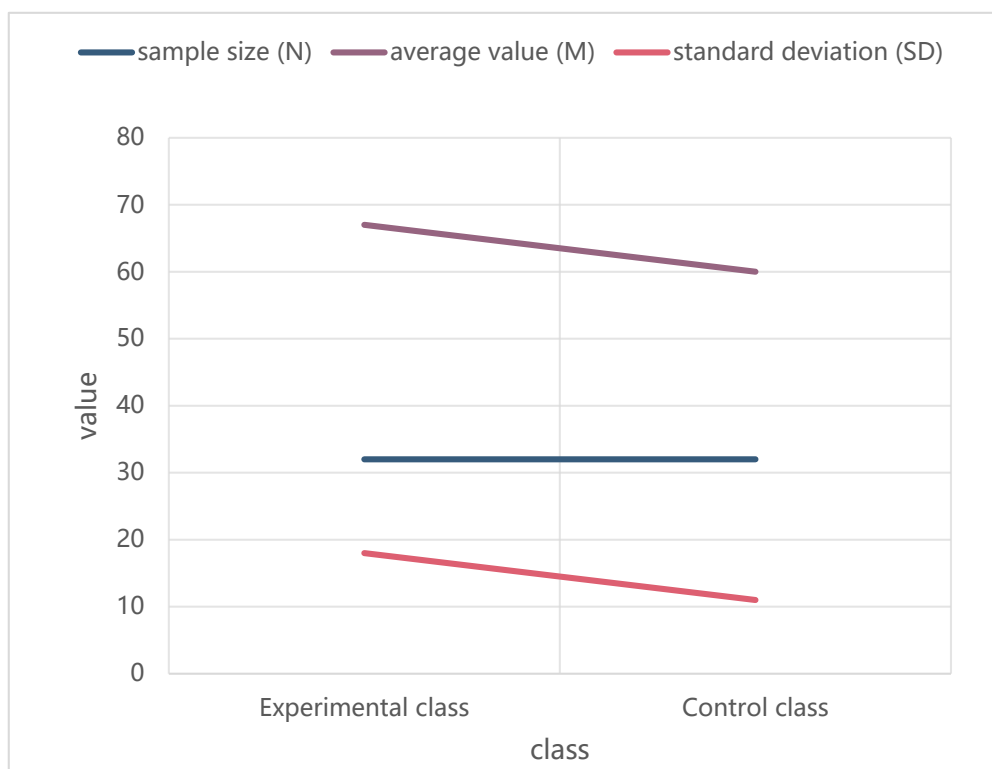| Class	Sample size (n)	Average value (m)	Standard deviation (sd)	T value	P value
Experimental class	32	67	18	-0.558	0.005
Control class	32	60	11		

Figure 1: The impact of smart classroom on students' learning participation.

As shown in Table 1, the t-value of -0.558 in the test of students' learning participation in English classroom, while the p-value <0.01, indicates that a significant gap arose between the experimental and control class students' learning participation, and that the experimental class outperformed the control class in comparison between the two classes.

Based on the results of the experimental data in English and mathematics classes, it was found that there was no significant difference in the scores of students' learning engagement and its three dimensions of cognitive, affective, and behavioral components between the experimental and control classes before the beginning of the experiment. After one semester of the experiment, students in the experimental class were more engaged in learning and then included cognitive, affective, and behavioral dimensions than students in the control class. In contrast, the students in the control class did not show a significant increase in learning engagement and the three included dimensions compared to the preexperimental period. This indicates that the student-centered English smart classroom can increase students' learning engagement, while traditional classroom teaching is not significant in increasing students' learning engagement.

4.2 Effects of Smart Classroom on Students' Learning Efficacy

Independent sample t-tests were conducted on the post-test data of learning engagement and learning efficacy in English subjects in the experimental and control classes, respectively, and the following results were obtained, as shown in Figure 2.

Table 2: Post difference statistics of learning efficacy between experimental class and control class

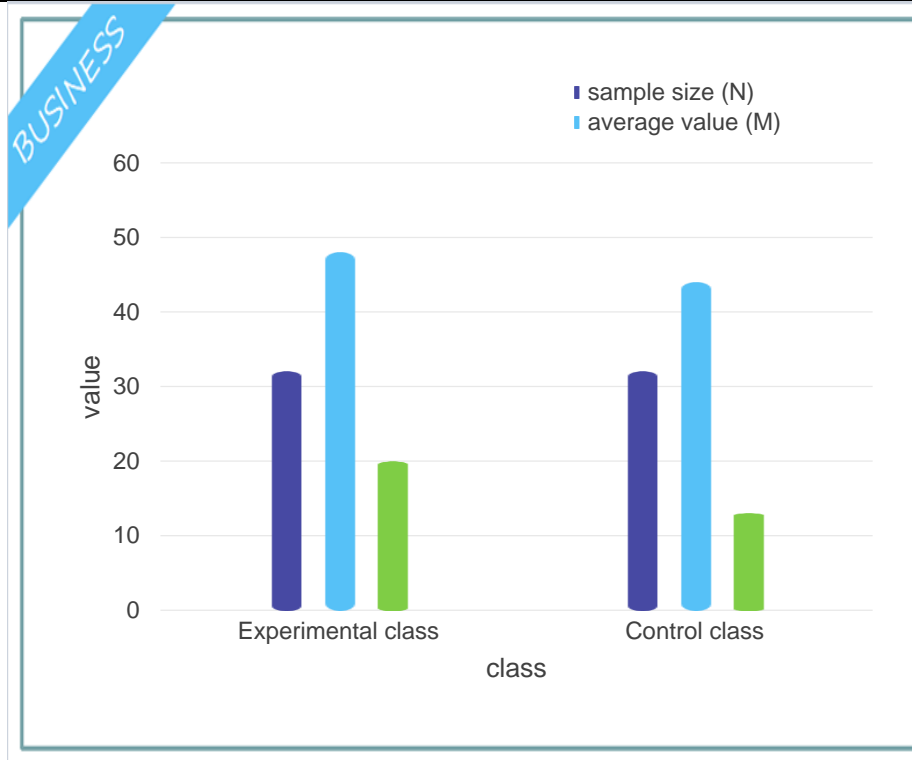| Class	Sample Size (N)	Average Value (M)	Standard Deviation (Sd)	T value	P value
Experimental class	32	48	20	-0.618	0.004
Control class	32	44	13		

Figure 2: The impact of smart classroom on students' learning efficacy.

As shown in Table 2, the T-value of -0.618 in the test of students' learning efficacy in the English classroom and the P-value < 0.01 indicate that a significant gap arose between the learning efficacy of students in the experimental and control classes and that the experimental class outperformed the control class in comparison between the two classes.

Based on the results of the experimental data from English and mathematics classes, it was found that there was no significant difference between the experimental and control classes in terms of students' learning efficacy and the scores of the dimensions they included before the beginning of the experiment. After one semester of the experiment, students in the experimental English class had higher scores on learning efficacy and included dimensions of learning ability, learning effort, and learning challenge, and students in the math class had higher scores on learning efficacy and included dimensions of learning confidence, learning control, and learning doubt than students in the control class. In contrast, there were practically no significant differences in the learning efficacy and the included dimensions for students in the control class in English and mathematics compared to the preexperimental period. The analysis of the above data indicates that the

student-centered English smart classroom can improve students' learning efficacy, while traditional classroom teaching has no significant effect on whether students' learning efficacy is enhanced or not.

5. Conclusions

Through statistics and analysis, the "student-centered" English smart classroom model tried in this paper is feasible. The model encourages students to think independently, to ask questions, so that students' learning style changes from "passive" to "active". It has cultivated students' ability to identify and solve problems, enhanced their language skills and the spirit of cooperation and win-win situations, and demonstrated the students' main position. Although this project has achieved some results, there are still some urgent problems to be solved in the specific teaching practice due to the limited research ability. Some teachers' ideas of classroom reform still need to be changed. How to make more teachers more new classroom reform concept is also the direction to focus on improving in the future.

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