

Research on the Differences of Classroom Teaching between Expert Teacher and Preservice Teacher

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Keywords: Quality open video course, teacher-student interaction behavior, teaching question design, teaching emotion

Abstract: The quality video open course displays the advanced teaching idea, unique teaching method and rich teaching achievements of the outstanding expert teachers in our country. The research uses the Flanders interactive analysis system and Nvivo analysis software, and takes the classroom teaching video of expert teachers and pre-service teachers as the research object, analyzes and studies teacher-student interaction behavior, teaching question design, and teaching emotions, to explore the gap of Classroom Teaching between expert teacher and preservice teacher, to find directions for improvement and improvement. Research shows that the main gap between expert teachers and pre-service teachers lies in question design and teaching emotions.

1. Introduction

In the opinion of the Ministry of Education and the Ministry of Finance on implementing the "Undergraduate Teaching Quality and Teaching Reform Project in Colleges and Universities" during the "12th Five Year Plan" period, it is proposed to use modern information technology to organize universities to build a batch of quality open video course, demonstrating the advanced teaching concepts, unique teaching methods, and fruitful teaching results of Chinese college teachers.^[1]

The research on quality open video courses mainly focuses on construction experience, current situation analysis, and comparative research with foreign open courses.^[2] On the teaching behavior still rare. Therefore, this study analysis of quality open video courses and pre-service teacher classroom teaching videos from the aspects of teacher-student interaction behavior, teaching question design, and teaching emotions. The purpose is to explore the teaching advantages and charm of expert teachers, discover the teaching shortcomings of pre-service teachers, and strive to improve their teaching quality level.

2. Research Design

In order to deeply analyze the differences between expert teachers and pre-service teachers in classroom teaching, uses the Flanders interactive analysis system and Nvivo analysis software to explore the differences between expert teachers and pre-service teachers in teacher-student interaction, teaching question design and teaching emotion.

2.1. Analysis of Classroom Interaction between Teachers and Students

Flanders Interactive Analysis System (FIAS) is a classroom behavior analysis technology proposed by The American scholar Flanders in the 1960s, which is used to record and analyze the process and influence of language interaction between teachers and students in the classroom.^[3]

On the basis of Flanders analysis coding system, this study developed a coding system for classroom teacher-student interaction analysis, including teacher-student language, silence, teacher-student technology-based interaction. Using a time sampling method, samples are taken every 3 seconds and assigned a coding symbol.^[4] These symbols present the structure, behavioral patterns, and style of classroom teaching in chronological order.

According to statistics, the average rate of teacher language behavior in expert teachers' classrooms is 50.98%, in pre-service teachers' classrooms is 47.51%, the average rate of behavior using technology for teaching in expert teachers' classrooms is 34.86%, in pre-service teachers' classrooms is 48.7%. This indicates that both are "teacher centered" classroom structures, and teachers are in a dominant position in teaching. In the classroom teaching of expert teachers, the average rate of students' speech is 13.73%, while the rate of pre-service teachers' classroom teaching is only 3.5%, indicating that expert teachers can more arouse students to actively participate in classroom teaching, actively and boldly speak and express their thoughts. In the silence ratio, the expert teachers and pre-service teachers were 4.35% and 4.08% respectively. From the teaching video, the silence of expert teachers in the classroom is basically caused by students thinking or discussing the questions raised by the teacher. The silence of pre-service teachers in the classroom is mostly caused by the teachers' language disfluency or thinking stagnation.

The rate of teacher questioning indicates that teachers are adept in using questions to guide students' thinking. The average rate of expert teachers' questioning is 15.53%, compared to 6.52% for pre-service teachers, indicating that expert teachers are good at designing questions to stimulate students' divergent thinking and positive thinking.

The Flanders Interactive analysis system divides teacher language into direct language and indirect language according to teacher's control over teaching.^[5] Indirect language refers to teachers' influence on students' attitudes and emotions through emotional communication, encouragement, questioning and other indirect ways, while direct language refers to teachers' direct control over students through teaching, commands, instructions or criticism.^[6] The ratio of indirect influence to direct influence of the analysis samples is less than 100%, the words and time that the teachers use direct influence are greater than use indirect influence. The ratio of indirect influence to direct influence of expert teachers is 56.6% on average, which is significantly higher than 10.57% of pre-service teachers. It shows that expert teachers are better at accepting students' emotions, accepting students' opinions and ideas, and rarely discourage students with commands, demands or criticism, which also makes the overall classroom atmosphere more democratic and open.

The positive qualifying area is the area intersected by rows 1-3 and columns 1-3 in the FIAS matrix^[7], which records the frequency of emotional harmony between teachers and students. The average qualification record ratio of expert teachers is 10.83%, while that of pre-service teachers is only 0.61%, indicating that expert teachers have a significantly better harmony with students' emotional atmosphere in the classroom than pre-service teachers. This is also because expert teachers have more indirect influence on students in the classroom and pay more attention to the infectious effect of teaching emotion on students.

Independent sample test was conducted on the teacher-student verbal interaction behaviors of expert teachers and pre-service teachers. The results showed that there were significant differences between expert teachers and pre-service teachers in the three aspects of questioning ratio, indirect influence ratio and direct influence ratio, and positive qualification ratio, with $P < 0.05$.

2.2. Comparison of Question Design

2.2.1. Comparison of the Number of Questions

The average number of questions asked by expert teachers is 14.25, that is, teachers will ask students a question every 4-5 minutes. The average number of questions asked by pre-service teachers is 2.75, indicating that pre-service teachers' classroom teaching design focuses on teaching and indoctrination.

2.2.2. Comparison of Problem Types

A "What" question is a question that uses what, who, when, where as a guide and points to some factual content.^[8] The questions of expert teachers and pre-service teachers accounted for 52.63% and 92.31% of the total questions respectively, indicating that teachers helped students to obtain factual knowledge more by asking questions in class. Through watching the video, it is found that the expert teachers design the questions in the teaching, and guide the students to master the knowledge through the gradual deepening of the questions. Although the proportion of pre-service teachers is what the question is high, most of the "is it", "is it right", "see" and other meaningless questions.

It can be seen from the test data that there are significant differences between expert teachers and pre-service teachers in the design of "How" questions and "What...if" questions. Expert teachers have designed "How" questions and "What...if" questions in the classroom, such as "what changes have artists produced in classical painting and modern painting", "how to maintain the communication between human and nature" and other questions. It can guide students to think positively and acquire strategic knowledge, and transfer and create from acquired knowledge.

2.3. Teaching Emotion Analysis

In this study, Nvivo software of QSR Company in Australia was used to compare and analyze the classroom teaching emotions of expert teachers and pre-service teachers. Teachers' teaching emotions are mainly reflected in four aspects: language passion, posture emotion, situation design and emotional skills.

In terms of language passion, expert teachers perform significantly better than pre service teachers. Expert teachers have fluent language, appropriate speed and rhythm, and exhibit a rhythmic and undulating performance during teaching, such as "students who have been happy and excited before, please raise your hand". Expert teachers express themselves at a slightly faster pace, with a tone that includes happiness, such as "students who have been sad and angry before, please raise your hand". Expert teachers express themselves at a slower pace, with a deep voice and a tone that includes sadness. During the whole class, expert teachers gave positive responses by nodding or praising when students answered. They were also good at using rhetorical language and humorous language to create a harmonious, interactive classroom. According to the observation of pre-service teachers' teaching, they speak too fast for almost half of the class, with an average of 5-7 Chinese characters per second with a slightly high volume, which will affect students' absorption of knowledge. They also have less interaction with students in class, rarely give positive responses to students, and spend 10.26% of their time reading from books.

In the aspect of posture emotion, expert teachers are good at communicating and interacting with students with body language. For example, when teaching the birth of art, expert teachers either use guiding gestures or strengthening gestures to cooperate with rich language passion, emphasizing that the birth of art requires long-term brewing and resistance. When using PPT to display art pictures, expert teachers spend more time communicating with students with words and eyes, observed their

reactions to the art pictures and the content of the lecture, and focused on explaining the knowledge points that the students did not understand, with smiling expressions and cordial eyes throughout the class. Pre-service teachers almost stand in front of the platform for the whole teaching, and rarely change the position, body orientation and sight, which is easy to make students feel tired and distracted. Pre-service teachers use gestures and eye contact to communicate with students, but the direction, rhythm and intensity of gestures do not change much, and the emotional expression of eye contact is insufficient.

In terms of situation design, both expert teachers and pre-service teachers used multimedia technology to assist classroom teaching. Data showed that expert teachers were better at using teaching cases and creating multiple situations to increase opportunities for interaction with students. Expert teachers are obviously superior in emotional skills, accurately and vividly express emotional information and transfer cognitive information with words and expressions. By asking students to analyze their favorite reasons for art pictures, enhancing their active initiative in learning art. Interacting and communicating with students using language that contains rich emotions and strong visual impact media technology, infecting students' emotions and cultivating their artistic sentiments, guiding students to transfer their love for a certain painter to their love for art. The entire class was conducted in a joyful mood, fully reflecting emotional teaching. Pre-service teacher pays more attention to the transmission of knowledge, but there are still many shortcomings and areas for improvement in emotional skills expression.

3. Conclusions

Through in-depth analysis of classroom teaching videos of expert teachers and pre-service teachers, it is found that pre-service teachers are significantly different from expert teachers in the aspects of teacher-student interaction, classroom questioning and teaching emotion expression, which need to be strengthened in the following three aspects.

3.1. Optimizing Teaching with Emotion

Pre service teachers usually pay attention to the cultivation of basic teaching skills, but pay less attention to the cultivation of teaching emotions. At the beginning of teaching, it is easy to experience poor teaching effectiveness and low student recognition. Professor Lu Jiamei, an expert in emotional teaching psychology, has developed the concept of emotional teaching - "optimizing teaching with emotions"^[9], which refers to the use of emotions to optimize teaching, achieve perfect teaching objectives, improve teaching processes, optimize teaching effectiveness, and promote the comprehensive development of students' quality. The application of " optimizing teaching with emotions " in the teaching process, the infection of teaching language, the transmission of body language, the design of teaching situations, and the selection of emotional strategies, contribute to the improvement of teaching quality.

Educationist Comenius said: "the teacher's mouth, is a source, from there can be found the stream of knowledge."^[10] Language is the main carrier of teaching information and the embodiment of teachers' teaching ideas. Teachers' ability to master language directly affects students' enthusiasm for learning and the effectiveness of teaching. Pre-service teachers' teaching language emotional cultivation should pay attention to explore the emotional content of teaching materials and students' emotion, make the best use of emotional language to strike a chord for students, using heuristic language to arouse the students' active thinking, with the vivid language to trigger students' interest in learning, the students as much as possible to avoid dull monotonous, speech disorders cause drowsiness and resistance.

Albert Merabian, an American psychologist, proposed that 55% of the information transmitted in

interpersonal communication comes from facial expressions. "Conquer the hearts of students with a smile of love". Teachers' eyes, movements and gestures can also convey information, communicate ideas and express emotions. Pre-service teachers should be good at observing and summarizing how expert teachers flexibly use facial expressions such as eyes, gestures and smiles to interact and communicate with students, and how to promote more effective dissemination of teaching information.

3.2. Teaching Question Design

In a complete class, the types of questions should be hierarchical and progressive, and different types of questions should be designed as far as possible. The design of the questions should inspire learners to think, and pay attention to the cultivation of learners' advanced thinking ability. It should not only involve subject knowledge, but also be related to learners' learning experience. It is easy for pre-service teachers to ask questions such as "is it right" or "is it right" and some questions lack of clear goals, which is attributed to the lack of systematic training and thinking of pre-service teachers on the level design and proposal of problems. The number of in-depth questions raised by teachers in teaching organizational behavior can greatly promote learners' high-level knowledge construction. From the perspective of problem level design, the proportion of "what " question should be reduced, and more attention should be paid to the design of "how" and "What...if" questions. From the perspective of students' thinking, it is necessary to consider whether the design of the problem is in line with their learning experience, whether it can resonate and actively refer to students, and whether it can promote students' active thinking and expand their thinking. From the perspective of teaching context, attention should be paid to the correlation between the problem and subject knowledge, as well as the learner's experience. From the perspective of classroom interaction, problem design should provide students with opportunities for discussion and encourage them to raise questions and express their viewpoints.

3.3. Accumulation and Promotion of Professional Knowledge

The teaching knowledge taught by expert teachers during their lectures is eloquent, the teaching cases listed are fascinating, and the classroom questions raised keep up with the times. This stems from their profound knowledge, rich subject knowledge system, proficient mastery of subject teaching knowledge, and continuous absorption of timely knowledge.

To become an expert teacher, it is important for pre-service teachers to learn, accumulate, and enhance their professional knowledge. Student knowledge is an indispensable content for teachers, which requires that pre service teachers must master the necessary subject knowledge content during Teacher education, learn how to classify and explain subject knowledge, deeply remember the content and system of subject knowledge in their minds, reach the realm of readily available, and constantly absorb new ideas, new ideas and new technologies. Pre service teachers should master the effective transformation of subject knowledge into subject teaching knowledge, organize and adjust subject knowledge according to students' different interests and abilities, present it in diverse representation methods, transform conceptual knowledge into concrete knowledge with imparting nature, and achieve the concretization of subject knowledge. After mastering professional knowledge, pre-service teachers should also form a knowledge system through real-life teaching practice and reflection, in order to achieve a profound understanding and improvement of professional knowledge.

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