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Research Article

An Investigation into the Design of Blended Teaching in the Basic German Classroom

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Abstract: The rapid development of information technology has constantly promoted innovation and pedagogical reform of educational practice models. Blended teaching provides an ever-innovative new way of thinking for the current classroom teaching reform. Based on the definition of the concept of blended teaching and the study of the theories related to blended teaching, this paper describes the basic design of German classroom teaching in a blended curriculum.

Keywords: Blended learning; Basic German; Classroom design

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1 Introduction

Since the beginning of the 21st century, digital and globalized educational reforms have swept through all higher education institutions around the world. Among others, open courseware projects, such as the Open Courseware Project and Open Video Courses, have opened up theoretical and practical research in blended education and have become the focus of attention of higher education researchers, practitioners and administrators. German as a foreign language is an emerging profession in many national universities, and with the development of German as a foreign language, basic German courses are the foundation and prerequisite for German education, the quality of which and the effectiveness of student learning are of paramount importance. Considering the above-mentioned reasons, the author uses successful national and international cases of blended education to gain experience and apply it to German language teaching, hoping to localize the training model of blended education.

2 Background and necessity of blended education in basic German

The National Plan for Medium- and Long-term Education Reform and Development (2010 - 2020) states that it is desirable to train international talents who can participate in international affairs and competition from an international perspective. German language education at universities, on the other hand, fosters the ability to use the German language to meet the needs of the country, society and the individual, enhances intercultural communication, develops self-learning skills and strengthens comprehensive cultural education. The development of information education in the context of the "Internet+" provides a modern approach to the teaching of foreign languages. Learning on mobile devices has become the main option.

In contrast to English language courses, German language courses mostly start at the university and require you to learn all basic German grammar and to pass the German Language Proficiency Test Level 4 within two years. The demands on the teacher have therefore increased considerably, but in the past the teacher was more concerned with the development of the pupil's basic language skills and the lack of personal skills prevented the pupil from following the teacher's demands in the long term. They were repeatedly frustrated. After each study, enthusiasm for learning decreases, resulting in poor learning outcomes. According to the current context of German as a foreign language, the traditional teaching model is no longer sufficient for course development, so classroom

reform is necessary to achieve the knowledge and skill development goals of this course.

3 Theoretical foundations of blended learning

3.1 Mastery learning theory

Blended teaching requires the use of standardized training materials, integrated training methods, integrated training media and standardized assessments within a defined time frame. Individual differences among students are unavoidable, as teachers tend to select the middle achievers as targets for instructional design, allowing for relatively equitable curriculum preparation and educational assessment activities. However, the disadvantage is that it will inevitably lead to differences between students' performance and classroom performance, and the overall distribution curve of students' performance will then be reflected in teachers' new instructional design, resulting in a vicious circle of instructional design and learning outcomes. However, if education is purposeful and conscious activity produces beneficial results, then students will generally achieve the standards required by the educational objectives. This means that most students of normal intelligence can achieve outstanding academic results. Based on this understanding, Bloom argues that given enough time and adequate training, almost any student can learn about learning theory.

Following the introduction of the mastery learning theory, educational institutions around the world conducted large-scale mastery learning experiments, but due to time constraints, they were unable to fully resolve the conflict between the holistic education of students and their individual learning needs. Students were unable to meet their learning needs and the development of the theory came to a halt. Today, the natural advantages of information technology have been shown to meet the learning needs of today's students, and blended learning has been proposed in conjunction with mastery learning theory.

3.2 Primary Pedagogical Principles

By combining various representative theories (e.g., social cognitive and constructivist learning theories), Meryl proposes a problem-driven "overarching pedagogical principle" and argues that students learn when they solve real-world problems. Meryl proposes four levels of effective training: activation, demonstration, application and integration. It is believed that effective student learning and teacher education can only be achieved when the teacher's problem design moves toward real-world problems and provides students with guidelines for solving them. This theory brings education into a more complex and expansive real world, where educational design needs to focus not only on the design of students' real-world substructures and problem-solving guidelines, but also on the need for teachers to change their conception of education intellectually.

3.3 Deep Learning Theory

Deep learning theory classifies the dimensions of cognitive processes into six levels: remembering, understanding, applying, analyzing, evaluating, and creating. When looking at current classroom instruction, most teachers still focus on how to help students remember, speak, or briefly explain their knowledge, i.e., superficial learning activities. However, advanced thinking activities such as "applying, analyzing, evaluating, and creating," which focus on synthesizing knowledge and solving problems creatively, have not been given enough attention in classrooms. In today's classrooms, when students try to engage in deep learning (e.g., knowledge transfer, decision making, and problem solving), they find that the teacher's lectures in the classroom do not help them much.

3.4 Active Learning Theory

According to information processing theory, every learning process involves the processing of external information through a series of internal psychological behaviors. From this perspective, Meyer, a professor of psychology at the University of California, discusses the interplay of old and new knowledge in the learning process. Recent research by cognitive scientists has shown that active learning is the best way to upgrade knowledge from short-term memory to long-term memory. Dyer's "tower of experience" theory suggests that passive acceptance of abstract and observational experiences provided by the teacher shortens the student's memory and reduces learning efficiency. Active learning activities promote the retention of long-term memory. This is consistent with the teaching methods of modern educator Chen Heqin. Therefore, under the guidance of blended learning, in order to improve students' memory, students should start from a real-world problem-solving perspective through independent learning and collaborative inquiry,

and work with their classmates on practical inquiry activities. In the process, students acquire knowledge and skills through observation and reflection, learn problem-solving ideas and methods, continually improve their emotions, attitudes, and values, and achieve self-transcendence.

4 General idea of blended learning

4.1 Basic course information

Basic German is a comprehensive training course in which, according to the syllabus of the German language course, the student's knowledge goal is to learn systematically the basic grammar of the German language, vocabulary and grammar. They also learn vocabulary and general expressions for familiar things or topics, such as self-presentation, family situations, food and accommodation, school life and shopping, environmental protection, urban and rural life, etc. The goal is to learn how to communicate in a systematic way. The goal is to enable the participant to perform various linguistic communication tasks in accordance with the communication objectives of the intended situation. The "Basic German" course is the core course of study in the foundation phase of German language studies at higher education institutions and is designed to strengthen the linguistic basis and develop learning skills and strategies for improving language use and intercultural communication skills.

Prior to the formal implementation of the blended education, teachers must upload a mini-video containing a list of designed and produced self-study tasks as well as online support resources for the course as the core of the learning video. The list of self-study tasks can be divided into two sections: (i) a learning objectives section, which provides students with relevant information about the course and instruction, such as teaching objectives, the focus and challenges of the section, and suggestions on how to learn. Students are required to watch the mini-videos and use the relevant support resources to complete the learning tasks related to the important and difficult points of the lesson. For the problem solving section, the problems that arise during the learning process are submitted to the learning platform so that the teacher can identify the students before the lesson.

The "Basic German" course is a combination of online and offline training, which helps students to develop their own individual learning plans. The course is based on a combination of formative and summative assessments, with a 50/50 online and offline score, including: attendance (10%), classroom activities and general practice (20%), discussions and presentations (20%), and a MOOC (50%).

MOOCs represent information education as the primary option for blended education, and MOOC-based enhancement of learning outcomes and promotion of educational reform are the main objectives of MOOC development in higher education institutions. The scenario is co-taught by Chinese and foreign teachers from different cultural backgrounds and ages to enhance students' intercultural awareness and intercultural communication skills in real cultural contexts. Students can adjust their learning time and pace independently according to their own needs, or they can be guided by teachers to meet their individual learning needs.

4.2 Online learning session design

During daily German lessons, students can learn the German language through a variety of offline topics, each of which takes the form of a dialogue between Chinese and foreign teachers and students in small group discussions. This includes vocabulary, sentence descriptions, listening exercises and oral exams. The course is evaluated with a 50% post-lesson quiz, 20% post-lesson exercises and a 30% final exam. The course interface consists mainly of lesson materials, discussion forums, progress, the German language learning website, the newsletter, the course schedule and the "Basic German" textbook, as well as all videos and exercises. The videos on each device are approximately 1 hour long and are divided into 8-9 parts, each of which is 6-7 minutes long. Each exercise is divided into listening comprehension and general exercises. The discussion board is an interactive student-oriented discussion community where teachers and assistants can answer and guide questions. The progress is synchronized with the students' real-time learning and is supplemented and shared with German language learning materials on the German learning website and through a WeChat account. Course timetables provide guidance on course start times, course content and assignment submission dates. Textbooks are designed for educational use based on the MOOC's blended training model in order to help students learn effectively.

4.3 Design of offline teaching sessions

The offline course is divided into three sections: pre-

class preview, classroom session and post-class review. The online MOOC discussion board creates a closed loop between the class and the end of the class. At the end of the class, the instructor organizes post-class work based on class and student feedback in order to help students understand key learning points.

In the classroom, the teacher first guides the students through the process of problem solving, using a "joint solution" approach. The discussion can focus on a set topic. The teacher encourages the students to discuss the main points of the text in German, e.g. the topic "Was bedeutet Bier für die Deutschen?" in relation to the topic "Beer" with the group members, and to discuss the topic in the classroom. During the discussions, the pupils are instructed by the teacher to use German as the language of discussion in order to communicate with others and to provide appropriate advice and guidance. Throughout the course, the pupils practice listening, speaking, reading, writing and various other language skills, thus improving their communication, teamwork and leadership skills, and thus their overall German language proficiency.

5 Evaluation of teaching effectiveness

The study used surveys, classroom observations, learning logs, pre-tests and post-tests, and semi-structured interviews to optimize teaching effectiveness. Mixed educational practices and effects in the course "Basic German". In-depth analysis: The target group of the study was 27 students (5 boys and 22 girls) from the course "Basic German" with an average age of 20 years. By means of a background questionnaire, it was found that 43.6% of the students did not speak German well compared to the rest of the students. Compared to the German-speaking students, 89.7% of the students felt that they did not speak German well and 59% said that they enjoyed learning German.

By observing students in class for 8 weeks (5 to 13 weeks) and studying weekly learning journals, the study could be used for activities such as vocabulary point contests, brainstorming, role-playing, discussions, theme presentations and book review sharing. During competitive and motivating activities, students were more motivated to learn and their ability to focus increased significantly. In activities that target individual or group presentations, presentation style, teacher input and guidance are key to effective teaching. Scientific design and management of classroom activities is the most effective way to increase student enthusiasm. Combined with the analysis of discussion areas and learning logs, it was found that students' learning environment, attitudes, learning strategies and learning methods have changed in the MOOC-based blended education environment. It is therefore increasingly important to provide high quality, student-friendly learning materials during the teaching and learning process in order to make students more comfortable with online learning. This study was tested at the beginning and end of the semester to further understand the effectiveness of MOOC-based blended education, the data from the non-participating students were excluded when the sample was taken and the rest of the data was analyzed using SPSS 20.0.

Table 1. Comparison of average pre- and post-test scores

	average score	N	standard deviation	Standard error of the mean
pre-test	4.72139	35	.984725	.164127
post-testing	5.11651	35	.857194	.142763

In conclusion, the MOOC-based blended learning model for basic German listening and speaking courses helps to improve teaching effectiveness. The key to the success of the blended learning approach is the design of a full cycle of integrated learning activities, the organization of a wide variety of interactions and the provision of high-quality learning resources.

6 Conclusion

Whether classroom-oriented, distance education or blended education, the pursuit of quality in education and talent training remains unchanged. As an ongoing innovation in the classroom, blended education can serve students beyond the traditional education system's target population and provide more space for teacher learning and development. Educational reform is always underway, and teachers at the forefront are the practitioners and nurturers of innovative educational models. Only when scholars in the field of education work together can new models of education flourish.

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Research Article

Optimization of Botany Teaching Based on the Cultivation of Interest

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Abstract: Structure botany is a fundamental course in biotechnology. In order to improve the quality of structure botany teaching, this paper studies on the teaching management of structure botany in classrooms, the teacher's passion for work, and the standardization in teaching, so as to mobilize students' enthusiasm and initiative for learning, to develop their imagination and the ability to analyze and solve problems, and finally optimize the teaching patterns in classrooms. The paper aims to optimize teaching methods based on the existing problems of classroom botany teaching with developing students' learning interest as its core, and as a result, to help students master effective methods of botany learning.

Key words: Botany; Teaching management; Strategy

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1 Current problems in botany classes

Botany is a basic course of great importance in biotechnology. Most of the theoretical knowledge of other professional courses is based on the comprehension of botany. Therefore, having solid knowledge of botany or not will directly affect the students' learning and application of other professional knowledge. Basically all the botany courses start in the first year of college, but as the students just to come into universities which require very different methods of learning, most of them could not get used to the teaching style in university classrooms in the short term which involves a large number of knowledge and fast-paced teaching. At the same time, botany contains complexed and detailed points which are closely linked to each other, especially the micro and abstract stuff such as plant tissues and internal structures of the organs. A composition of them can be extremely boring for the students learning botany for the first time. This kind of situation will greatly cut down the students' learning enthusiasm and confidence, what's more it will make them give up or feel tired of learning, and also bring great difficulties to the teacher's teaching process. If this situation continues for a long time, the botany classroom teaching will become lifeless and the quality and effect of the teaching will decline rapidly.

2 Optimizing method of botany teaching

2.1 Developing sound classroom teaching

Structure botany is taught in the class teaching system. Due to the popularity of mobile phones and the increasing number of games, mobile phones are not only a communication tool in this era, but also play a role like a PSP. Lots of students are unable to resist the temptation of various entertaining contents and games on mobile phones, so they unconsciously scroll their phones although it has nothing to do with the class. Barely words and gestures done by teachers are not enough to avoid it in the classroom. This makes the class lifeless and the students look dull and boring. In order to improve the quality of teaching, as well as students' learning interest and consciousness, in the classroom, teachers should adopt a teaching strategy of asking students more questions and let the students take turns to answer them. Teachers can also make advance notices about who will be on turn at what time, but the