

Exploration of Duifene Platform-Based Flip Class Teaching Mode at Medical Colleges in Minority Areas

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Abstract

In the era of “Internet plus Education”, the popularity of smartphones and the full coverage of the mobile Internet enable college students to go beyond traditional learning that depends on teacher presentations. Combined with Duifene Platform for knowledge sharing and communication that is unshackled from the traditional teaching method, the student-centered flip class teaching mode can be more easily and conveniently applied in medical education, thereby significantly improving the teaching effect. This paper explores the flip classroom teaching mode based on Duifene Platform intended to enhance the self-learning ability of students and the teaching quality at medical colleges in minority areas, the mode provides a reference for other colleges’ flip classroom teaching design.

Keywords

Flip Class, Duifene Platform, Wechat, Information Technology, “Internet Plus Education”

1. Introduction

The flip class has reversed the traditional classroom teaching mode. Flip class turns the “teacher-oriented and lecture-based method into” the medical colleges, an “independent learning-centered and question-based teaching mode” that emphasizes development of students’ clinical thinking ability. The new mode highlights students’ active learning and therefore markedly increases their enthusiasm for study (Chen, Tian, Li, Bai, & Yuan, 2020). The role of a teacher has shifted from a knowledge instruction lecturer in the traditional classroom to a learning facilitator and guide.

In the era of “Internet plus”, thanks to the popularity of mobile terminals, it is quick and convenient for people to get information and knowledge. With the popularity of intelligent mobile devices and the improvement in Internet technology, students’ learning style has changed greatly. Mobile learning powered by mobile terminal-assisted teaching has become an extension and expansion of a traditional classroom. It offers real-time big data feedback, which has dramatically changed teaching and learning today (Wang, 2020). The *Action Plan for Education Informatization 2.0* launched by the Ministry of Education of China in 2018 noted: Adhering to the core concept of closely integrating information technology with education and teaching, China shall establish and improve a sustainable development mechanism for Education Informatization, build a “networked, digital, intelligent, personalized, lifelong” education system, create a learning ecosystem that offers every student an opportunity to learn anywhere at any time and gives every school, every class and every student access to online resources, develop an integrated “Internet plus Education” platform that equips teachers and students with enhanced skills in information technology, and explore a new mode of education governance in the information era, aiming to put China at the forefront of education informatization in the world and find a development path with Chinese characteristics for education informatization. Obviously, the mode of “Internet plus Education” is not only the only way to the process of education informatization, but also the overall layout (Chen, 2020).

2. The Status Quo of Flip Classroom Teaching at Medical Colleges in Minority Areas

The traditional teaching method in medical colleges has such disadvantages as limited class time, too much teaching content, insufficient student concentration, and little interaction and communication. The teaching mode method is typically centered around teachers, textbooks and classes. The flip class teaching mode has inverted the traditional one. Different from the tri-centric method, it instead focuses on students, emphasizing interactions between teachers and students as well as among students in class, collaborative learning unlimited by textbooks or sites, and full use of the Internet information technology (Li & Xu, 2020). A flip class undoubtedly needs the support of an information platform and various media. If we say teaching resources are the flesh and blood of a flip class, then an information platform is its skeleton. During our research, we found the following problems in the flip class teaching mode: 1) When computers and the Internet are required on a learning platform that underpins a flip class, it is hard to reach the goal of learning anywhere at any time. According to a survey of students in our college, less than one third of them have a computer, while our college has 100% WiFi coverage on campus. Obviously, it is easier to promote mobile learning based on smart phones in minority areas. 2) As students generally lack self-discipline in minority areas, the absence of teacher supervision will reduce the effect of independent learning in a flip class. The prob-

lem can be avoided if we use Duifene Platform, which facilitates teacher-student communication and learning management, enables statistical analysis and assessment at every stage of learning, and offers adequate supervision for students' learning.

3. The Advantages of Integration between Duifene Platform and Informatization-Based Teaching

There are a lot of routine and onerous tasks in teaching, such as providing students with courseware, videos and other learning materials, assigning, collecting, marking and sharing homework, issuing notices, and communicating with students. These tasks can be done with the tools such as QQ and WeChat, but it is very troublesome and sometimes so confusing that students can't figure out through which channel they receive information (Zhou & Shen, 2019). As an Internet teaching platform for mobile terminals, Duifene has various interactive functions, such as homework assignment, collecting and marking, random grouping, forum discussion, course resource sharing, in-class tests, online exercises, questionnaires, notice issuing, teaching evaluation, attendance checking, and voting (Shen, 2020). Different from other learning platforms that rely on computers, Duifene Platform is mainly targeted at terminals such as smart mobile devices. As many students have no computers in minority areas, Duifene Platform makes it possible to drive widespread adoption of the flip class teaching mode in teaching. Especially, Duifene Platform based on WeChat can help more quickly achieve the goal of learning anywhere at any time. The high interactivity of "Duifene" allows teachers to check the completion and statistical results of students' homework and exercises on the platform at any time. Therefore, teachers can find in time what students don't understand. Then they can give specific guidance during face-to-face communication in class. If students have any questions or difficulties, they can ask their teachers for help directly through WeChat, which is another big advantage of Duifene. Teachers can give a timely response to students, which opens a good channel for communication and Q&A between students and teachers after class.

4. Exploration of the Flip Class Teaching Mode Based on Duifene Platform

The traditional teaching method is teacher-centered, and teachers' presentation takes a lot of time in class. To stimulate students' interest in learning and promote their engagement in class, we, taking into consideration the characteristics of college students in the new era, are trying the flip class teaching mode based on Duifene Platform, which we hope can help solve problems in traditional teaching.

1) Knowledge instruction before class

Teachers find the Duifene app on our WeChat official account and then create a Duifene teaching platform. Teachers complete basic settings by adding terms,

courses and classes to the platform. Then students scan a class QR code to join their respective classes. Teachers put chapter-specific courseware, micro videos, online exercises, related website resources, etc. in the “course resources” module on the Duifene Platform about 10 days in advance. Teachers design a questionnaire according to the content of the relevant chapter and publish a learning outline through WeChat to provide students with pre-class guidance about the learning objectives and key points of the chapter so that they can keep track of the whole process of students’ independent learning. Students firstly finish knowledge imparting, assimilation and absorption alone through the course resources uploaded by the teacher. Make use of the forum of Duifene. Students may propose any question about the knowledge in the forum, discuss with teachers and classmates, and improve the learning participation. After finishing the self-learning of teaching contents through PPT and micro videos, each student needs to finish online exercises, so as to primarily judge the self-learning effect. Teachers may know about students’ self-learning conditions through the backstage management function of the Duifene Platform, including the watching time and click times of video, exercise scores and distribution of mistakes, so as to find students’ problems and obstacles in the independent learning process.

2) Internalization of knowledge in class

Under the mode of flip class, the key point of teaching is in the teacher-student, student-student communication. The knowledge is assimilated and absorbed again through effective communication. And the atmosphere creation and incentive measures also play a very important role in effective communication. Students set up the knowledge framework through pre-class preview, which they enrich through in-depth discussion, so that new knowledge may be integrated into the established knowledge system, thus deepening students’ understanding of knowledge. The classroom teaching is mainly divided into student section and teacher section. Students are divided into different groups. The grouping function of Duifene could easily divide students into groups. Students display and report their learning outcomes. Then teachers or other classmates propose questions or queries to their common concerns. It aims to cultivate students’ ability of analyzing and solving problems. Students then discuss about the concrete cases or problems with group as the unit, and assign representatives to clear up doubts. Make use of the online practice module of Duifene Platform to carry out the class test, we can judge students’ understanding and mastery of knowledge points. Teachers should fully mobilize students’ emotions and appraise students through the “voting” module of the Duifene platform. Group members of different grades gain different scores.

3) After-class consolidation and development

After the class is over, students autonomously finish the test paper uploaded by teachers through the Duifene Platform, finish reading related literature and booklist chapters recommended by teachers, and deepen the knowledge they’ve learned. Teachers may also know about students’ knowledge mastery conditions

and pertinently guide students through the Duifene Platform. If students have any questions after class, they may propose it to teachers through the WeChat message function of Duifene. They discuss about it together and further promote the understanding and mastery of knowledge. In addition, we also issue the questionnaire of the course and evaluation of the teaching method on the Duifene Platform, so that students may give timely feedbacks and teachers may improve their teaching methods.

Through the flip class teaching mode based on Duifene Platform, teachers may free themselves from the heavy work of lesson preparation and correction, positively organize lessons and act as guides; Students will no longer be bored at the boring words in teaching materials and the “spoon-feeding teaching”; instead, they will devote more energy to the interesting process of “active learning”. It greatly improves the self-learning ability and the knowledge and information acquisition ability of students from local universities, and cultivates comprehensive qualities of professionals.

5. Experience of the Flip Class Teaching Mode Based on Duifene Platform

For teachers, in the flip class teaching mode based on Duifene Platform, teachers are organizers and supervisors of teaching activities, so they must improve their teaching abilities. On the one hand, as organizers, teachers need to provide students with learning resources through the Duifene Platform, and master the production method of the micro lesson. Therefore, teachers must master the new skills and new concepts of informatization-based teaching, such as Duifene and flip class. On the other hand, as supervisors, we must make use of our professional technical expertise to judge the information spread by the Internet, eliminate the false and retain the true. Otherwise, it will be just the opposite to what one wishes. In the process of implementing the flip class teaching mode based on Duifene Platform, teachers need to have advanced teaching concepts and the courage of teaching reform, as well as great handling ability of information technology. So teachers must improve their own comprehensive strength.

For students, in the flip class teaching mode based on Duifene Platform, students turn from the passive learners to the active learners. The change of teaching mode and class roles is a big challenge for university students in the minority areas that are used to the traditional teaching mode. They need to update their learning concepts. In the flip class teaching mode based on Duifene Platform, students are active learners. If students do not cultivate the self-learning ability nor make independent learning a habit, the “Internet plus Education” cannot be successfully implemented. Therefore, we should design the scientific independent learning resources and guide students to cultivate their self-learning ability. By doing this can we gradually promote the integrated innovative development of information technology and education, and form the learning environment where everyone may learn at any time and place.

6. Conclusion

Influenced by the COVID-19, the domestic universities adopted the blended teaching mode in the previous period. We carried out online teaching through online class platforms like Zhihuishu and Duifene Platform and tried to ensure the teaching progress and level during the epidemic prevention and control period. The flip class teaching mode may properly handle the disadvantages shown by the traditional teaching mode, greatly improve students' self-learning ability, knowledge acquisition and information ability, and the ability of solving realistic problems, and cultivate the innovation and enterprising spirit of modern university students. Duifene Platform is a customized new teaching platform for the Chinese teachers, which is concise and practical, suitable for various teaching modes. It may serve as the carrier of teaching video. It has been applied to the teaching of medical college more and more frequently. With the arrival of the "Internet plus Education" era, the flip class teaching mode based on Duifene Platform in the teaching of medical college in minority areas may provide new thoughts for the integration of information technology and education, arouse interns' learning interests, promote their mastery of theoretical knowledge, improve their comprehensive qualities, cultivate their clinical practical ability, and realize the objective that teaching benefits teachers as well as students. It is worth being further promoted and applied.

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Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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