

Research on The Flipped Classroom Teaching Model Based on "Intelligent Learning Workshop"

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Abstract

Flipped Classroom enables teachers to set "compile, guide and perform", which brings new challenges to teachers. In recent years, with the development of computer technology application in the education field, MOOC, micro-class and other online teaching resources and platforms emerge in endlessly, greatly promoting the innovation and development of college teaching mode. This paper addresses the current enterprise demand for application-oriented technical talents, market demand-oriented, "student-centered", make full use of online and offline resources, build online curriculum resources platform, adopt MUMPS teaching method of industry and education integration, embed "one lesson double teacher" teaching mechanism, and promote the construction and research of enterprise demand-oriented university flipped classroom teaching mode.

Keywords

FlippedClass; Intelligent Learning Workshop; Integration of Industry And Education; One Lesson And a double teacher A Double Teacher; MUMPS Teaching Model.

1. Introduction

Under the background of "Internet +", the combination of Internet technology and traditional teaching has become the development direction of the current teaching reform. The National 13th Five-Year Plan for the Development of Education clearly requires that "to promote the depth integration of information technology and education and teaching.. Make use of flipped classroom, mixed teaching and other ways to use high-quality digital resources." In the Key Points of Education Informatization of the Ministry of Education clearly pointed out that universities should "use online open courses to explore the reform of teaching methods such as flipped classroom and mixed teaching". Flip classroom has undoubtedly become the model choice of college classroom teaching reform, and the breakthrough and breakthrough point of the deep integration of information technology and college classroom teaching. More and more college teachers are joining the teaching practice of flipped classroom. FlippedClass Model teaching means are novel, have a broad practical scope and can improve students' autonomy of learning to a large extent. At the same time, the implementation of flipped classroom mode in China also faces many practical problems, such as students' self-study ability, teacher teaching concept, teachers, online teaching platform construction and technology application, etc.

This paper relies on the school-enterprise deep cooperation platform, industry and education integration "wisdom learning workshop", fully integrate online and offline learning, market demand oriented, adhere to the concept of "learning as centered", into enterprise elements, build up online open course platform, embedded "a lesson double teacher" teaching mechanism, build a new model suitable for innovative applied talent training.

2. Current status of flipped classroom teaching mode

In recent years, the flipped classroom teaching model has attracted more attention and more educators at home and abroad. Foreign research on flipped classroom teaching mode mainly focuses on the application of flipped classroom to teaching practice, comparative research with traditional teaching mode, and exploring the combination of flipped classroom with other teaching methods or skills of [1]. Professor Robert Talbert of Franklin College addresses the disadvantages of traditional teaching, advocating the use of flipped teaching mode and putting the knowledge teaching link before class. Jon Bergmann et al. stressed that the flipped classroom teaching mode is not video instead of teachers, it is a way to increase the interaction between teachers and students. The flipped classroom teaching mode provides students with an environment for independent learning, so that students can follow up the teaching progress and obtain personalized education [2]. These studies do provide a reference template, useful inspiration and reference for the development of the flipped classroom teaching mode in China, which is of important value.

On the whole, China's current research on the flipped classroom teaching mode has just started, and it is still in the stage of introduction, digestion and absorption. The research mainly focuses on the US related research introduction and inspiration, teaching model discussion, teaching model design, development bottlenecks, facing challenges and other aspects [3-4]. At present, some scholars have studied the localization of flipped classroom teaching mode from different perspectives. For example, Zhang Hongyan and other people analyzed the challenges faced by the flipped classroom in the process of localization in China "in the" Trial Analysis of the Challenge of domestic localization", including the challenges of teacher education concept and professional ability, restrictions of discipline adaptability, restrictions of students' Internet equipment, teaching evaluation methods, etc. (Zhang Hongyan, 2013). In his article "Practice and Thinking on the Localization of" Flip Classroom", Wang Ming emphasizes the student-centered building of humanized classroom (Wang Ming, 2014). In "Research on Localization of" Flip Classroom "Based on ecosystem Theory", Yin Da reexamined the flipped classroom from the perspective of ecosystem theory and believes that the dynamic elements, organizational structure and recovery elements of the regulation of its ecosystem can accelerate the process of localization (Yin Da, 2014). In the article "From" Practice Possible "to" Learning Support ": Localization implication and Creation of flipped Classroom", Wang Qiufang proposed that in order to better realize the expected effect of flipped classroom, the localization practice possibility and the construction of learning support service system (Wang Qiufang, 2015). Richou explores the strategic system of localization in the Teaching Method and Chinese localization Action of Flip Classroom (Richou, 2014). From the content of the research, most of the theoretical research, the lack of investigation of the realistic level, the lack of these research affects the effect of the flipped classroom practice; from the research point of view, biased to the macro aspect, and the specific operation of the micro flipped classroom practice is not much research.

This paper addresses the current enterprise demand for application-oriented technical talents, is market demand-oriented, "student-centered", makes full use of online and offline resources, builds an online curriculum resource platform, embeds the teaching mechanism of "one lesson double teacher" teaching, and promotes the construction and research of enterprise demand-oriented college flipped classroom teaching mode.

3. The flipped classroom teaching mechanism based on the "intelligent learning workshop" of the integration of industry and education

Through the innovation and practice of "Internet + Education", "Smart Learning Workshop" integrates "cloud architecture" to integrate teaching resources in more than 100 or even more universities in the future, and form a resource integration smart management platform [5] that combines teaching management, innovation and entrepreneurship, and curriculum resource construction. The platform uses big data means to students' learning and teaching process management of systematic analysis, can also apply more than 100 universities and enterprises and industry resources to help students and entrepreneurship and industrial development cross complementary and matching, and through more than 500 scattered in the platform of engineers and lecturers to realize the development and optimization of quality resources, is really using "Internet + education" means to create the national industry and education integration ecosystem. The "Smart Learning Workshop" realizes the resource sharing of "information", "data" and "personnel" under the "sharing economy mode", which can not only efficiently realize the management and utilization of resources, but also give a new definition for education informatization and the integration of industry and education [6-7].

Under the background of school-enterprise cooperation, relying on the integration of industry and education, Huasheng Jingshi - online curriculum platform, integrate the teacher team structure with school-enterprise resources, promote the construction of online curriculum, and build a talent training mode with the characteristics of industry-university-research. The teaching mechanism of the "Smart Learning Workshop" flipped classroom is shown in Figure 1.

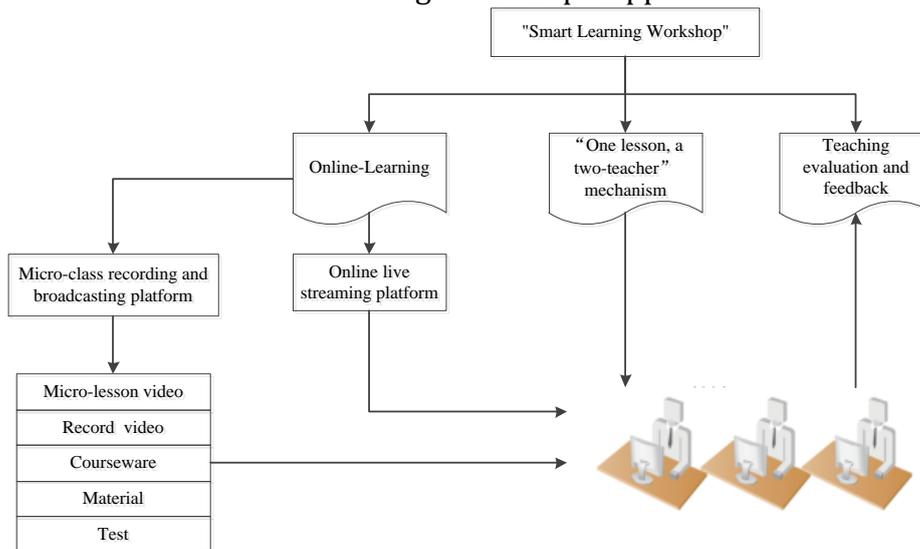


Figure. 1 The "Smart Learning Workshop" flipped over the classroom teaching mode

3.1. The resource construction of online learning platform aiming at cultivating application-oriented talents

The flipped classroom teaching mode fully integrates online and offline resources, and breaks the traditional single classroom teaching mode. In this mode, students complete the "information transfer" process through the video, network resources, online tutoring and other platforms provided by teachers; and then complete the "knowledge internalization" process through the teaching process of classroom interaction. Therefore, it is the premise to build an online learning platform covering teaching, testing, question answering, teaching feedback and evaluation.

On the basis of the existing school-enterprise cooperation resources, complete the customized development and design of online learning websites and APP for students, based on the

database construction based on online platform, to complete the construction of cloud servers with big data technology. Through APP and the website to provide students with online resource output interface, while collecting big data generated in students' learning process, and analyze students' learning habits, learning behavior mode, learning effect and other data to form visual analysis conclusions. Make full use of the existing professional equipment resources of our hospital, according to the training objectives of application-oriented technical and skilled talents in the enterprise, and build professional curriculum online resources led by senior engineers of the enterprise.

3.2. Build a teaching mechanism of "one lesson and two teachers" in school-enterprise cooperation

With the acceleration of knowledge and technology renewal, the renewal of most school teachers lags behind the level of talent training needs of enterprises, especially some "new generation information technology" (ICT) professional groups, whose rapid development speed and professional skills renewal, teachers in colleges and universities sigh.

College teachers have high professional level, rich theoretical knowledge, but weak knowledge application ability and low practical operation level, while enterprise engineers have rich experience in engineering projects and strong practical ability. Relying on the mode of "integration of industry and education, school-enterprise cooperation", adopting the practical teaching mode of "one lesson and two teachers" of school-enterprise cooperation can effectively absorb the expertise of school and enterprise technical personnel, and improve the quality of Internet of Things engineering professional personnel training.

"One lesson double division" mechanism specific scheme for professional course teaching and enterprise engineers, the theoretical knowledge of teachers, practice part led by enterprise engineers, teachers and enterprise engineers cooperate with each other, in the whole process of course teaching into the enterprise elements, help students' understanding of professional, engineering background, improve students' professional skills, at the same time the teachers can use the training base site guidance to improve the practical guidance ability.

3.3. Implement the MUMPS teaching mode of the integration of industry and education

The "Smart Learning Workshop" adopts the MUMPS teaching mode. Its core idea is: based on the modular (Modularization) content framework, layered (Interlacement) content organization form, in the teaching process, with the task as the driving force (Mission-driven), around the core of research training (Practical-research), supplemented by self-evaluation (Self-evaluation), and finally achieve the purpose of improving students' skills and cultivating professional quality. In this teaching model, The teaching content takes the typical projects as the carrier, Build a modular curriculum architecture; A layered and interwoven curriculum content integration model, Respect the basic rules of learners' learning, Knowledge modules range from simple to difficult, Practice and theory are intertwined in learning methods; Through a task-driven teaching design, Cultivate students' independent learning habits, Encourage the students' enthusiasm for learning, In this process, simultaneously cultivate students' professional quality and mass entrepreneurship and innovation ability; Fully give the students the time to practice and innovate, Relying on the innovation base practice function, Through the study group discussion, Teacher guidance method makes students become the leader of learning, Thinking thinking thinking, Finally solve the problem; The evaluation will permeate each course, in each task, Track the students' learning situation, Timely response to the students' learning conditions, Help students and teachers to correctly grasp the direction of their efforts.

3.4. Improve the feedback and scoring mechanism of flipped classroom teaching

Getting students' feedback on the construction and teaching effect of online courses through various ways and pathways. Such as questionnaire survey, online interaction, offline interaction and other ways. Through the online evaluation system, we can effectively obtain the evaluation of the online open course resources, the subjective learning feelings, and obtain suggestions and evaluation on how to improve the teaching.

Teachers revise the teaching mode and teaching link by analyzing the results of the task and students' feedback.

4. Conclusion

This paper analyzes the current situation of university flipped classroom teaching mode, relying on the school-enterprise cooperation, industry integration "wisdom learning workshop" online curriculum platform, by building ICT online open course platform, integrating school-enterprise cooperation hybrid teachers team, promote MUMPS teaching mode, improve flipped classroom teaching feedback and scoring mechanism, to provide certain reference and reference for applied talent training in colleges and universities.

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