

# Micro-class Teaching Design and Development in the Hybrid Teaching Mode of the Internet Environment——Cost Accounting Course for example

Lingli Qing<sup>1, a</sup>, Jingxiao Qu<sup>2, b</sup>

<sup>1</sup> Orient Science & Technology College of Human Agricultural University, Changsha, China

<sup>2</sup> Business College of Human Agricultural University, Changsha, China

<sup>a</sup>104869242@qq.com, <sup>b</sup> 2160916@qq.com

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**Abstract.** With the development of Internet technology, education services through the mobile terminal are emerging. The research on Internet education is getting more and more attention in university. In view of the particular group of college students, this paper combines Internet education with a specific course- Cost accounting as example, and takes advantage of the new mixed teaching mode to study how to carry out Internet teaching activity with the use of Micro-class resources. In this article, the mixture teaching mode under Internet environment, the concept of micro-class, the necessity of micro-class used in cost accounting teaching and design and development of cost accounting in micro-class were also discussed. Teaching practice shows that the study has a positive role in improving the effect of micro-class teaching and it also be used for reference to develop china's Internet education.

## Introduction

With the robust development of mobile communication techniques, social media and open and sharing-oriented education resources movements, and thanks to the boost of the internet environment, to introduce micro-class into traditional teaching models to form mixed teaching models has been flourishing worldwide. Mixed teaching models can integrate advantages of both. The integration of the face-to-face traditional classroom teaching and the internet-based micro-class teaching can contribute to reducing cost and improving effects. As an innovational teaching method, micro-class should reform its teaching methods and styles in response to the development era development, and the requirement of higher education teaching quality and teaching reform engineering in China [1]. Therefore, to develop micro-class teaching in mixed teaching models against the internet environment has the following significances:(1) to promote the construction of excellent micro-class resources; (2) to improve teaching effects; (3) to upgrade teachers' informationalization application level and skills; and to contribute to the progressive reform of classroom teaching, enliven classroom atmosphere, activate students' thinking, increase flexibility of teaching methods and boost the reform of higher education.

## The Concept of Micro-class

Micro-class first appeared in "60s Class" put forward by Le Roy A. McGrew of University of Northern Iowa and "One-Minute Speech" by T.P.Kee of Edinburgh Napier University. However, the currently widely-discussed concept of micro-class was put forward by David Penrose, senior teaching designer and online service manager of San Juan College in New Mexico in 2008. In China, the concept of micro-class was raised by HU Tiesheng from Guangdong Foshan Municipal Education Bureau. However, there has not yet been an agreement about the concept of micro-class [2]. Based on the definition of micro-class by scholars both at home and abroad, the author thinks that micro-class is a class which lasts for five to ten minutes or even shorter time. With computerization and multimedia as standards for its teaching design and videos as its major carrier, micro-class is a short but complete teaching activity targeted at certain knowledge point (including

the key point, the difficult point or the doubtful point). Micro-class is characterized by fragmentation, microminiaturization, thematization and novel forms, which can help students concentrate and quickly master students' key knowledge points.

### Design of Cost Accounting Micro-class

Below is the textbook of Cost Accounting for accounting majors of the regular higher educational institutions with REN Yuejun as the chief editor and published by Tsinghua University Press. Accounting majors of Orient Science & Technology College of Human Agricultural University [3]. Based on the micro-class design case of the knowledge point of "Auxiliary Production Expenses" of the course, the author introduces the design and development of Cost Accounting micro-class featuring mixed teaching models against the internet environment. In accordance with application principles of Cost Accounting micro-class, the design stages of the micro-class mainly include the following six specific tasks: (See Fig.1 below)

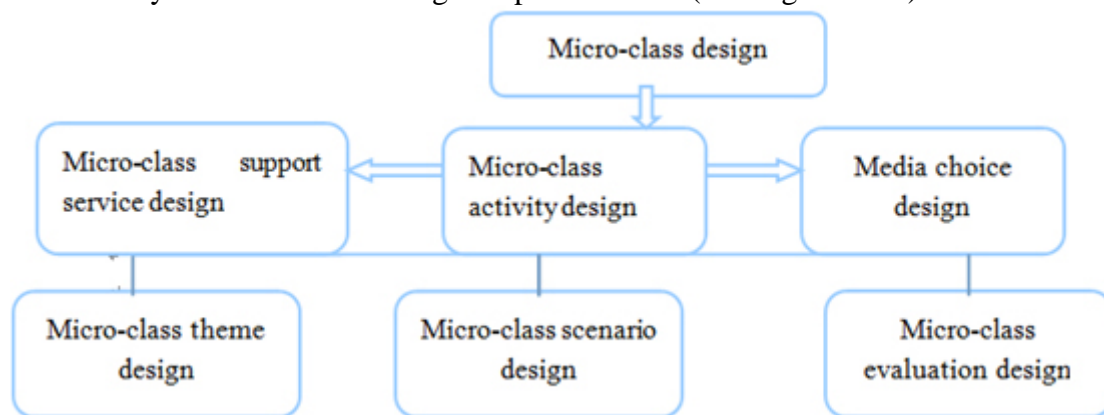


Figure 1 Design process of micro-class

**Micro-class Activity Design.** It includes micro-class theme design, micro-class scenario design and micro-class evaluation design. Firstly, according to teaching experiences, "Auxiliary Production Expenses" can become an independent knowledge point and can form micro-class theme learning together with the other concepts and meet students' demands of micro-class mobile learning. Secondly, during teaching design, the author creates a similar scenario by demonstrating to students photos of real production sites or expert interviews. Case 1: Photos taken on the real production sites: The production process calls for not only materials and labor, but also water supply, electricity supply and maintenance services. Question: How should expenses incurred by the auxiliary services be distributed to product costs? [4] The author hopes that the familiar environment can drive students to think. Last but no list, the teaching evaluation of the micro-class should combine the formative evaluation with the summative evaluation. The former mainly evaluates students' independent learning, discussion and interaction situation after class, their learning length, contribution to learning materials, etc. The latter mainly evaluates students' learning effects and master of knowledge pints through online tests of major and difficult points of "Auxiliary Production Expenses." The after-class discussion is based on groups. The discussion results of different groups will be demonstrated on certain network platform. Different groups can evaluate each other and the teacher can comment on each.

**Media Choice Design.** The author combines the characteristics of the micro-class of "Auxiliary Cost Expenses" with students' practical situations, and decides to use streaming media to demonstrate the class content. At the same time, multimedia design featuring texts, pictures, audios and animations is adopted. Flash, Gif and other animation courseware are input to form teaching content of the video format which can display automatically. (Interpretation can be record in advance or go along with the display of the courseware.) In this way, students can harvest a brand-new learning experience and stimulate their learning interest as well.

**Micro-class Support Service Design.** The micro-class is based on the internet platform. Its

support service design includes the following aspects: (1) in terms of the information service, modules such as academic foreland and warm-up, learning materials are sent to learners immediately to increase learners' learning efficiency through warm-up; (2) in terms of resources service, warm-up list, online tests, after-class thinking, expansion literatures and other relevant materials are provided to help learners realize the micro-class objectives and automatically form the meaning construction; (3) in terms of personnel service, teachers can solve puzzles of students through the internet platform, make students get a cordial feeling from one-to-one teaching, organize students to have after-class discussion and group work, monitor their finishing situation and help them consolidate knowledge acquired.

**Micro-class Development Stages**

The design stages of the micro-class mainly include the following four specific tasks: (See Fig.2 below)

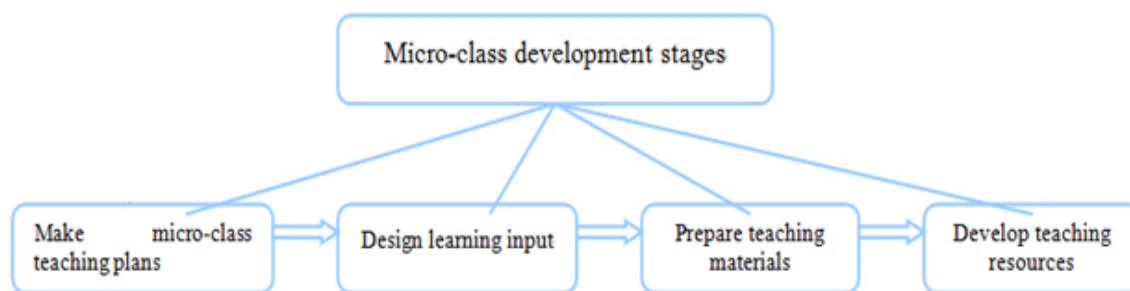


Fig.2 Development process of micro-class

**Make Micro-class Plans.** According to course development requirements of Cost Accounting, the micro-class plan of “Auxiliary Production Expenses” is made: (See Table 1 below)

Table 1 “Auxiliary Production Expenses” micro-class teaching plan

Designed by: XX		Record on: Sep 20, 2015		Micro-class length: 9min 45s	
Micro-class name	Auxiliary Production Expenses				
Micro-class teaching content	Collection and Distribution of Auxiliary Production Expenses				
	Subject: Cost Accounting				
Source of micro-class teaching content	Textbook: Cost Accounting by Ren -Yuejun				
	Chapter: Chapter 5				
	Page: P61~69				
Micro-class teaching style	×Lecture	Experiment	Demonstration	Others	
Respondents	Accounting sophomores				
Micro-class teaching objectives	(1)To help students master distribution methods of production expenses;				
	(2)To enable students to solve after-class questions and Exercise 2.				
Major and difficult points during the micro-class teaching process	Distribution methods of auxiliary production expenses and applications				
Learning support materials	Students have a group discussion of questions related to distribution of “Auxiliary Production Expenses,” and help them with the meaning construction of these knowledge points.				

**Design the Learning Warm-up List.** The author designs the learning warm-up list. (See Table 2 below)

Table 2 “Auxiliary Production Expenses” micro-class warm-up list

Learning objectives	(1) To help students master distribution methods of production expenses; (2) To enable students to solve after-class questions and Exercise 2.
Learning resources	(Note: Optional. Please clarify here if there are any other relevant resources): “Auxiliary Production Expenses” micro-class, online test, after-class thinking, expanded literature reading and academic foreland.
Learning methods and tasks	1. Course learning: Consolidate students’ understanding of the concept and distribution methods of “Auxiliary Production Expenses” by watching the micro-class teaching video. 2. Task analysis:(1) Finish online tests; (2) Have group discussion after the after-class exercises are finished and display the discussion results of every group with different groups evaluating each other and the teaching commenting on each; (3) Finish the micro-class evaluation.

**Prepare Teaching Materials.** Based on the media design and cognition characteristics of Accounting sophomores, the author collects materials, including 120 pictures and animations on Baidu. Besides, the following media materials are adopted during the micro-class development process: (See Table 3 below)

Table 3 Multimedia materials and acquisition methods

Material type	Material format	Acquisition methods
Text materials	Microsoft PowerPoint	Keyboard input, scanning recognition input and writing recognition input
Graph materials	GIF, JPG, SEF and PNG	Creation by software, sweeping by the sweeping instrument, photographing by the digital camera and snaps of screen, animations and videos
Audio materials	MIDI, MP3 and ASF	File conversion, format conversion, direct record
Video materials	RM, ASF and PPS	Simulation of the camera and the digital camera
Animation materials	GIF and FLASH	GIF, Movie Gear and 3DSMAX

**Develop Micro-class Resources.** The development of the micro-class media resources should be based on courseware making tools and screen record tools. The development of the micro-class mainly relies on Microsoft PowerPoint and Format Factor 3.6.0. Below are specific steps:

Step 1: First, the author screens out the teaching materials collected previously. Microsoft PowerPoint is employed for the micro-class development. After PPT design, PPTs can be converted into video files. Second, after PPTs are made, click on the file tab control on the upper left corner, and click on “save as”. Choose “PowerPoint Display” (\*mp4) as the final saved type. Click on “save.” The progress of audio conversion can be observed below PPTs. At last, when PPTs are successfully converted into videos, use mp4 to display them and test the conversion effect.

Step 2: First, when there is prompt of “Successful”, convert the PPTs into video files. Format Factory should be employed to convert the video files of the format of “mp4” into video files of the format of “mp4” [5]. Open Format Factory. Click on the “mp4” button, and click on the button of “Add Files” so as to add the files to be converted. Choose the audio file entitled “Auxiliary Product Expenses Accounting”. Click on it, and it will be successfully added. Second, the files to be output

are distributed. Choose the item of “high quality and size” in the “output setting” and confirm it. At last, choose “output file folder”, namely “desktop” the place to save the output results after video conversion. Click to confirm it. Return to the initial interface. After all settings are finished, click on the upper start button. When the video conversion process comes to an end, the video is successfully converted.

## **Conclusions**

Through the micro-class development and design of Cost Accounting based on the mixed teaching models under the internet environment in this paper, the author puts forward the following suggestions: It is intended to provide some helpful advice based on our experiences in the use of microteaching during this course. We suggest that the following factors need to be considered by those who wish to use this strategy in their teaching.

(1)In terms of development, teachers should break new ground, integrated various techniques and education concepts, such as QR code, Augmented Reality and other techniques, so as to increase the fun and interactivity of the course, and help students build their own knowledge system in the pleasant interactive learning;

(2)In terms of applications, it is suggested that micro-class should serve multiple learning periods, including preview, review and consolidation, and be repeatedly used by different classes, schools and regions.

## **Summary**

The lecturer who uses microteaching as a strategy to develop teaching skills needs to have a wide repertoire of skills and teaching experiences. These include the ability to use and critically evaluate a variety of teaching skills and strategies. The lecturer also needs to be experienced in providing feedback and supporting students who are inexperienced in self and peer evaluation. Sufficient experience in teaching is required to enable the lecturer to be confident in advising and handling unexpected situations that may arise in a classroom setting [5]. Despite of situations that may arise in a classroom setting, micro-class will play a greater role in the education field and make its share of contributions to China’s education digitalization reform.

## **References:**

- [1]Lu Rong. Investigation and application of micro-lecture in engineering drawing and auto CAD course . Eastern academic forum. 2014.7:328-331
- [2]Li Miao-juan. Based on class curriculum design of Cost accounting. Modern economic information. 2015.8:441-442
- [3]Zhang Jing. Research on design and development of Micro-courses based on WeChat Taking the “Opportunity Cost” micro-bourses in the “Basic Economics” courses as an example. Yun-nan university master's degree thesis. 2015.6:71-73 (In Chinese)
- [4] Shao Yan. Teaching mode analysis of accounting micro-class [J].Journal of green accounting. 2015.6:45-49 (In Chinese)
- [5] Agnes Higgins and Honor Nicholl. The experiences of lecturers and students in the use of microteaching as a teaching strategy, Nurse Education in Practice. 2003.106:220-227