

Research on Vocational Skills Assisted Training Practice Based on Mobile Internet Terminal

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Abstract: This paper systematically expounds the production of H5 micro-courses, the implementation process of the project, the advantages and matters that need attention in the auxiliary teaching process by introducing the mobile Internet terminal into the practical teaching experience in the vocational skills training process, etc., aiming to explore new ideas and new methods that combine the mobile Internet terminal with vocational skills training through the analysis and summary of this teaching mode, so as to achieve the purpose of improving teaching efficiency and improving training quality.

1 INTRODUCTION

The current vocational skills training method is basically carried out in the traditional way, that is, the teacher speaks on the podium, the students listen below, the teacher demonstrates in the training place, and the students follow the practice mode. The flow of vocational skills training methods is shown in Figure 1, the theoretical learning before the operation in the figure is an indispensable link, for skills training, we hope to let students practice as much as possible, which itself is contradictory, especially in the case of limited training time.

On the other hand, for a professional skills training, when there are more students, what the teachers do is to keep repeating the same content, for different trainers of the same project, although the same teaching unit design is used, it is difficult to ensure that the knowledge points and operational skills taught are exactly the same, in order to solve this kind of problem, the author will be mobile Internet terminals, which are currently more popular mobile devices into vocational skills training, which has played a good effect.

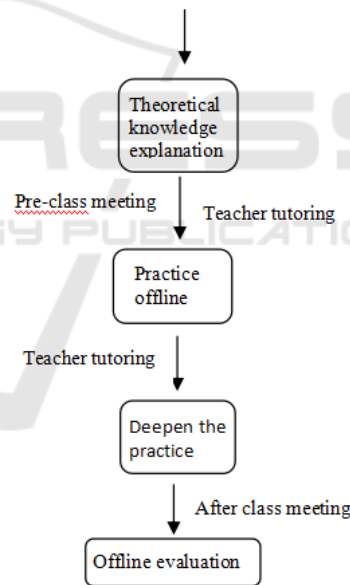


Figure 1 Traditional skills training model process

2 IMPLEMENTATION PROCESS

2.1 Development of H5 Micro-Curriculum

To make full use of the mobile Internet terminal this convenient tool, the first thing to do, is to develop a

set of micro-courseware that can be easily operated and used on the interconnection terminal, in order to maximize the effect, the choice of H5 micro-course software should first be popular, easy to master, convenient for the majority of teachers to learn, at the same time to have a variety of functions, it is best to have text, pictures, audio, video and other display methods, in order to present a picture and text, lively and diverse effects.

The scheme design of the micro-courseware is shown in Figure 2:

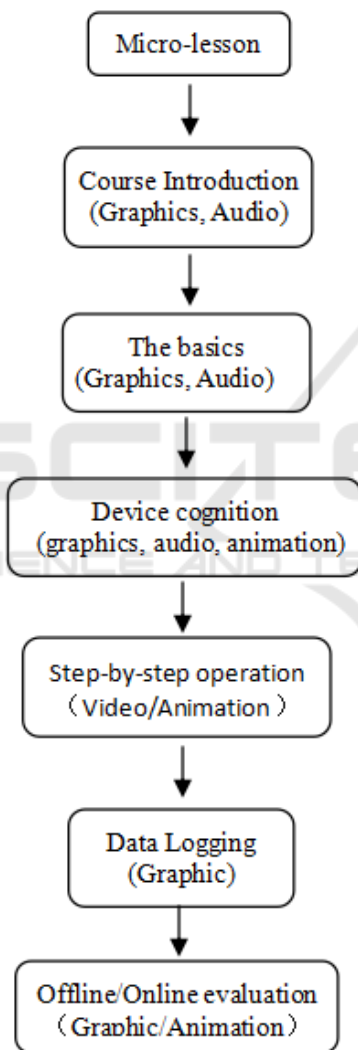


Figure 2 Design architecture of micro-lessons

Before the micro-lesson is made, you should first set up the framework, then prepare the material

(these two steps are commonly referred to as the writing of the script), and finally start the production. The framework is easier to understand, equivalent to the syllabus of a course, and our understanding of the traditional class mode is almost the same, more time-consuming is the preparation of materials, the material here mainly refers to the picture, audio and video, such as pictures, when you need to introduce a certain device, you need to take a clear picture in advance (if you need to buckle the picture, buckle it in advance), if you need a local close-up, you need to cut the local picture in advance.

When the material is audio, you need to prepare the lines in advance, the general software has the function of text conversion, if you need to record real people, you need to prepare the recording equipment and the narrator. When the footage is a video, it needs to be recorded in advance and converted to a software-compatible format (because the capacity of the video is generally relatively large, it is not recommended when the video takes a long time. If it is really needed, it can be solved in flash form). The quality of micro-lesson production depends on the mastery and proficiency of the production software, but some basic skills definitely need to be mastered in advance, such as changing the background, page jumping, simple animation design, audio and video insertion, etc.

2.2 Establishment of WeChat Network Platform

The platform here is mainly used for the sharing of training and teaching resources, it is more convenient to be a WeChat group, or a WeChat public account or a training APP, etc. From an interactive point of view, it is better to use WeChat groups, we can complete the following tasks through the platform:

- The release of micro-lessons;
- Students' grouping and teacher's guardianship arrangements;
- Assign learning tasks;
- Practical course preparation requirements;
- Post-class meeting comments and typical case analysis.

The design of the WeChat network platform (official number) is shown in Figure 3:

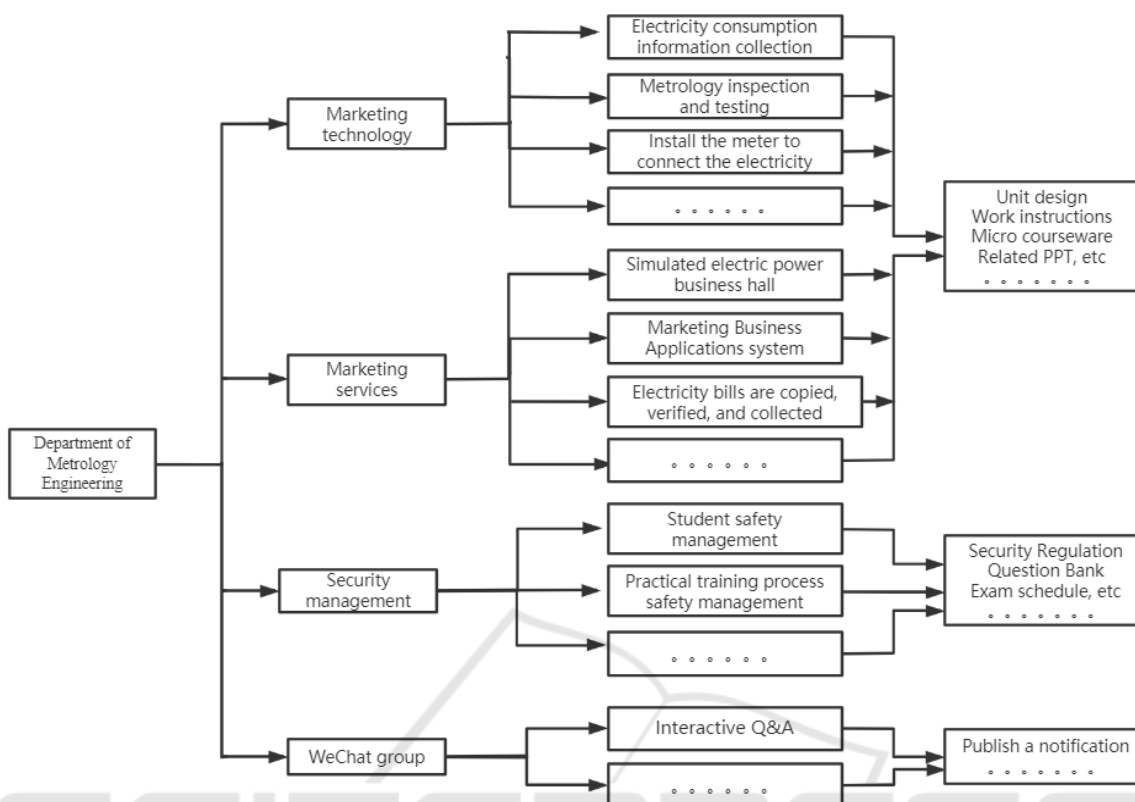


Figure 3 Design structure of WeChat public account

In order to improve the efficiency of the training process described in Figure 1, the following auxiliary methods are used in this paper, and the specific design scheme is shown in Figure 4:

2.3 Project Implementation

2.3.1 Pre-Class Meeting

For vocational skills training, the pre-class meeting is an indispensable link, through the pre-class meeting, the teachers can explain the main tasks and arrangements of the class, the danger points and preventive control measures, safety precautions and the implementation of safety signatures, etc., if necessary, may also apply for work tickets. Because of the safety matters involved, this link is best carried out in the classroom or practical training class, and is not suitable for micro-lessons.

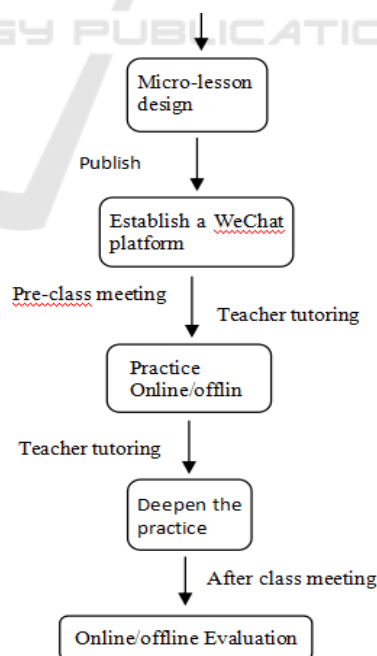


Figure 4 Assistance training mode process based on mobile Internet terminal

2.3.2 Explanation of Theoretical Knowledge

In the traditional teaching mode, the actual operation exercise should be the first to explain the basic theoretical knowledge, the cognitive and functional introduction of the equipment, the operation project and process, etc., because these contents have been released to the WeChat group in advance in the form of micro-lessons, so what we need to do at this time is to use the gap between the students to handle the safety of the bottom or the signing of the work ticket during the pre-class meeting, and collectively review the important knowledge points, which can be explained by the teacher and can also be imparted knowledge by asking questions (jiang 2018). The purpose is to ensure that students can keep in mind the important knowledge points in the micro-lesson and fully understand them, this session is where the micro-lessons show their charm.

This link is very important, because the biggest feature of this learning mode is the need to use the students' own time for free learning, because there are too many entertainment things in the mobile phone, the attraction of students is too large, if not properly guided or supervised, it is difficult to ensure their enthusiasm for active learning micro-lessons.

2.3.3 Practice Skills Exercises

In the practical training operation stage, the traditional training mode is generally demonstrated by the teacher first, the student observes from the side, and then the student follows the operation after the end, and the teacher guides in groups. In the new training mode, although we have done the operation video in the micro-lesson, but because the form of flash is different from the practical operation after all, this link is generally in the classroom or the practical training class and then to the students to demonstrate it again (of course, the conditions can also play the teaching video), while the physical object of targeted key explanations, so that students can better understand the operation steps and essentials.

When practicing in groups, in order to allow students to enter the role as soon as possible, a teacher can lead students to follow the operation steps to go through the decomposition of the action in a unified way, and other teachers can guide them to master the operation skills in the group supervision and guidance they are responsible for.

2.3.4 After Class Meeting

For vocational skills training, after the class will be a

very important link, through the class meeting, we can collect the problems that occur in the process of the operation of the students, timely collect, summarize and analyze and inform them, so as to avoid the same mistakes from happening again, and at the same time praise the group or students who do better, can also be included in the performance assessment, urge them to strengthen the normative requirements of their own operations. This information can be posted to the class group in the form of text, pictures and audio and video through the WeChat platform, this part of the content is generally not suitable for doing well in advance in micro-lessons.

2.3.5 Evaluation

The main purpose is to test the mastery of a certain skill by students, and in the new mode, it can also be used as a powerful measure to restrain students from actively and consciously learning micro-lessons, which can be carried out online or offline, and can be tested both theoretical knowledge and operation.

3 ANALYSIS AND EVALUATION

3.1 The Advantages of the Auxiliary Training Model

The most obvious benefit of applying mobile Internet terminals to vocational skills auxiliary training is to save the time of centralized teaching in the classroom, relatively increase the number of hours of students' practical operation, transform the traditional classroom teaching into a review and review of knowledge, and strengthen students' consolidation and understanding of key knowledge points. At the same time, the teacher can better apply the saved time to practical teaching, and improve the quality and level of students' skill operation.

3.1.1 Save Time

Another advantage of this auxiliary training mode is that the teacher makes full use of the powerful functions provided by the micro-lesson development tool to make the content that is not easy to display in the classroom in the micro-lesson, for example, when introducing the equipment, the teacher can use the form of audio and video, pictures or animations to show the function of the

device in a three-dimensional way, and the traditional method is not easy to achieve.

3.1.2 The Knowledge Imparted is More Complete and Sufficient

In the design and production of micro-lessons, teachers can also carefully arrange, display in detail, and present all the knowledge that needs to be imparted to students in the form of micro-lessons, which is more complete and sufficient than teaching directly in the classroom, especially when there are more students and different teachers need to take the same class, which can better reflect the advantages of micro-lessons. (sun 2017)

3.1.3 Can Be Used as a Skill Knowledge Base

More importantly, micro-lessons can also be used as a knowledge base for students to check the main points, when a knowledge point is not clear, you can directly consult and find answers, even if there is no micro-lesson, you can also consult directly in the WeChat group (feng 2017), which greatly facilitates the communication between teachers and students.

3.2 Places that Need Attention in the Implementation Process

The rapid development of the information society, many applications with different functions APP emerge in an endless stream, there are learning, entertainment, chat, life applications, etc., the function of mobile phones is becoming more and more powerful, people's lives are more and more inseparable from mobile phones, accompanied by the vast majority of people's free time, young people themselves are weak in self-discipline and some games are more and more attractive, how to reasonably guide students' idle time to teaching micro-classes, in fact, it is a big problem (jiang 2018). It is a major event that every teacher who plans to apply mobile network terminals to vocational skills training and auxiliary teaching needs to be carefully studied and paid attention to.

At present, the method used is to arrange tasks in the WeChat group in advance, review and ask questions about knowledge points during class, group confrontation and flipped classroom, these methods can be used independently, can also be combined with each other, so that students can fully display the knowledge learned in the micro-class, so that they can experience the joy and sense of

achievement of self-learning. If necessary, it can be linked to the assessment results, otherwise it is difficult to achieve the results we expect.

Some people have done research, generally an adult to maintain a high concentration on learning a boring course, only 20 minutes of time, because of this, when we develop micro-courses, the length is not easy to be too long, the length is controlled within 10 minutes, and because we are going to use the student's free time to learn, too long is not conducive to completing an independent knowledge point learning. When there is more content that needs to be taught, it can be divided into several micro-lessons to produce.

When designing micro-lessons, in the use of sound, it should be different from traditional teaching, it is not easy to talk about it as soon as it comes up, and the students who have just opened the micro-class will be cold and frightened, it is best to add a voice control on each page, which can be a key or a question mark character, and students can control it according to their needs.

4 THE APPLICATION OF EXAMPLES AND EFFECTS

Since the second half of 2020, we have applied the auxiliary teaching methods based on mobile Internet terminals to the actual training of new employees. According to the class schedule plan, before each class is held, we will release a series of micro-lessons to the corresponding class group through the learning committee, remind students to use the time outside the class such as evening self-study to actively learn, and in the pre-class meeting before the next day's practical class, in addition to explaining the work tasks of the course, student groupings and danger points and pre-control measures, we will review the knowledge points explained in the series of micro-lessons through classroom questions, preemptive answering and scoring. In this way, it was originally necessary to use two classes of time to teach students the knowledge before the practice, but due to the use of micro-lessons as a convenient auxiliary means, we only need to use half a class to complete, we selected 20 students from Class 5 of Power Marketing as the first group, using mobile internet terminals to carry out auxiliary learning, and the time taken for the final operation exam is shown in Table 1.

Table 1: Statistics of the operation time of the Group 1 (using mobile terminals to assist teaching)

Student number	1	2	3	4	5
time (min)	17	13.7	12.6	14.5	14.4
Student number	6	7	8	9	10
time (min)	13.2	15	14.3	17.4	13.6
Student number	11	12	13	14	15
time (min)	16.6	17.8	16	15.5	14.3
Student number	16	17	18	19	20
time (min)	19.5	17.8	14.7	15.9	16.2

As a comparison, we also selected 20 students from Class 8 of Power Marketing as the 2nd group, without micro-lesson assisted learning in advance, teaching and practicing directly according to the traditional method, and the time used for the final practical examination is shown in Table 2.

Table 2: Statistics of the operation time of the Group 2 (no mobile terminal auxiliary teaching)

Student number	1	2	3	4	5
time (min)	14.9	17.6	18.7	18	22.7
Student number	6	7	8	9	10
time (min)	18	16.4	17.3	16	18.9
Student number	11	12	13	14	15
time (min)	18.7	18	18.7	15.5	19.7
Student number	16	17	18	19	20
time (min)	20	19.3	17.6	14.3	17.1

The data of Table 1 and Table 2 are compared, see Figure 5, and it can be seen in the figure that the use of auxiliary teaching methods of mobile terminals has obvious effects on improving the operational proficiency of students.

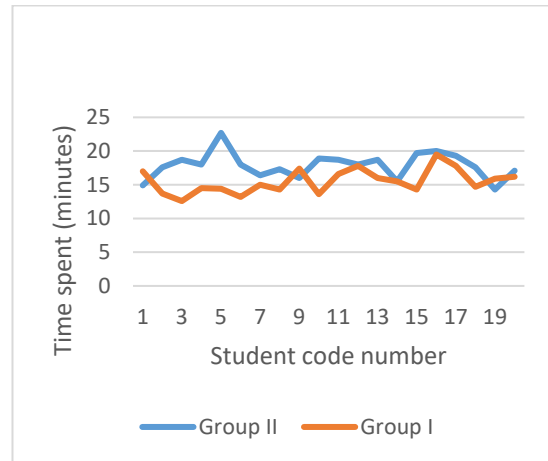


Figure 5: Mobile terminal auxiliary teaching effect comparison chart

Through the practical application in recent years, with the help of this auxiliary teaching method, not only saves our large number of theoretical classes teaching time, but also improves the operational efficiency of our practical courses, the previous kind of frequent questions of students less, the previous exam often errors in the place less, for individual classes before the students who did not study seriously put forward the relatively complex questions, we do not need to explain over and over again, just remind them to go directly to the micro-class to query the answer, but also greatly reduce the workload of the teacher. It is better to solve the contradiction between the short class time of each class and the operation of learning to understand and understand.

5 CONCLUSION

The Internet terminal for teaching is a general direction and trend, the current teaching APP of various courses is also easy to find on the network, for vocational skills training, after all, it is necessary for students to master a certain skill by themselves, at this stage, mobile phones and other mobile terminals can not solve this demand, but we can assist teaching through micro-lessons and WeChat network platform, in order to improve the efficiency and quality of training, this article has tried in this regard, hoping to explore a teaching mode suitable for vocational skills training.

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