

Application of Chaoxing-Based Flipped Classroom in Teaching of Integrated Practical Activity Design for Primary Education

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The thesis aims to discuss the application of Chaoxing-based flipped classroom in the teaching of integrated practical activity design for primary school. The undergraduate students who learn this curriculum from Primary Education Classes 1 and 2 of Class 2017 of Nanchang Normal University are taken as the research subjects, of which Class 1 is regarded as the control group and Class 2 is considered the experimental group. The control group adopts the traditional teaching method while the experimental group applies the teaching method of Chaoxing-based flipped classroom. The result shows that the average point of the total grade of the experimental group is 86.2, which is significantly higher than 73.68 of the control group ($p < 0.05$, which indicates that there is a significant difference in the total grades between the two groups). Consequently, applying the Chaoxing-based flipped classroom into the undergraduate teaching of integrated practical activity design for primary education enables students to enhance their performances, especially for the improvement of the class teaching capability by using what they have acquired in the flipped classroom.

Keywords: Chaoxing platform, flipped classroom, integrated practical activity design for primary education, teaching

Integrated Practical Activity Design for Primary Education is one of the most critical curricula for undergraduates majoring in primary education. The curriculum is a compulsory course for those who learning primary education in higher normal universities and a necessary skill in their work as a teacher after graduation. Generally speaking, there are several defects with regard to traditional teaching methods: (1) The teaching contents are copious and convoluted; (2) the knowledge is mainly imparted to students via the teacher's one-way teaching; and (3) the students' initiative of self-directed learning cannot be prompted. Therefore, it is quite imperative to innovate our educational model and instructional approach. This thesis explores a new instructional model of developing the flipped classroom via Chaoxing platform (a Chinese e-book online reading platform).

Subject and Approach

Research Subject

The research subjects, a total of 116 undergraduate students, are selected from the Primary Education Classes 1 and 2 of Class 2017 of Nanchang Normal University. The students learn the curriculum of Integrated Practical Activity Design for Primary Education in the first semester during the school year of 2019-2020. This

experimental research was conducted with the two groups holding similar age, knowledge reserve and discipline background, etc. The 58 students of the control group were taught via the traditional teaching approach, through which the teacher imparted theoretical knowledge to the students in accordance with the teaching plan. In contrast, the 58 students of the experimental group were taught via the Chaoxing-based flipped classroom, in which tasks were given to the students before the class, and self-directed learning and seminars relying on curriculum resources on the Chaoxing platform were conducted by students to discuss and internalize the knowledge. During the whole teaching process of this curriculum, a comparative teaching approach was applied for the two groups of students. The average age of the control group is 21.48 years old while that of the experimental group is 21.37 years old. The difference in the average age between the two groups shows no statistical significance, and thus the results have comparability. The textbook of this research is *the Integrated Practical Activity Design for Primary Education* (2nd edition), which was edited by Professor Gu Jianjun and published by the Higher Education Press.

Teaching Approach and Procedure

In line with the undergraduate cultivation plan for primary education majors and the syllabus of *Integrated Practical Activity Design for Primary Education*, the author distributed the knowledge points according to teaching content and class hours and worked out the teaching plan. The teaching content is comprised of basic knowledge and extensive knowledge. The basic knowledge explicates basic theories of the curriculum, whereas the extensive knowledge consists of four parts: lectures, resources and materials, homework system as well as case library.

The teaching approach and procedure for the control group. The control group adopts the traditional teaching approach dominated by the instructor. The instructor explains the relevant knowledge points in accordance with the syllabus and teaching plan. The students passively accept knowledge. In the end, the instructor conducts an analysis, explanation, and a summary of outstanding cases on integrated practical activity design for primary education in order to let students master the design and implementation of integrated practical activities in primary schools. During the whole class, students barely participated in group discussions. Students passively accepted and remembered the knowledge, because the knowledge was conveyed to them via the instructor's one-way teaching. The instructor cannot ensure whether the students have done the preview for the curriculum or not. The corresponding interactions and feedback were inadequate in the instruction process. The instructor can assign after-class tasks to deepen the students' understanding and application of the curriculum, whereas the targeted one on one instruction cannot be achieved, and the progress and quality of the tasks cannot be traced.

The teaching approach and procedure for the experimental group. The instruction of the curriculum for the experimental group was conducted via a Chaoxing-based flipped classroom. The instructor transformed such teaching materials as knowledge points, lectures, materials and resources, case library, and in-class tasks into instruction resources that can be launched on the Chaoxing platform. In order to facilitate students' study interest while maintaining an appropriate class hour, the above-mentioned materials are within the framework of the following requirements: (1) The number of words of literal materials should be less than 2,000 (three pages or so); (2) the number of pages of PowerPoint should be less than 20; (3) the time span of instruction videos should last between 10 and 15 minutes; (4) the question type for the in-class test should be mainly multiple choice and/or True or False questions; (5) the material resources and case library should be structured

primarily by the latest teaching cases, with one item released on the class for students' alternative study after class; and (6) lectures on special topics should be delivered in a combination of offline and online approaches.

First of all, teaching materials (like literal materials, power points, and instruction videos) were uploaded to Chaoxing platform by the instructor before the class was given. Then, the instructor made a brief cross-talk about the basic knowledge in class, which took up 10% time of the class hour. Subsequently, the instructor illustrated a few difficult points that might not be fully grasped by students through the preview, which spent 20% time of the class hour. Finally, the students were asked to discuss instruction cases, come up with their solutions, and then explicate their ideas according to theories from the textbook titled *the Integrated Practical Activity Design for Primary Education*. The instructor kept reminding, questioning, summarizing, and answering for the whole class, and thus a two-way teaching class (about 70% time of the class hour) with adequate interactions was achieved. With the above procedures carried out during the curriculum, students would be able to conduct self-directed learning, independent thinking, interactions and discussions, and to resolve problems with their theoretical knowledge.

Total final scores. The total scores of the curriculum are composed of the practical score and the theoretical test score, with each accounting for 50%. Besides, the theoretical test score and simulated classroom teaching score, which were set after the end of the curriculum, are considered as objective assessment criteria. The theoretical part was tested by a 100-score test paper, and the test questions were short answer questions (40 scores) and essay questions (60 scores). The test questions for the quantitative assessment of teaching effect (theoretical test) conducted by the experimental group and the control group were all extracted from the standardized question system established in this curriculum. The qualitative assessment (practical scores) was based on the results of grouped simulated classroom teaching.

Questionnaire. When the curriculum was concluded, the experimental group (which adopted the Chaoxing-based flipped classroom) was invited to fill in a questionnaire titled "A survey form on curriculum satisfaction" by virtue of Wenjuanxing. In addition, the students completed an anonymous comment on the curriculum, so as to express their actual experience of the instruction approach in this research as honest as possible. The author gave out the questionnaire to 58 students of the experimental group in an effort to know whether the students accept such an instruction approach and to have a picture of the satisfactory result.

Statistical Analysis

SPSS 24.0 statistical software was applied for data analysis. The measurement data were represented by \bar{X} . The comparison between the control group and the experimental group was examined by the independent sample t ; $p < 0.05$ was considered statistically significant, and $p < 0.001$ was considered that the difference was extremely statistically significant.

Results

Comparison of Total Theoretical Scores and Scores of Essay Questions Between the Two Groups

The average scores of the experimental group and the control group of the traditional instruction approach were 84.2 and 72.3 respectively ($p < 0.05$). For essay questions with 60 scores, the experimental group students gained an average score of 52.61, which was significantly higher than the control group students' score of 43.68 points ($p < 0.05$). The average score of practical tests for the two groups were 88.2 and 75.06 respectively.

Result of the Questionnaire on the Students From the Experimental Group

The author sent “A survey form on curriculum satisfaction” to the students of the experimental group via Wenjuanxing (an online questionnaire platform). After the anonymous comment was finished, 58 questionnaires were returned in total, of which 58 questionnaires are effective with the effective recovery of 100% (see Table 1). It can be seen from Table 1 that the instruction approach of Chaoxing-based flipped classroom in the teaching of integrated practical activity design for primary education was highly recognized by the students of the experimental group. The proportion of approval for each item exceeded 90%, which indicates that the new instruction approach was widely accepted and recognized by the students.

Table 1

Feedback on the New Instruction Approach by the Students of the Experimental Group (%)

Sequence	Feedback items	Approval	Disapproval
1	This approach is better than the traditional teaching method.	58	0
2	I will pay active attention to and learn materials notified by Chaoxing platform	57	1
3	It will not take up to long to do preview.	54	4
4	My study initiative gets stronger via flipped classroom.	55	3
5	I can acquire knowledge from other classmates through in-class case discussions.	56	2
6	This instruction approach enhanced my study interest and participation rate.	58	0
7	This instruction approach enhanced my ability to analyze teaching problems with acquired knowledge.	56	2
8	It facilitated my critical thinking and innovative capacity.	57	1
9	I am more willing to interact anonymously on the Chaoxing teaching platform.	58	0

Conclusion

A comparative study of the total test scores and essay questions scores of the two groups of students shows that the experimental group students have a stronger grasp of theoretical knowledge and a stronger ability to design and implement integrated practical activities. On the other hand, judging from the anonymous feedback results of the qualitative experimental group students on the new teaching method, the students in this group also recognized the teaching method.

The advantages of the Chaoxing-based flipped classroom can be summarized as follows: One is to integrate after-class online study with in-class instruction, while the other is to synergize the acquirable online study with the interactive class learning. The knowledge that is easier to master by students was placed in the online teaching resources of Chaoxing platform before class (Zeng, Zhou, & Liu, 2020). The knowledge that requires deep learning and the activities that are designed for students' competence advancement were incorporated into the in-class activities. Therefore, students can master the basic knowledge before the class by virtue of seemingly broken teaching materials such as words, PowerPoints, and videos. The flipped classroom has broken the traditional teaching method, brought teachers and students closer, and improved the teachers' teaching enthusiasm and students' study interest. In short, the teaching method of the flipped classroom is to flip the traditional teaching method of “absorption in the classroom and internalization after the class” into “absorption before the class and internalization in the classroom”, which is a reform of the teaching method oriented by teaching effect. The author has noticed that, during the teaching process, four students of the experimental group disapproved of Item 3 in the anonymous feedback. Therefore, the teacher may need to further select materials that can be efficiently absorbed by students and upload such materials to the Chaoxing

platform before class (Zhao & Jiang, 2017). With the ongoing improvement of such a new teaching method in the future, it is convincing that the teaching effect of the curriculum in this research will be further enhanced and that more excellent teachers for the curriculum of integrated practical activities can be cultivated for our primary schools.

References

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