Practice Research on Multidisciplinary Integrated Subject-based Learning Activity

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Abstract

This research adopts literature method, interview method, questionnaire method and research method based on subject design, on the basis of relevant theoretical and practical experience at home and abroad, integrates the reality of the school, clarifies and analyzes subject integration, thematic learning and other viewpoints, defines the concept, basic principles, implementation modes and operational paths of multidisciplinary integrated subject-based learning activity, explores course system and implementation strategy of multidisciplinary integrated subject-based learning activity in primary school.

Keywords

Multidisciplinary integration; subject-based; learning activity.

1. Proposal of Problem

There are more and more researches on multidisciplinary integration at home and abroad, the scope is wider and wider, and the level is getting deeper and deeper. The traditional course, teaching, student and evaluation concept have been unable to adapt to the requirements of the new era, and they need to be upgraded and reconstructed. For this purpose, we have carried out in-depth discussions on several key issues of the course construction of Shenyang Qigong Second School: Where is the starting point and the foothold of the primary school course? What are the key elements and challenges of each course? How can we truly take into account both balance and match among courses? How can we really inspire the inner strength of children and enable them to build a broader vision and have a better life experience under the guidance of their interests? On the basis of careful and rational analysis of these problems, follow “hold the bottom line and expand the boundary” principle (bottom line: national course, local course requirements; boundary: help each student discover and awaken self), and actively carry out practice research on multidisciplinary subject-based learning activity.

2. Research Design

2.1 Research Objectives

The purpose of this research is intended to clarify relevant concepts and theories, and summarize objective, content, and implementation and other educational elements of multiple subject-based activities. Interview method and questionnaire survey method were used to understand the status of students' participation in subject-based learning activities and teachers' participation in subject-based teaching activities, analyze the objective requirements and integrate the reality of the school, scientifically design the course objectives, course content and implementation strategies of subject-based learning activities. Through the practice research of multidisciplinary integrated subject-based learning activities, the relevant theories are verified, the value and existing problems are found, and improvement direction and strategy are explored.

2.2 Research Methods

The methods adopted in this research mainly include literature method, interview method, questionnaire method, design-based research methods and other educational research methods, in order to obtain more comprehensive theoretical basis and more perfect course framework.

2.3 Research Objects

This research selects students who participate in the subject-based learning activities in the 4th, 5th, and 6th grades of Shenyang Qigong Second School, students in this age group can independently conduct questionnaire self-assessment. The number of participants is 450, of which 150 are in each grade. The teachers in the school are selected as the research subjects among the teachers' samples, including 90 teachers of all disciplines and class teachers.

2.4 Research Tools

This research adopts self-compiled "Questionnaire for Primary School Students' Participation in Learning Activities" and "Questionnaire for Teachers' Participation in Subject-based Teaching Activities" as research tools, and investigates students and teachers, respectively. Among them, "Questionnaire for Primary School Students' Participation in Learning Activities" includes 17 titles, and " Questionnaire for Teachers' Participation in Subject-based Teaching Activities" contains 16 titles, all adopt the five-point scoring method, which are independently completed by students and teachers, respectively.

2.5 Acquisition and Processing of Data

This research adopts spss20.0 to collect and arrange data, and the data are processed by independent sample t-test, factor analysis and other statistical methods.

3. Research Conclusion

3.1 Subject Source

3.1.1 Establish Subject Based on the Problem

The subject of multidisciplinary integrated subject-based learning activities should adapt to the students' current situation and development needs, the course design based on problem can truly achieve "appropriate development". For example, the establishment of subject-based activity course of "spring sowing and autumn harvest"; which is an investigation activity from class of morality and social discipline "Small Beans Great Learning". We surveyed 307 students before class; found that 291 people have not participated in labor related to agriculture, they don't understand many common crops, and accounted for 94.8% of the surveyed population, on the basis of such practical problems, we started planning to open a new subject-based activity course, and an experimental area was opened to allow students to experience the planting. Unexpectedly, the opening of a small plantation like a stone thrown into the water, and a tossed stone raises a thousand ripples. Not only do social subject teachers use it for classroom teaching services, but teachers in other disciplines also spontaneously bring small vegetable gardens to their classrooms, the class teachers use them to make observation materials and let students write, the art teacher set up small drawing board next to the vegetable garden, observe the times and judge the occasion, we expanded the course from the original simple planting experience, formed a complete subject-based course chain and integrated course system which take spring sowing and autumn harvest as main line and cover the multidisciplinary knowledge content integration.

3.1.2 Establish Subject Based on Interest

What is the essence of education? What is the best education? We are convinced that interest is the driving force for people's learning, cultivating interest is the basis for improving students' ability, our multidisciplinary integrated subject-based activity course should be derived from Interest-driven task book mode.

Shenyang Qigong Second School is located in the west of Tiexi District, Shenyang City, which is less than five kilometers away from the China Industrial Museum. A few years ago, the "BMW Tongyue Home Children Care Program" was launched at the Jingu Campus; this social welfare project has made our children, cars and BMW enterprise indissoluble bound. According to interest survey of 301 students in the fourth grade of our school, 247 persons were interested in the car logo, which account for 82.3% of the surveyed people, and the gender difference was not obvious. Therefore, we are

keenly aware that if the subject-based learning activities can follow the needs of students' interests, help them understand the story behind the car's production, development and prosperity, and then help them master the traffic safety knowledge, encourage them to design and name the car and so on, and it will be a very meaningful thing.

3.1.3 Establish Subject Based on Culture

The culture here has campus culture, the traditional culture and social culture. The subject of subject-based learning activity course is established, rooted in the traditional culture, fully explore the regional cultural advantages, display the cultural characteristics of the school, and integrate the multiple cultures as a subject-based learning activity course resource. The Qigong Second School is the national advanced school of art education; art education has a long history, we took this opportunity to create the "Ancient Rhyme and Customs" course, integrate music, art, language, and studies of Chinese ancient civilization. Moreover, we are constantly discovering new resources, making full use of the opportunities of various festivals, integrating traditional culture, modern culture, natural resources and human resources into the course culture, and developing school course resource through adaptation, supplementation, expansion and new editing and so on. For example, the Mid-Autumn Festival, the school developed the "full moon-inspire love" Mid-Autumn Festival subject project course, which enables students to experience the charm of multidisciplinary integration in the subject-based learning activities, multi-cultural integration, the student's perspective is broadened, the thinking has been expanded, the interest has been met, and the subject inquiry spirit and the independent innovation consciousness have been cultivated.

3.1.4 Establish Subject Based on Demand

The demand here refers to the demand for students' core quality development; the establishment of the subject should be compatible with the goal of students' core quality development in school.

For example, we take chorus as the course carrier; tease out the key points of chorus related to core quality, through simplification, we extract the subject of the course and the cultivation goal, and then set up the corresponding course system, namely the course content, implementation method and practice arrangements, etc. Moreover, we can expand the new carrier beyond the chorus around the course subject and goal.

3.2 Goal Determination

The orientation of the multidisciplinary subject-based learning activity course goal is mainly based on goal basis, goal filtering and goal description three levels.

3.2.1 Goal Basis

This level includes social needs and disciplinary development needs two aspects. These two levels can not only enrich the students' life experience, but also solve the practical problems in the students' life, make the knowledge sublimate in practice, enrich the connotation and extension of the discipline, and apply what they have learned. This is consistent with the national relevant documents, which emphasize the need to closely connect with life, find problems from life, actively use the learned knowledge to analyze problems, and independently solve practical problems in life.

3.2.2 Goal Filtering

On the basis of clarifying the source of the course objectives, we use the "screening method" to filter the two screens, and then we can determine the specific objectives of the subject-based learning activities, the two sieves are the educational philosophy and the learning theory.

3.2.3 Goal Resolution

After the filtering of educational philosophy and learning theory two "sieves", we try to properly resolve goals of the subject-based learning course, the description of the course goal should be clear, appropriate, and operable, and let the teachers and students know what to do and do what extent.

3.3 Course System

The subjects of the courses are different, the goal is determined differently, and the content organization of each subject activity course must be different. According to different course subject, we choose two subject-based courses.

3.3.1 Open Content Under Multi-Level Subject Architecture

In order to better integrate the disciplines and enable teachers of all disciplines to fully explore the discipline characteristics and personal strong point, we tried to build a multi-level subject framework in the school, and then let the teachers and students choose the specific content and form under this framework. This content construction form not only makes the subject-based courses to be better accepted by teachers, but also better enhances the quality of the subject-based learning course.

3.3.2 Planning Content Around the Subject Connotation

Open content is not suitable for all subject-based courses. Some courses require carrying out overall content planning in accordance with the connotation of the subject. For example, some courses, we carried out overall planning and design for course content according to the students' interests and the relevant knowledge content of each subject. When the course is built, we found that the content related to the subject was very rich and involved multiple disciplines. If these contents are presented to students in a linear way, the fragmentation of the content will hinder the efficient achievement of the course goals, consequently break disciplinary boundaries, reorganize the relevant content, and integrate it into “history and prospects”, “construction and performance” "culture and value" three modules, so better manifest the value of multi-level learning course.

3.4 Implementation Strategies

3.4.1 Break Shell and Reorganize, Top Design

The course reform should start from changing the course structure and break through from the additive thinking. The implementation of the multi-level course cannot be limited to a single subject course filed, the boundary of the three-level course and the disciplinary year should be broken, and the teaching content and operational procedures should be reorganized. Only in this way can the top-level design of the school course be possible.

3.4.2 Integrate Resources and Expand Platform

Integrate space resources, make full use of indoor and outdoor space to carry out activities; integrate human resources, give full play to the strong point of each teacher; integrate social resources, and provide students with more opportunities to get in touch with nature and society.

3.4.3 Harmony in Diversity, Advocate Autonomy

Open content gives teachers and students a broader development space. The opening of the subject not only brings a broad design space to the teachers, but also gives students more possibilities for independent inquiry. Children can independently choose, design and complete according to the content of the subject object. Harmony in diversity brings the continuous enrichment and improvement of the course content; bring the active participation of teachers and students and the steady improvement of comprehensive capabilities.

3.4.4 Hands-on Operation, Enhance Quality

During the course implementation, students take independent inquiry and practical experience as the main learning methods, students use their brains, operate, consult data, and actually investigate, students conduct subject research with team as the unit, and teachers participate in the guidance. Open project subject and autonomous inquiry practices make course content in dynamic change. We think that such a design is also the essential difference between a school course and national course, and is the value of a school course for the core quality of students.

3.4.5 Focus on Guidance, Make Solid Progress

Although the content of the course is open, opening is not equal to disorder, and autonomy does not mean letting go. We focus on method guidance and process monitoring when each subject develops. Before each subject was developed, on the one hand, we hired course experts to train teachers on

teaching skills, and introduce implementation strategies and typical cases of foreign project courses; on the other hand, through the case analysis of the collaborative group, the lesson model is carefully designed as an example to guide subject-based learning activities, moreover, when students selects subject and design implementation plan, guidance is given timely as well, ensure that every activity is carried out in a solid and effective way.

3.5 Implementation Effectiveness

Since multidisciplinary integrated subject-based learning activities are implemented, students' active learning awareness and learning consciousness have been enhanced continuously, teachers' courses awareness has been enhanced, and teaching quality has also improved significantly.

In the subject-based learning course, we found that teachers' initiative and work ability have been significantly enhanced in enriching the course resources and expanding the knowledge horizon. Teachers actively learn and experience, enrich their knowledge preparation, and enrich them into the course construction. In the "Questionnaire for Teachers' Participation in Subject-based Teaching Activity" survey, the results showed that the average score of the three factors reached 4.5 or more. Therefore, the teacher's collaborative communication, teaching experience and teaching evaluation are greatly improved than before. Among them, teachers have broken through the previous single-disciplinary exchanges and the limit of exchanges in the disciplines; achieve the objectives of interdisciplinary exchanges and multidisciplinary exchanges. More than 90% of teachers think that the implementation of multi-disciplinary integrated subject-based learning activities in primary schools can effectively promote the development of school course and the improvement of teaching quality, and greatly promote their professional growth.

Students' learning enthusiasm and initiative are significantly improved in subject-based teaching activities, and problem awareness is constantly increasing. They are more willing to use their brains to conduct open learning and discussion, the initiative of group cooperative learning is greatly enhanced, and their learning emotions are more active than ever.

References

[1] Chen Guisheng. Studying Education in Primary and Secondary Schools--Attempt of "Educational Action Research" [M], East China Normal University Press. 2000.
[2] Gu Mingyuan. The Great Dictionary of Education [M], Shanghai Education Publishing House. 1990.
[3] Pei Dina. Introduction to Educational Research Methods [M], Anhui Education Press. 2000.
[4] National Course Professional Committee Secretariat, 21st Century Chinese Course Research and Reform [M], People's Education Press. 2001.
[5] Shi Liangfang. Course Theory—Basis, Principle and Problem of Course [M], Educational Science Publishing House. 2000.
[6] Dou Guimei. Practice Exploration of Course Integration under the Background of New Course Reform— Case Study of the Education System Construction of "1+X Course" in Attached Primary School of Tsinghua University[J], Educational Research. 2014.
[7] Feng Jiayu. Course Integration: The Practical Path of Teacher Professional Development—Based on the Subject Experimental Investigation of Theory and Practice Research on Primary School Course Integration in Weifang City[J], Contemporary Education Science, 2012(6).