

# Research on the Integration Paths of Information Technology and German Subjects

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**Abstract:** The integration of information technology and subject has been studied for more than ten years in China, and some experiences and achievements have been obtained, but there are still many problems. This article pointed out the essence of the integration of information technology and subject is to enhance the efficiency and the effect of education and teaching and the student's study performance, which was concluded by systematically investigating and researching process and the present situation of the integration of information technology and subject in our country. On this basis, this paper actively explores the paths of the integration of information technology and German subjects.

## 1. Introduction

There are three typical definitions about the integration of information technology and subject. The first is the concept of applied assistance, which holds that "the integration of information technology and subject is using information technology to assist teaching tasks in classroom teaching". The essence of this view is "application", this view is that as long as using information technology means in the subject teaching is the integration of information technology and subject. The second is the integration view, which holds that the integration of information technology and subject is to integrate information technology courses with other subjects (that is, to achieve the integration between the two courses) for teaching, so as to learn information technology more effectively while learning courses of other subjects. The essence of this view is "integration", which trying to achieve two goals in the same teaching process, namely, the learning of subject content and information technology itself. And the third is surrounding view, which holds that the integration of information technology and subject is through fusing information technology effectively in interdisciplinary teaching process to create a new type of teaching environment, to realize a teaching and learning mode characterized by "autonomy, exploration and cooperation", which can both give full play to the leading role of teachers and fully reflect the subject status of students, In this way, the initiative, enthusiasm and creativity of students can be brought into full play, and the traditional teacher-centered classroom teaching structure can be fundamentally reformed, so that the cultivation of students' innovative spirit and practical ability can be put into practice.

The integration of information technology and subject has been practiced and studied for more than ten years in China, and some experiences and achievements have been obtained, but there are still many problems. This article pointed out the essence of the integration of information technology and subject is enhances the education teaching efficiency and the effect, enhances the student's study performance, which was concluded by systematically investigating and researching the process and present situation of the integration of information technology and subject in our country. On this basis, this paper actively explores the path of the integration of information technology and German subject.

## 2. The Significance of the Integration of Information Technology and Subjects

Whether in the initial stage or the mature stage of development, the purpose of the integration of information technology and subject is ultimately achieving the goal of three-dimensional teaching

in general. Rather than just "using" information technology in the teaching process; It is not just to "integrate" information technology with subjects for students to learn, which more difficult for students to learn. Not to create an environment. Specifically, the purpose of integration is to improve students' learning performance, which includes learning effect, efficiency, learning strategies and methods, innovation ability, emotional attitude and values. To understand the connotation of information technology and subject integration, it is necessary to clarify the relationship and status between information technology and subject in the teaching process. The object of learning in the teaching process is the course, the subject content, not the information technology; Information technology is a tool and platform for students to learn course content and to improve the teaching process, the master of tool serves the learning content, subject content is the subject of integration, in the main position, Information technology serves for the learning of subject content and is in a subordinate position. The relationship between information technology and subject is that of service and being served, and the relationship of principal and subordinate. In the process of the integration of information technology and subject, only by accurately and consistently understanding and grasping the relationship between the principal and subordinate, can we deal with various problems in the integration process and form various effective integration methods.

Subject is composed of many different characteristics of knowledge content, different knowledge content needs different means of information technology to present, some knowledge may not need to use information technology means at all, because information technology may not effectively present the knowledge content with these characteristics. and some teaching tasks can be taught and completed by using traditional teaching methods and means.

Therefore, it can be seen that the integration of information technology and subject is to use information technology means properly, and to transfer education and teaching information effectively, so as to cultivate students' innovation ability and improve their learning performance.

### **3. The Development Paths of the Integration of Information Technology and German Subjects**

The integration of information technology and subject is bound to have a gradual growth process from germination to maturity, which showing certain stage characteristics. Understanding this characteristic is helpful for us to fully and completely understand the nature of the integration of information technology and subject. With the continuous development of the integration process of information technology and subject, people's understanding of the integration of information technology and subject is gradually deepening. Throughout the development process of information technology and subject integration, we can summarize it into the following stages in a broad sense:

#### **3.1. Cognition Stage of Information Technology.**

After the application of information technology in the field of education, the majority of teachers have a preliminary understanding of information technology. Teachers are the subject of practice, mainly learning knowledge related to information technology, forming relevant skills, accepting the concept of informatization education, and cultivating the basic ability of using information technology for teaching. At this stage, a large number of school information environment construction and teacher training should be carried out externally. At this time, teachers are mainly trained to popularize information technology knowledge and skills, mainly in the form of centralized training.

#### **3.2. Integration Stage of Information Technology and Subjects.**

After having basically mastered the relevant knowledge and skills of information technology, it is natural for teachers to apply the means of information technology to teaching practice. In order to apply information technology smoothly, it is necessary to constantly explore the application method of information technology in teaching, explore the relationship between information technology and subject teaching, explore the integration mode and method of information technology and subject,

and form various integration views. The "integration" reflected by three popular integration views and the integration practice guided by them indicate that the integration we are carrying out is basically in the preliminary integration stage. In the preliminary integration stage, teachers are the main practitioners. They should continue to learn information technology-related knowledge in depth and develop advanced application skills, and apply information technology in the teaching process, try to combine information technology with subject content to improve the teaching process. At this time, the construction of the school's information environment has been preliminarily completed, and the main task is to train teachers' application skill, the content of the training is different from the previous stage, which mainly training how to the apply information technology in teaching and how to integrate both, which mainly in the form of school-based training, centralized training as a supplement.

### **3.3. Effectiveness Stage of Information Technology and Classroom Teaching.**

When the integration of information technology and subject develops to a certain extent, teachers will have a deeper understanding knowledge and experience about it, as well as a lot of research, practice and reflection. At this time, teachers and educators will think further: how to make the application and integration of information technology more effective?

The integration of information technology and subject will develop from form to connotation and effectiveness. There have been a lot of researches and practices on the effectiveness of integration, which indicates that the current integration is transitioning from the initial stage to the effective stage. In the stage of effective integration, not only teachers but also students participate in the integration process, because the purpose of integration is to improve students' learning effect, is it not enough to think about how teachers use information technology, therefore, students also become a part of the main body of practice, but they have not become very important practitioners yet. At this stage, the focus gradually shifted from information technology to the course content and teaching process, that is, it really began to enter the deep integration stage, At this stage, large-scale training for teachers is basically over, it mainly shows the practical exploration and theoretical research on optimizing the teaching process and improving the teaching effect. At this time, teachers' attitude towards information technology and subject integration is more rational and tends to be practical and effective.

### **3.4. The Performance Stage of Informatization Education.**

At this stage, the application of information technology in education has achieved good results, forming a basic form of education --informationization education. It is very common for teachers to integrate information technology with subjects. At this time, the focus of education has on the overall effect of informatization education rather than the individual learning effect of students, that is to say, to pursue the overall performance of education, the informatization education has entered a highly developed stage, it truly realizes the goal that information technology promotes education to be informationized and learners to develop comprehensively, which is the highest state of the integration of information technology and subject.

In the stage of educational performance, the pursuit is the improvement of the overall educational performance, the purpose of the integration of information technology and subject is no longer just the effectiveness of teaching and learning, but the learning performance of learners and the improvement of the overall performance of education, therefore, teachers and students in the process of the integration of information technology and subject are bound to become equally important practice subjects, they also actively participate in the integration process and make their own efforts to jointly improve the educational performance from their own perspective. With the deepening of the integration of information technology and subject, people begin to pay attention to how to develop information technology, course content and teaching process into an intelligent system to support students' learning, improve learning performance, and further improve and support the overall performance of education.

#### 4. Summary

In recent years, the rapid development of information technology has led to its increasingly extensive and in-depth application in all walks, especially in the field of quality education, which requires us to combine information technology with various disciplines, and use information technology to realize its popularization in the base of enriching the mode and content of quality education, to achieve a win-win situation between information technology courses and other disciplines.

Based on the above analysis, we can see that the development path of the integration of information technology and subject is: in the base of the development of information technology, the first step is to preliminarily understand and experience information technology; then it enters the stage of preliminary integration with the subject. When the integration of information technology and subject develops to be more mature and common, it will develop towards the effectiveness of information technology and classroom teaching. At present, we are in the transition period from the initial integration stage to the effective integration stage. In the future, it will develop to the direction of pursuing the realization of informatization education and improving the overall performance of education.

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