

# Application analysis of information equipment in the education science

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**Abstract.** With the rapid development of high-tech, information technology education equipment has a rapid development and application and the modern educational information technology infrastructure has also gradually flourished. This paper will explore the theory of information education equipment, the construction of information education equipment management and evaluation system, and the analysis of the development trend of information technology education equipment. This will help to promote the development and application of information technology education equipment and it has a very important practical significance.

## 1. Introduction

In recent years, with the rapid development of information technology and application and the continuous development of education informatization, most of the countries in the world has a large amount of investment in terms of educational informatization infrastructure construction and the information educational equipment develops rapidly, which has brought new opportunities for the development of education. Information equipment is the material basis and reliable guarantee of educational information, it is the key means for implementing the scientific and efficient information teaching in colleges and universities, and it is helpful to improve the teaching level and quality of education. Therefore, it can play an important role on the development of informatization of education in colleges and universities by mastering information educational equipment status and development trend and promoting the study of basic theory and management evaluation system.

## 2. Theory of information educational equipment

Information educational equipment theory involves many aspects, including the definition, classification, protection, construction, management of information educational equipment and so on. This paper introduces its main contents from the following two aspects.

### 2.1 Performance theory

Performance theory can be used to study the relationship between the performance technology and information management of educational equipment, take the performance technology into the e-education equipment management, strengthen education informatization equipment service personnel management based on the performance appraisal theory, systematically analyze the content of work and responsibilities of e-education equipment management, put forward the evaluation system in order to improve the working performance of e-education equipment management personnel and the scientific management level of information technology education equipment, and fundamentally improve the use efficiency of the e-education equipment.

### 2.2 Life cycle cost theory

According to the specific conditions in each stage of the whole life cycle of the educational equipment, the life cycle cost principles and concepts of information educational equipment management system are detailed, the related issues of the educational equipment reliability management are discussed, and some constructive suggestions and practical basis for allocation and management of educational equipment investment are put forward in order to improve educational equipment input-output ratio of educational equipment and achieve input and output benefit maximization of educational equipment, and the system life cycle cost management has important

practical significance.

### **3. Construction of information education equipment**

In order to further improve the information public support environment of educational equipment and accelerate the informatization process of educational equipment, we must take measures to vigorously promote the construction of information education equipment. Firstly, the education information infrastructure must be improved and the deployment of education information network should be covered at all levels including the construction of wireless network and related technical service system so that the information technology equipment can be normally and orderly used in the the education activities.

#### **3.1 Establish public service platform of educational equipment**

First of all, the educational equipment public service platform should be established using information technology and innovation educational management public service mode and relying on the basic educational equipment database in order to provide the equipment-related task for the department of educational equipment. In addition, the quality and efficiency evaluation system of the e-education equipment should be established and promoted in order to effectively monitor the efficiency of e-education equipment.

#### **3.2 Establish information resource database of education equipment**

Through the collection of all types of teaching equipment at all levels of schools and its use conditions, equipment types, manufacturers, electronic books equipment, teaching equipment, use effect evaluation, information network construction and so on, the construction of national basic educational equipment database is carried out to achieve effective supervision and management of education informationization quality, experiment teaching status. By improving the network information security and operation and maintenance system and strengthening the construction of the database and management information system at all levels, the organic convergence of equipment information system at all levels can be achieved.

#### **3.3 Strengthen the construction of information equipment standards**

In order to realize the integration of national and local education equipment service platform, the unified technical standards, evaluation criteria and classification standards should be established. By exploring the establishment of educational equipment standard implementing benefit evaluation system, the practicality and effectiveness of the standards can be strengthened. The standard implementation benefit evaluation is carried out, and the evaluation results will be introduced for a revision of the standard work. It can promote the conduction of standardization work and greatly improve the standardization construction quality and level of the basic education.

#### **3.4 Improve the digital level of experimental teaching using information technology**

The virtual laboratory is introduced into the teaching science and the traditional experimental teaching is reformed, which will alleviate the lack problem of the laboratory and related teaching equipment and strengthen intuitive understanding of students. It can improve the maneuvering capability of e-education equipment, enrich the teaching way, and greatly enhanced the level of digital experimental teaching so as to ensure the experimental teaching effect.

### **4. Evaluation of information education equipment**

#### **4.1 Assessment content**

1) Teaching evaluation. The core content of information educational equipment evaluation is the goal of teaching quality, because the main purpose of the information education equipment construction is to improve the teaching conditions and further improve the quality of teaching. The teaching effectiveness of e-education equipment is surveyed and analyzed through the examination of E-education equipment usage and questionnaire analysis. According to the reality of e-education equipment teaching, the professional and professional title structure of information educational equipment guiding teachers are analyzed, and according to the different education training program, the integrity and update degree of e-education equipment using outline and guide books and

e-education equipment course hours are assessed.

2) Target assessment. According to the goal and task of educational equipment project, the functions of e-education equipment are analyzed and the realization degree is established, and the practicality of educational equipment and the layout design and construction scheme of educational equipment are checked. Whether the e-education equipment can meet the teaching needs can be analyzed and the fairness and reasonableness of procurement tender can be determined, and the use of funds for construction of informatization of educational equipment project is evaluated based on the principle of cost saving.

3) Sustainable development assessment. E-education equipment construction is dynamic and it cannot be simply characterized as a process from e-education equipment purchase to the open experimental teaching, the e-education equipment construction needs to be constantly strengthened in the later teaching practice adhere to the principle of sustainable development. Firstly, the promoting role of discipline construction on e-education equipment technological progress is analyzed, the condition of e-education equipment application development is understood, and the e-education equipment teaching reform scheme and implementation effect are assessed. At the same time, the new information educational equipment should be used with the original equipment in order to achieve the advantages allocation of education resources, and the e-education equipment operation and maintenance funds are regularly checked.

4) Daily management assessment. The management of information education equipment procurement, use and maintenance should be strengthened in order to fully play the role of information technology education equipment, and the key is to establish and improve the information equipment system and operational mechanism. Firstly, the full-time management personnel should be equipped, the e-education equipment management system is scientifically developed, the information equipment operation rules are strictly made, the e-education equipment ledger materials are systematically and completely recorded, the problem of equipment information repeat purchase, individual management compartmentalization and equipment resource can be put an end in order to improve the use efficiency of e-education equipment from the source.

#### 4.2 Evaluation index system

The establishment of evaluation index system is an important link of assessing the effectiveness of information education equipment, and it is conducive for improving the level of the use and management of information technology education equipment. the hierarchy process and logical framework analysis method can be used in the process of establishing the evaluation index system of information education equipment. The evaluation index system of information technology education equipment can be shown in table 1. A total of 10 indicators are established in the evaluation index system of information educational equipment. If the score of information education equipment evaluation is 90 or more, it is outstanding, if the score is 80~90, it is good, if the score is 70~79, it is the medium, if the score is 60~69, it is qualified, and if the score is less than 60, it is unqualified.

Ordinal	Assessment index	Deserved score	Assessment score
1	Mission-capable rate of equipment	12	
2	Usage rate of equipment	12	
3	Function realization rate of equipment	12	
4	Utility time of equipment	12	
5	Fund utilization rate of equipment	10	
6	Level of equipment management	8	
7	Operating instructions of equipment	8	
8	Level of equipment funds guarantee	8	
9	Level of resource allocation	8	
10	Teaching quality of equipment	10	

## 5. Conclusion

Information educational equipment is the key means to implement information technology teaching and it is an important measure for improving the level of modern education. The infrastructure construction of information education equipment needs to be strengthened in order to improve the level of information technology education equipment management. The establishment of the scientific evaluation index system and the effective assessment of the information technology education equipment with scientific evaluation methods can provide reference for the optimization of information technology education equipment construction.

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