

## **Tpack Theory and the Connection of Smart Campus--A Study of the Construction of English Training Room**

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**Keywords:** Tpack Theory; Smart Campus; English Training Room

**Abstract:** The tpack theory refers to the subject teaching knowledge of integrated technology. Based on this theory, English teaching is of great significance to strengthen teachers' ability to master and apply information technology. This paper briefly introduces the tpack theory, and takes the construction of the English training room as an example to illustrate the effective connection between the tpack theory and the smart campus, in order to promote the further development of the smart campus construction and provide strong support for improving the tpack ability of English teachers.

### **1. Introduction**

Smart Campus emphasizes the wisdom of education, management, technology and service. With the continuous improvement of the level of science and technology development and the continuous optimization and innovation of educational concepts, if schools want to effectively improve the quality of teaching, they must pay more attention to the application value of tpack theory. .By combining the core elements of the theory, the composite elements and the needs of smart campus construction, it lays the foundation for enhancing the teacher's tpack ability and forming a new teaching system.

### **2. Tpack Theory Overview**

#### **2.1 meaning**

The tpack theory refers to the subject teaching knowledge of integrated technology, which is mainly composed of three core elements and four composite elements. Among them, the three core elements refer to subject content knowledge (ck), technical knowledge (tk), and pedagogy knowledge (pk). The four composite elements include subject teaching content (pck), integrated technology subject content (tck), Integrated technology teaching method (tpk), integrated technology subject teaching (tpack).

#### **2.2 Features**

First, the tpack theory requires teachers in higher vocational colleges to fully grasp the new knowledge of the discipline, actively participate in the teaching reform, innovate the classroom teaching mode and mode, and play its own guiding and supervisory role, in order to improve the quality of classroom teaching. Provide strong support. Second, the three core elements and four composite elements proposed by tpack theory are not simply added together, but require teachers to integrate them with specific disciplines. For example, in the process of English teaching, teachers combine theory with technology and implement them. Informatization teaching concept and the use of relevant technical advantages to improve the quality of classroom teaching. Third, the tpack theory is a new knowledge system formed after the integration of three knowledge elements (three core elements). The factors and conditions involved are relatively large, and these factors and conditions can also interact, mainly to solve Using information technology to integrate the inferior problems in the process of subject teaching, if teachers want to implement the tpack theory in the teaching process, they need to use the flexible knowledge as the basis, through the three aspects of

subject content knowledge, technical knowledge, and pedagogy knowledge. The system performs cross-analysis to ensure the scientific, rational and efficient teaching plan[1].

### **3. The Way Tpack Theory and Smart Campus Realize Effective Connection**

#### **3.1 Building a virtual platform**

The English training room of higher vocational colleges under the background of smart campus has a relatively powerful online teaching platform. Students can use this virtual platform to realize online learning and intelligent recording, which is conducive to breaking the shackles of traditional classroom teaching and further improving teaching. Efficiency and quality have a positive impact on stimulating students' enthusiasm for learning. In the process of urging the tpack theory and the smart campus, the higher vocational colleges can learn from the experience of the English training room and build a virtual platform based on the tpack theory. The specific operation principle of the platform is to use the computer to set up a virtual three-dimensional scene. Simultaneous shooting of live characters is carried out by using a camera. By taking advantage of the application of digital compositing technology to achieve synchronous changes in virtual background and character movements, it is beneficial for teachers and students to have an immersive and intuitive experience. The effective function of tpack virtual platform requires the support of smart campus related systems and equipment. Only by combining the two can we meet the needs of teachers and students to log in, learn and communicate anywhere in the campus.

#### **3.2 Strengthen teacher training**

The traditional teacher ability training mode pays too much attention to theoretical knowledge counseling, ignoring the cultivation of practical ability, which leads to the problem of teachers' disengagement between theory and practice when carrying out teaching activities. The specific performance is that teachers still use inculcation teaching method, teaching content and technology. Knowledge matching is not high. For example, many English teachers in higher vocational colleges have a wealth of theoretical knowledge, but their training ability is weak, and they lack sensitivity to certain technical knowledge, making the training teaching atmosphere too rigid and boring, reducing students' Learning interest and enthusiasm, difficult to understand and master relevant technical knowledge. If you want to improve the "separation" phenomenon of technical knowledge teaching and subject content knowledge teaching, higher vocational colleges should take the tpack theory as the entry point, increase the training intensity for teachers' tpack ability, and adjust based on the actual teaching needs and teachers' ability level. The training program has important practical significance for enhancing teachers' practical ability and professional quality[2].

##### **3.2.1 Based on teacher competency level training**

Higher vocational colleges should pay more attention to the problems of the single form and the content repetition of the teacher's practical teaching ability training. In order to improve this problem, the teaching can be divided into different levels according to the ability. Based on this, combined with the characteristics and practice of the subject. Teaching needs develop targeted and hierarchical training programs. The ability training based on the teacher's ability level can not only achieve good training results, but also effectively solve the problem of teachers' low practical ability, which is conducive to laying the foundation for enhancing the teacher's tpack ability.

##### **3.2.2 Focus on the practicality of the training content**

Tpack ability training should not only be limited to subject content knowledge, pedagogical knowledge and technical knowledge, but also pay attention to the practicality of training content. Only by ensuring that the training content accepted by teachers is consistent with the actual teaching needs can the teacher's integrated technical subject teaching be strengthened. ability. Therefore, when planning training content, teachers should be provided with specific examples of teaching design. For example, for the training of English teachers in vocational colleges, colleges should consider teachers' abilities and potentials, English training and teaching status, information

technology. Factors such as development and application level, so that the practical value of training can be fully utilized.

### **3.2.3 Scientific planning training time**

For English majors in higher vocational colleges, teachers have relatively heavy teaching tasks, and teachers have to take into account family and life. Therefore, there is less time for discretion, although teachers themselves want to participate in training, because of the unreasonable influence of time planning. training results. In this regard, when planning training time, higher vocational colleges should take into account the contradiction between teachers' work and life, take short-term training on the unified curriculum, and personalize the curriculum as much as possible to match the teacher's work schedule, which is beneficial to alleviate the work of teachers. Stress and living burden, to a certain extent, also provide strong support for improving the training effect.

### **3.2.4 Set up a tpack learning community**

Tpack theory is an emerging theory, which involves three kinds of knowledge systems: subject content knowledge, technical knowledge, and pedagogy knowledge. In particular, technical knowledge is closely related to the development of modern information technology, which brings great value to teachers in learning this theory and strengthening tpack ability. challenge. In this regard, higher vocational colleges can improve the situation by adopting the component tpack learning community. For example, English training teachers reduce the difficulty of tpack theory learning by mutual discussion, mutual evaluation, and joint teaching and research, which not only improves the overall English reality. The tpack level of the teachers of the training and research group also explored a new way of teaching English.

## **3.3 Optimize the allocation and evaluation methods of teaching resources**

Technical knowledge plays an important role in the tpack theory. If a vocational college wants to truly connect the tpack theory with the smart campus, it must provide strong support for teachers to enhance the tpack ability. For example, when constructing an English training room, higher vocational colleges optimized the existing teaching resource allocation, increased capital investment in software and hardware equipment, and matched multimedia equipment, electronic whiteboard, and language lab for the development of English training courses. , wireless networks and professional teaching systems, these advanced equipment have improved the traditional teaching conditions, and laid a solid foundation for improving the quality of teaching and ensuring the ability of teachers to tpack[3].

When the higher vocational teachers have the tpack ability, they can use the subject content knowledge system, the technical knowledge system, and the teaching method knowledge system to evaluate and evaluate the students' learning effects, and detect whether the students really grasp the difficult points of classroom teaching. In the face of the new educational concept put forward by modern society, teachers should innovate traditional evaluation methods. For example, students can use the online network to learn anytime, anywhere or with teachers and classmates. To communicate on certain issues, teachers can use the real-time interactive function of the online platform to provide students with targeted guidance. The online performance of the students is scored by the computer. The teacher uses the score as a reference to give the students a relatively objective and comprehensive experience. evaluation of. This combination of tpack theory and smart campus can effectively improve the traditional subjective phenomenon.

## **4. Conclusion**

In summary, tpack is a must for modern teachers to improve the quality of teaching, and has a positive impact on ensuring the rationality of the matching of teaching links with student needs. Higher vocational colleges have obvious intelligent characteristics. In order to ensure the effective connection between tpack theory and smart campus, colleges can learn from the experience of the construction of English training rooms, build virtual platforms with advanced technology, and

increase teachers through the establishment of tpack learning community. Ability training, optimize the allocation of teaching resources and evaluation methods, and effectively improve teaching defects and deficiencies.

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