The Development of Ability-Oriented Fragment Integration Curriculum System Connecting Secondary and Higher Vocational Education: a Case Study of the Tourism Specialty

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Abstract: In the Period Connecting Secondary and Higher Vocational Education, the Development of Curriculum System is the Core Content of Talent Training. the Traditional Curriculum System on the Connecting Period Has Some Problems, Such as Not Matching, Difficult to Connect and Not Adapting to the Development of Industrial Economy. the Fragment Integration Curriculum System Based on Vocational Ability Can Not Only Solve the Problems of Difficult Connection, Repeated Content and Wasting Recourse in the Connection between Secondary and Higher Vocational Education, But Also Alleviate Secondary Vocational students’ Weariness of Learning in Different Degrees.

1. Introduction
In recent years, with the transformation and upgrading of tourism industry and the structural change of the supply side, the life-long ability education has become the core task of talent training in tourism vocational education. The traditional secondary vocational education can’t satisfy students’ requirements for further study and life-long career ability transferring. Taking the Zhejiang Province as an example, by 2015, the proportion of secondary vocational students who enter higher vocational schools accounted for about 30%; in 2017, nearly 40% students went to higher vocational schools. This phenomenon shows that the connection between secondary and higher vocational education has become an important channel to train highly skilled vocational talents. In December 2015, the Ministry of Education pointed out in the Guiding Opinions on Promoting the Construction of Linking Curriculum System between Secondary and Higher Vocational Education that “the construction of the linking curriculum system between secondary and higher vocational education is a basic project for the construction of modern vocational education system, and an important task for the coordinated development of secondary and higher vocational education. Curriculum is the core element of talent training. To promote the connection of vocational education curriculum is the fundamental guarantee for the coordinated development of vocational education.”

2. The Construction and Existing Problems of the Traditional Curriculum System Connecting Secondary and Higher Vocational Education in China

2.1 The Existing Curriculum System Is Basically Out Of Line With The Actual Development Of Industrial Economy, And Is Not Suitable For The Needs Of Connecting Secondary And Higher Level Talent Training
In China, the traditional curriculum system for secondary and higher vocational education connection is basically out of line with the needs of transforming the industrial economic development mode, adjusting the industrial structure and constructing the life-long education system. Taking the tourism management major as an example, due to the traditional education system and the establishment of discipline system in China, the curriculum system of tourism major...
in secondary and higher vocational education are relatively closed and basically independent from the orientation of talent training; the development of curriculum system does not match the economic development of tourism industry. The teaching contents of the two-stage curriculum system are repeated; the learning objectives emphasize the job service skills and the skill curriculum module, but ignore the lifelong education function of the quality-oriented curriculum.

2.2 The Curriculum Systems in the Two Stages Are Not Systematic and Basically Not Connected.

In February 2009, the Ministry of Education stated in the *Opinions on Teaching Plan Making Principles for Secondary Vocational Schools* that the goal of talent training in secondary vocational schools is to cultivate high-quality workers and skilled talents. The orientation of higher vocational talent training is to cultivate high skilled talents who are “competent and willing to do grass-roots jobs”; they should have strong practical ability and good professional ethics. The orientation is in line with the general goal of cultivating first-line application and high-tech skill talents for production, construction, management and service fields, but different from the objectives, positioning and guiding ideology of secondary vocational schools. In theory, the curriculum system should provide courses with obvious differences for students of diversified levels. However, in the actual process of connecting the secondary and higher vocational education, the curriculum systems of the two stages are not systematic or connected; rigorous scientific definitions are also missing. There are obvious problems of repeated construction and wasting resource in the aspects of curriculum content setting, practical teaching system, as well as resource construction and utilization.

2.3 Differences in the Traditional Two-Stage Specialty Setting Result in the Difficulty of Matching Curriculum System

There are problems in the accuracy, scientific nature and rationality of the curriculum system from content setting to ability training connection.

The traditional vocational education does not have very strict definitions on disciplines. In the high and secondary-level professional education, the settings are basically not matched and there are no strict matching standards; the corresponding curriculum systems are not well coordinated. In particular, there are no differences in the two-stage education from the course content setting to the connection of vocational ability training. The level of course linking is not clear; the modules connecting post abilities and knowledge skills are not accurate and precise enough. The existing system can not meet the needs of vocational talent training, and has negative impacts on secondary vocational students who are ready to enter higher vocational colleges.

3. Researches on the Development of Ability-Oriented Fragment Integration Curriculum System Which Connects Secondary and Higher Vocational Education

3.1 Current Situations on the Development of Ability-Oriented Curriculum System At Home and Abroad

The professional ability mainly includes three basic elements. First is the ability that must be possessed in order to be competent for a specific occupation, which is manifested as the qualification; second is the professional quality that must be possessed after entering the workplace; third is the professional career management ability that must be possessed after starting the career. The development of ability-based curriculum system of secondary and higher vocational education began in the United States after World War II, and was widely recognized by western developed countries. CBE in Canada, dualistic system in Germany and TAFE curriculum model in Australia all develop the curriculum system around vocational ability training, and realize the connection between secondary vocational education and higher vocational education by the spiralling education system or the curriculum ladder. Their common feature is that they are no longer a single process of transferring knowledge and skills, but focusing on training comprehensive professional abilities.
Among them, Canada community colleges emphasize the matching of curriculum system and the close connection with industry. The curriculum system is developed based on the demand of industry on professional ability; great importance is attached to the micro modularization of ability training in the curriculum content, that is, the integration of fragments in the curriculum system. In recent years, MOCC and micro courses, which took the lead in the United States, are actually belong to the fragment integration curriculum system.

Domestic scholars have also made useful explorations in the construction of the curriculum system which links secondary and higher vocational education. Weihong Xu analyzed the common problems in the connection of secondary and higher vocational education, and put forward some targeted solutions and strategies. Jiahuan Zhang put forward the idea of integrating the structure of secondary and higher vocational courses, which is the preliminary result of exploring the courses linking secondary and higher vocation education in China. The systematic development and construction of the curriculum system in secondary and higher vocational colleges are still in infancy. Basically speaking, no stable and authoritative research results have been made in aspects of curriculum objectives, contents, implementation, evaluation and setting.

3.2 Researches on the Fragmented Curriculum System

The fragmented curriculum system is established based on the fragmented teaching process, which is very popular in vocational schools of Britain, Germany, Australia and other developed countries. In fragmented teaching system, the teaching contents are designed according to indexes of vocational abilities which should be cultivated for middle and higher vocational talents. The course itself and teaching contents are designed according to knowledge and skills or time nodes, forming a relatively independent but closely related system that can be dynamically combined or deconstructed, and forming a course of knowledge and skill fragments or fragment integration which are independent or aggregated. The dynamic combination of corresponding knowledge and skill fragments or fragment integration with clear curriculum hierarchy is the fragment integration curriculum model. Fragment integration curriculum mode connecting secondary and higher vocational education is established based on cultivating talents’ vocational abilities. It runs through the whole curriculum system and forms various sub-ability systems corresponding to different fragments and fragment integration of the curriculum system. The curriculum system is “fragmented in the form but unified in the core”. The system connects upper and lower parts; the contents are closely connected and can be transferred. It is a dynamic curriculum mode with supporting system as well as reasonable allocation in theory learning and practice links. This curriculum mode not only meets the needs of talent training in secondary and higher vocational schools, but also enables students who are directly employed after the secondary vocational education to master vocational skills they need in future career development, and to seek a decent life in the society.

4. Taking Tourism Management As An Example To Analyze The Development Of Ability-Oriented Fragment Integration Curriculum System Which Connects Secondary And Higher Vocational Education

The tourism management major is taken as the example. The steps of constructing the integrated curriculum system based abilities are as follows. First, the talent training targets of the two different stages of secondary and higher vocational education are determined to establish the corresponding ability system (Figure 1). Then, according to the different training objectives and characteristics of students in the two stages, the traditional secondary vocational and higher vocational tourism curriculum system are divided into four modules: general literacy curriculum as the basis, professional basic curriculum as the support, professional skills curriculum as the core, and quality development curriculum as the supplement. Afterwards, according to the index system of various vocational abilities, all corresponding course modules are divided and deconstructed, so that the whole course system can form knowledge and skill fragments and fragments integration (fragment groups) corresponding to the requirement of ability cultivation, and realize the dynamic
combination of fragments or fragment groups in the two-stage curriculum system (Figure 2).

The biggest feature of the curriculum system is to overcome the shortcomings of the traditional curriculum system linking secondary and higher vocational education, such as the missing of main line, no positioning, the indistinct and fuzzy system and unclear level definitions. It fragments and specifies the professional knowledge and skills in different training stages corresponding to abilities required by the post, and forms the independent and close connected curriculum knowledge which can be dynamically grouped according to the requirements of professional ability training. The integration of progressive knowledge and ability fragments makes the whole curriculum system of tourism vocational education integrated and well connected.
5. The Development and Practice of Fragment Integration Curriculum System Which Connects Secondary and Higher Vocational Education on Tourism Specialty: A Case Study of the Tour Guide Service Major

The major of tour guide service is opened in secondary and higher vocational schools. According to the needs of the major, the talents must have following professional abilities. The first is general abilities, corresponding to the general literacy course module; main courses include College Chinese (Chinese), Practical Writing, Basic English and Computer Application. The second is basic professional abilities, corresponding to professional basic course module; main courses include Introduction to Tourism, Chinese History and Culture, Chinese Tourism Geography, Basic Knowledge of Tour Guides, as well as Chinese Language and Literature. The third is the core occupation ability module, which corresponds to the professional skills course module. The main courses are Tour Guide Language and Application Skills (Mandarin), Tour Guide Practice, Tour Guide Interpretation, as well as Tourism Reception, Planning and Scheduling. The fourth is the professional migration ability, which mainly corresponds to the quality development course and includes Chinese and Foreign Food Culture, Chinese and Foreign Folk Customs, Chinese Music and Dance, Chinese Tea Art and Flower Arrangement and so on. Specific contents are shown in Table 1.

Table 1 Connecting Courses Corresponding to Vocational Abilities Required by Tour Guide Service Positions

<table>
<thead>
<tr>
<th>Name</th>
<th>Competency module</th>
<th>Specific Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curriculum system module corresponding to professional ability of tour guide service post</td>
<td>General ability module</td>
<td>Tour Guide Chinese, Practical Writing, Basic English, Current Affairs and Politics, Computer Application, Physical Education (Physical Training), etc.</td>
</tr>
<tr>
<td>Basic professional ability module</td>
<td></td>
<td>Introduction to Tourism, Chinese History and Culture, Chinese Economic and Geography, Basic Knowledge of Tour Guide (Tourism Resource Science), Foundation of Financial Management, Tourism English, etc.</td>
</tr>
<tr>
<td>Core occupation ability module</td>
<td></td>
<td>Tour Guide Language (Mandarin and Application Skills), Tour Guide Practice, Tour Guide Explanation, Tourism Product Marketing, Travel Agency Management, Tourism Route Development and Design, Tourism Reception and Planning, etc.</td>
</tr>
<tr>
<td>Professional ability transferring module</td>
<td></td>
<td>Chinese and Foreign Food Culture, Chinese and Foreign Folk Customs, Chinese Music and Dance, Chinese Tea Art and Flower Arrangement, Introduction to Hotel Management, Tourism English, etc.</td>
</tr>
</tbody>
</table>

In secondary and higher vocational education, the curriculum systems are separated and closed. In order to systematically solve the problem of the unconnected curriculum system for tour guide service specialty students in secondary and higher vocational schools, according to the talent training orientation and demands for tour guides, the secondary and higher level tour guide service curriculum systems are fully deconstructed and go through structural changes. A series of knowledge fragments and fragment groups corresponding to different levels of ability indexes are formed around the cultivation of professional abilities. Finally, according to the needs of curriculum teaching, a dynamic and orderly curriculum system is formed by combining fragment integration modules. The following table is a model of fragment integration courses linking secondary and higher vocational education; four courses of the tour guide service specialty are taken as examples. Specific contents are shown in Table 2.
Table 2 Models of Fragment Integration Curriculum System: Taking Introduction to Tourism, Tour Guide Chinese, Tour Guide Practice and Chinese Folk Music and Dance as Examples

<table>
<thead>
<tr>
<th>Fragment course corresponding to N level ability index</th>
<th>First level ability index</th>
<th>Comprehensive professional ability of tour guide</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Second level ability index</td>
<td>General abilities</td>
</tr>
<tr>
<td></td>
<td>Third level ability index</td>
<td>Ability 1: understand Chinese language</td>
</tr>
<tr>
<td></td>
<td>N level ability index</td>
<td>Ability N</td>
</tr>
</tbody>
</table>

Corresponding courses

<table>
<thead>
<tr>
<th>Tour Guide Chinese</th>
<th>Introduction to Tourism</th>
<th>Tour Guide Practice</th>
<th>Chinese Folk Music</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corresponding course fragments and fragment groups</td>
<td>Fragment group 1: introduction to Chinese; Sub-fragment 1: definition of Chinese; Sub-fragment 2: origin of Chinese … sub-fragment N</td>
<td>Fragment group 1: emergence and development of tourism; Sub-fragment 1: definition of tourism; Sub-fragment 2: emergence and development … sub-fragment N</td>
<td>Fragment group 1: tour guide and service; Sub-fragment 1: tour guide; Sub-fragment 2: tour guide service … sub-fragment N</td>
</tr>
<tr>
<td>Fragment group 2: classification of Chinese; Sub-fragment 1: the modern Han people; Sub-fragment 2: northern languages …</td>
<td>Fragment group 2: tourists; Sub-fragment 1: definition; Sub-fragment 2: formation and types …</td>
<td>Fragment group 2: regulation to tour guide service; Sub-fragment 1: regulation to the work of tour guide; Sub-fragment 2: customer service …</td>
<td>Fragment group 2: classification of folk music; Sub-fragment 1: classification Sub-fragment 2: schools …</td>
</tr>
<tr>
<td>Fragment group N</td>
<td>fragment group N</td>
<td>fragment group N</td>
<td>fragment group N</td>
</tr>
</tbody>
</table>

The four courses listed in the above table correspond to four kinds of professional abilities of tour guides. The four kinds of professional abilities are composed of N-level sub abilities. All levels of sub abilities correspond to different levels of curriculum fragments or fragment groups; the fragment group is composed of N-level fragments. The training of each ability may be completed by one group, several groups or multiple fragments; the four ability modules corresponding to the four fragments of curriculum knowledge and ability modules constitute the fragment integration curriculum system linking secondary and higher vocational education. In this way, the problems of curriculum incoherence, non matching and difficult integration in secondary and higher vocational education connection are solved. The repetition and waste of teaching contents are avoided to the greatest extent; the weariness of students from secondary to higher vocational schools is alleviated to varying degrees.

6. Conclusion

In the period connecting secondary and higher vocational education, the development of
curriculum system is the core content of talent training. The fragment integration curriculum system based on vocational ability can solve the problems of not matching and difficulties in connection. Implementing this curriculum system in the period of linking secondary and higher vocational education depends on ability training targets for professional talents in each stage. Teachers can select curriculum fragments and fragment groups corresponding to different levels of ability indexes in different training stages to support the talent training, and to combine the fragments and groups in an orderly and dynamic way in curriculum construction and the actual teaching process. The ability fragments and fragment groups of the curriculum system are not only relatively independent, but also deeply connected. They are “fragmented in the form but unified in essence”. The main line of the professional ability training runs through the whole curriculum system from secondary to higher vocational education, making it a unified system in which different parts closely connect with each other.

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