Research on Higher Tourism Vocational Education and Management Based on the Factor Analysis

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Abstract: The aim of this study is to explore the tourism management professional education reform from experiential learning perspective, focus on the tourism management education how to carry out experience learning concept, improve the overall quality of education, change the traditional education model and tourism management teaching practice experience learning thinking of macro policy and microcosmic operation. Based on the current situation of the domestic tourism education and management, we put forward the connotation of experiential learning, concept and characteristics. Taking the tourism management specialty of Changchun Vocational Institute of Technology reform as an example, we use the factor analysis method of mathematical model, in view of the difficulties of current domestic tourism education and management, improving and expanding the application range of experiential learning theory, from the angle of practice, strengthen the education for the industry to expand the demand to the talent, to promote the tourism management education and international development, from the tourism sustainable development angle optimization of tourism management and development strategy.

Keywords: Implementation strategy, the factor analysis, tourism education, tourism management

INTRODUCTION

With the rapid development of social economy, tourism began to flourish. The increasing of people's living standard, the demand of travel is increasing (Steven and Althof, 1979). According to the forecast, China will become the world's largest tourist source country and the fourth largest tourist destination country. People travel, to enjoy the exotic and also pay attention to the tourism service quality and product design, the perfect product design with high quality tourism services to become China's modern tourism industry by the pursuit of the goal, how to achieve this goal, must from the tourism industry's quality to grab, but because of the development of China's tourism industry is relatively slow, the corresponding educational development is very slow, the teaching content and the social demand is out of line, so in order to achieve this goal, must be opposite our country tourism education for further study, opened to tourism demand courses.

The high speed growth and rapid development of tourism, can’t be separated from the high-quality tourism professionals is puissant prop up (Burnard, 1988). On the tourism management education, although after 20 years of development, on a scale unprecedented expansion, but most colleges of tourism is still the continuation of traditional personnel training and teaching mode, to adapt to the new era of tourism management talents in the industry specialization and diversification of the demand (Jarvis, 1995). The objective needs of Tourism Colleges of teaching concept and mode to undertake new exploration and innovation (Nearing et al., 1990). Experiential learning rise and prevalence, for Tourism Management Major in higher vocational college teaching reform to provide a valuable reference for: all knowledge comes from practice, the experience of the process is the practice process, through the experience can train students' practical operating ability and creative thinking ability.

Based on the "experiential learning" in the teaching of tourism management value orientation, the objective of the study takes Jilin Province Higher Vocational Tourism Management Education Research as a starting point, from experiential learning perspective to explore the tourism management professional education reform, focus on the tourism management education how to carry out experience learning concept, improve the overall quality of education, change the traditional education model and tourism management teaching practice experience learning thinking of macro policy and microcosmic operation.

THE STATUS QUO OF TOURISM EDUCATION AND MANAGEMENT

Industry scale expanding leads to the demand of tourism talents: Reform and opening up 30 years, China's tourism industry from small to large, from the realization of the tourist resource country to a world tourism power is historic span. Figure 1 is shown the growth trend of China Tourism Industry. From the
China has become the world's fourth largest tourist reception country and has formed the world's largest domestic tourism market. At the same time, China's tourism industry scale expanding. According to the World Tourism Organization forecast, to 2020, China will become the world's largest tourist reception country and the fourth largest source of outbound tourists in China. At that time, China is expected to entry overnight travel up to 100 million, the number of domestic tourists can become the world's largest tourist reception country and has formed the world's largest domestic tourism market. As Fig. 1 shows, the entry overnight travel from 575.9 million person-time grows to 1300 million person-time, inbound tourism revenue grew from $1207 million to $4084 million; the number of domestic tourists from 6440 million person-time grows to 17120 million person-time, the domestic tourism revenue increased from 2113 billion to 8749 billion.

China tourism make a spurt of progress, be badly in need of a number of high-quality professionals as the support, to understand the business management of the senior management personnel is in short supply. However, although the tourism education and training a large number of undergraduate and graduated but remain in the industry employment however amount to 3000 million.

China tourism is not much (Morgan, 1994; Yong-Hui et al., 2011). Either development of an enterprise or personal occupation career, needs to have its own core competitiveness, tourism management graduates can work, other graduates can be engaged in tourism and students are difficult to clear advantage to compete in other professional fields corresponding to work. Thus forming a unidirectional alternative situation, that is to say, in the increasingly fierce competition for jobs in the tourism industry, the Department position is often the other students to occupy, but in turn tourism students lack the ability to replace other professional positions. As Fig. 2 shows, defect of higher tourism education in China.

**Talents cultivation and market demand:** The rapid growth of the tourism, coexists with the tourism colleges and universities employment pressure. Of course, the main reason is not the lack of jobs, but no suitable position. That is to say the demand for jobs, but obtain the invalid employment demand. The cause of this situation lies in the colleges of tourism talents cultivation and market demand seriously out of line (Rose et al., 1983). Like bamboo shoots after a spring rain all over the rise of tourism education, tourism, construction and not in the reasonable planning and careful feasibility study foundation, with survival, change, conformity, so not only is excessive, imbalance, but also in the hierarchical structure is not reasonable (Jarvis et al., 1998). This is not consistent with the principles of development of education economy of scale, resulting in the waste of educational resources and educational investment benefit is low, on the other hand, also makes the tourism specialty in comprehensive universities in position is not improved, especially in the specialty of tourism areas to be concerned to support and actively.

Tourism education for professional training target recognition is still unclear. Tourism as a practical, comprehensive and strong, open strong industry, tourism education should be closely combined with the practice of tourism industry, although there is no lack of theory, but these theories for other professional, often just common sense, or ripe theory (Jarvis, 1987) Once again, from the construction of teachers, as experts said, China's tourism teachers construction and teaching material construction obtained certain result, but still is to restrict the main factor of tourism education quality promotion, investigation data shows, the domestic tourism management professional teachers have the experience of studying abroad proportion is 10%. Thus, to improve teachers' comprehensive quality is the very key issue.

Links to practice is weak, social adaptability. This mainly displays: first, education and industry out of touch, did not form good occupation consciousness. Higher tourism education of higher occupation
technique education nature, culture should be the combination of theory and practice of application type, composite type talents, so the students after graduation in the occupation characteristics can’t be ignored. Although the main body of running a school has shown a trend of diversification, but the reform pace is not, cooperation between colleges and enterprises, combination, such as insufficient International Federation of schools.

Currently there is a lack of effective evaluation system (Freeman and Stumpf, 1980; Tokdemir, 2007; Poulava, 2012; Musa and Armess, 2010). The construction of practice base is capital, technology, rules and other factors. Finally, in the curriculum can’t meet the needs of. Foreign tourism college curriculum mostly highlights the application characteristic in the teaching content, also highlighting the practicality; our curriculum is a strong theoretical discipline system, pay attention to, ignored the operation, lack of practical application content.

High-quality talents cultivation of tourism management: The tourism industry has become in our country national economy to develop one of trades with the rapidest rate. At present, China to comprehensively promote the transformation and upgrading of the tourism industry, accelerate the construction of the core in the world tourism power, tourism talents, the key in tourism education. China's tourism industry 30 years of rapid development, the tourism education presents numerous challenges. Therefore, the reflection of China's tourism education development problems behind, looking to improve China's tourism education path and strategy, cultivate a high-quality personnel of tourism management, the future of China Tourism Education and tourism development is of great significance.

It is full of opportunities and challenges of the century, the people of quality put forward higher requirements. Improving people's quality is the key to an effective learning mode. Experiential learning is a kind of effective way of learning. Experiential learning experience connotation is: is a kind of activity, also the activity results. Experiential learning is a learner-centered, through practice and reflection to obtain the knowledge, skills and attitudes of learning style.

EXPERIENTIAL LEARNING

The connotation and characteristics: Experiential Learning, public opinions are divergent. Domestic and foreign scholars, some scholars learning experience will look as the study results, some scholars believe that the experiential learning is a kind of study way, some scholars also believe that experiential learning is a kind of teaching method, it with some activity in participants, this activity allowed them to rethink their approach to solving problems and peer interaction and mutual exchange, while engaged in an activity. Experiential learning process from the specific activities, in order to provide learners on certain things direct learning experience, as well as a theme in the activities of a situation and then through the reflecting-what, then to generalization and abstraction, finally transfer-now what, This process is a continuous cycle development. Experience is the core of transfer of experiential learning, learning process, learning through role, learning behavior with reflection feedback to achieve:

- learning process by the understanding of meaning of the activity, the obtained theoretical knowledge and practical experience, the integration of physical and mental reaction, dedication and influence others to engage in active learning activities.
- Learning by observation and imitation, looking for opportunities to participate, practice and activities involved in the design and then, as the supervision and management, so that to formulate a strategy activities.
- Learning behavior by reading and field visits, the class and discussed in the study, in his selected works, in cooperative learning in teaching others, then development plan and as the manager and decision-making.
- Reflection on feedback for activities, groups and their performance for reflection, to understand meaning of the activity, the interpersonal relationship development, experience their own value and know how to use the activities of the society, how to build relationships and use their ability to other living area.
Therefore, we say that experiential learning is a learner-centered, the people from their own experience in the learning results as the best way of learning, learners in conscious thinking based on experience to develop knowledge, skills and attitudes of learners, is the embodiment of value of inner and the glow of its vitality and development process. It includes not only the specific observation and reflection, summed together, direct positive personal experience, actually contain from real situation and action practice learning means, includes not only the results of learning, but also contains the learning process. Experiential learning emphasizes individual experience of learning the meaning, not simply advocate doing (practice) the acquisition of new knowledge and new skills, but also pay attention to the experience summary and reflection, emphasizes the skills of knowledge in the process not only can know to action, but also from the profound reflection gain experience ascend, learners through the reflection and experience the process of obtaining growth development, so, we can learning experience will look as the combination of "learning by doing " and " thinking of middle school ".

**Basic theory:** Dewey is the most famous thought and educator in twentieth century, his consistent advocate was an educational experience has the concept of growth. Dewey's experience learning theory points:

- Emphasize the importance of learning in the experience. Dewey points out, education experiences constantly restructuring process, "education is to experience", "because of the experience" and "to experience", believe that all education comes from experience.
- Emphasis on children's learning. Children are not just passively adapt to the environment, more active role for the environment, Dewey advocated "by the children's experience as the center" against traditional education " teachers ", he pointed out, the children like the sun and all educational measures is around them to rotate, children are the center, education measures around them organized.
- Emphasize the experience of educational value. Dewey points out, not all experience is real or the same educational nature, experience has educational value judgment standard for the experience of the principle of continuity and interaction principle. Experience of the continuity principle, Dewey emphasizes that education is a "good growth towards" process, while the interactive principle is, learners in a series of situations and all kinds of things and others are caused by the interaction between the "organic union departments ".
- emphasized the " reflection" in the experiential learning process importance, in the activity of " trial and error " and " consequences " is the essence of learning experience, but if repeatedly " mistake to try ", also repeatedly assumed the unpleasant consequences, not try to draw lessons from mistakes, then have completely lost the true meaning of experience, experience with the educational experience, is formed in the process of, people will use reflection to reform or restructuring experience. Experiential learning cycle theory model is shown in Fig. 3.

Cobb thinks that learning is the experience of conversion, the process of knowledge creation. This dynamic process of knowledge creation is the personal interaction with the environment, conflict and problem solving results. That is, the process of knowledge creation is governed by specific experience, reflective observation, concept formation and reasoning and in the new situation test concept. Inquiry, creativity, decision making, problem solving and learning is the important basic concepts. Cobb put forward four stage cyclic models, also known as Experiential Learning Circle. Cobb believed that experiential learning can be portrayed as a four phase of the cycle, divided into two dimensions and four kinds of model. First phase, Concrete Experience learners into the concrete
Fig. 4: The learning process model

situation of the concrete practice -- observation and reflection. The second stage, the Observation and Reflection, found a number of follow-up learning useful information and resources. The third phase, Formation of Abstract Concept and Generalizations. The fourth phase, Testing Implications of Concept in New Situation, the study guide offers a variety of new or similar situation.

The UK adult educator, Jarvis (1987) made learning theory in adult life, is situated, or experience point of view to explain the adult learning: the learning process model. In this model (Fig. 4), the individual (1) into a social context (2) will have some kind of experience (3), but ignore the presence or the experience for granted and get out of this situation (4) may also have experience (3) to the memory (6) reached a change (9) with or without change (4) circumstances to get out of this situation; also can be used for higher forms of learning, namely the experience for reasoning and thinking (7) practice experiment (5), evaluation (8), to the memory (6) and (9) led to a change.

EXAMPLE

Overview of Jilin tourism education management: In recent years, especially in the revitalization of northeast old industrial base of Jilin province since the implementation of the strategy, the tourism industry has been rapid development. After years of development and construction, the province has completed more than 300 scenic spots, the initial formation of ecological tourism, ice experience, hot spring resort, historical sites, border scenery, folk customs, agriculture, tourism and other characteristics of products. Built in Jilin North Lake, Changchun Jing Yuetan of Changchun National Lotus Hill and 28 ski fields. The province's tourism service enterprises to the total number of more than 1000, tourism directly employed 13.5 million people, basically forming a "line, travel, food, shopping and entertainment live, “six elements of a comprehensive pattern of coordinated development. At present, Jilin province is the integration of the advantages of tourism resources and products, around "Jilin eight" focused on the introduction of the international, domestic 10 tourism products line, planning program of tourism projects, the planning and construction of 10 Tourism Holiday Zone, key support in the province built 100 tourism project, province, City, county three second reserve project of 1000 capital attraction. Jilin province tourism industry development present situation and the development planning, strengthen professional settings, the necessity and the feasibility.

In recent years, along with the Jilin province economy high speed development, the tourism industry to accelerate the pace of development, as of the end of 2008, Jilin province has 488 travel agencies, scenic spots 97 grade or above, more than 10 four star above hotel. Along with tourism has gradually become the pillar industry of Jilin province in order to achieve this goal, the annual increase of tourism directly employed 17000 people, relying on the Jilin province 22 Tourism Institutions of similar professional every year more than 7000 graduates and can’t meet the growing tourist industry on talent quality and quantity demand. Through to the Jilin province 19 travel services, 7 hotels, 3 scenic spots in the market survey, tourism enterprises specialized education level is the company line and the grass -roots management of the main army, the level of personnel of enterprise 59%, coupled with the industry talent instability, industry the rapid expansion of the scale of the students majoring in tourism management facing a huge industry talent market, talent demand presents good development state.

In 2009 August, the National Tourism Administration to Jilin national tourism practitioners basic survey, the survey work in Jilin province is the first ever understand the talent resource current
situation, master the tourism human resources of first hand data, forming the objective scientific analysis report. This study constructed a province-wide Statistics human resources platform, the initial formation of the construction of "Jilin tourism talent pool" data base, established a rich experience of tourism personnel survey team, for the further investigation of statistic work laid the foundation for talent.

Comprehensive statistical analysis of the data shows, the tour to Jilin province talent scale and development is still in the early stage and the whole industry development demand also has the very big disparity and deficiency. The main performance: one is tourism employees in the overall quality and level of on the low side. As the tourism industry doorsill is low, with a secondary, tertiary education staff can enter directly, even become a business management, industry most staff are from other industries change over, integral quality on the low side. Tourism industry practice decisions managers also need to have some practical experience, usually the majority of high educational practitioners due to not hard-working spirit, with low levels of the original enterprise managers for their exclusion, so that a high degree of staff turnover rate is high; the two is the lack of tourism talents. Because my province tourism industry in the development stage, transition period, most of the enterprises from the original state ownership has turned to private ownership, industry competition is unusually intense, a lot of enterprises at present can only solve the problem of survival, not high wages to attract high-end talent, plus Jilin province tourism industry development lag, the high-end talent shortage; three is the brain drain problem is relatively outstanding tourism. Tourism can be entered and the low threshold characteristics make a lot of low quality, low degree of staff into the industry, tourism industry talent to lose confidence in the future. Tourism enterprises of the instability, insecurity, complicated things work, huge physical and psychological stress are the main causes of the brain drain caused by the enterprise. Jilin Province, the rapid development of tourism industry, talent demand gap is big, but it can’t possibly be a train so many talents in tourism industry. In 2007, Jilin provincial tourism industry directly employed only in the number 80000 and is currently a large number of practitioners is switched to, so tourism professionals have good development space. With the rapid development of the tourism industry, with the industry to raise the level of employment, substantial, be trained with regularity through formal training of tourism professionals is inevitable trend.

According to the Jilin provincial tourism management professional talents structure survey, tourism enterprise post management talent of senior management categories of demand for 10%, intermediate management categories accounted for 20%, primary management categories accounted for 70%; the operation post senior operations staff accounted for 75%, intermediate 20%, primary accounted for 5%; senior marketing personnel 50%, intermediate 40%, primary 20%. In general, the present tourism enterprise talent demand appears to have a certain characteristic, management talent demand growing; senior skilled talents demand is also growing; along with the tourism enterprise competition, marketing position in the enterprise is more and more attention, the demand of talents of tourism marketing also gradually increase. In view of this situation, tourism management specialty in higher vocational education should be based on business needs, to train the high skill talent as the basis, at the same time, pay attention to the improvement of students' theoretical level, is not confined to the industry qualification certificate, have horizontal expand students' other skills.

**Data processing:** The system analysis on the domestic tourism education and management on the basis of the current situation of Tourism Management Specialty in Changchun Vocational Institute of Technology reform as an example, selects the entrance achievement (Table 1), student registration rate (Table 2), employment situation (Table 3), the tourist guide certificate exam pass rate (Table 4) evaluation factor, the application of the factor analysis method of mathematical model, in view of the current domestic tourism education and management difficulties, improve the learning experience theory and to expand its scope of application.

### Table 1: Student achievement in recent years

<table>
<thead>
<tr>
<th>School year</th>
<th>The liberal arts minimum fraction</th>
<th>The highest liberal fraction</th>
<th>The science of minimum fraction</th>
<th>The highest scores of science</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>395</td>
<td>473</td>
<td>388</td>
<td>474</td>
</tr>
<tr>
<td>2007</td>
<td>396</td>
<td>504</td>
<td>403</td>
<td>484</td>
</tr>
<tr>
<td>2008</td>
<td>423</td>
<td>509</td>
<td>431</td>
<td>494</td>
</tr>
</tbody>
</table>

### Table 2: The student registration rate

<table>
<thead>
<tr>
<th>School year</th>
<th>Education</th>
<th>Plan</th>
<th>Enrollment</th>
<th>Notice</th>
<th>Registration</th>
<th>Admission rate (%)</th>
<th>Registration rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>3</td>
<td>128</td>
<td>218</td>
<td>218</td>
<td>122</td>
<td>170.31</td>
<td>55.96</td>
</tr>
<tr>
<td>2007</td>
<td>2</td>
<td>127</td>
<td>146</td>
<td>146</td>
<td>75</td>
<td>114.96</td>
<td>51.37</td>
</tr>
<tr>
<td>2008</td>
<td>2</td>
<td>110</td>
<td>132</td>
<td>132</td>
<td>109</td>
<td>120.00</td>
<td>82.58</td>
</tr>
</tbody>
</table>
If there are n index, each sample has p variable, \( (x_1, x_2, L, x_p) \), thus constitutes an order \( n \times p \) matrix:

\[
X = \begin{bmatrix}
x_1 & x_2 & \cdots & x_p \\
x_1 & x_2 & \cdots & x_p \\
M & M & \cdots & M \\
M & M & \cdots & M \\
\end{bmatrix}
\]

In general, the original data with different dimensions or volume level, in order to ensure the reliability of the analysis results, the need for variable dimensionless normalization. The standardization and dimension reduction, p variables can be integrated into a m new index, the variable can be expressed by the linear: \( F_1, F_2, L, F_m \) the variable \( X \) can be expressed by the \( F_m \) linear:

\[
X = LF + \varepsilon
\]

Type of: \( F = (F_1, F_2, L, F_m) \)

Optimal sample: \( X_0 = (x_{01}, x_{02}, L, x_{0p}) \) can be by the formula structure:

\[
L = \begin{bmatrix}
\Delta_{x1} & \Delta_{x2} & \cdots & \Delta_{xp} \\
\Delta_{x1} & \Delta_{x2} & \cdots & \Delta_{xp} \\
M & M & \cdots & M \\
M & M & \cdots & M \\
\end{bmatrix}
\]

On the absolute difference matrix transform data as follows:

\[
\max W(a, a') = -\frac{1}{2} \sum_{i=1}^{m} \sum_{j=1}^{p} (a_i - a'_i) (a_j - a'_j) < \varphi(x),
\]

\[
\varphi(x) = -\sum_{i=1}^{m} (a_i + a'_i) + \sum_{i=1}^{m} y_i (a_i - a'_i)
\]

\[
\ln(\lambda_i) = \beta_0 + \beta_1 \ln r_{i1} + \beta_2 \ln r_{i2} + \varepsilon_i
\]

\[
\ln(\lambda_i) = b_0 + b_1 \ln r_{i1} + b_2 \ln r_{i2}
\]

\[
S = \sum_{i=1}^{m} \left( \sum_{j=1}^{p} \frac{\varphi_{ij} - \rho_{ij}}{\lambda_{ij} + \rho_{ij}} \right)
\]

\[
\xi_i = \min \left\{ \xi_i \mid \sum_{j=1}^{p} \xi_i \leq \Lambda_i \right\}
\]

The sample \( X_1 \) and the optimal sample correlation degree \( r_i \):

\[
r_i = \frac{1}{\rho} \sum_{j=1}^{p} \xi_i, i = 1, 2, 3, \ldots, n
\]

According to the factor analysis using SPSS software screening evaluation position evaluation index of tourism management specialty, the tourism management professional occupation evaluation index is shown in Table 5.

**SUGGESTIONS AND STRATEGY**

Socialist market economy provides broad market opening, the big environment to broaden the horizons of students, active student thinking. But at the same time, the negative effect of market economy also on the value orientation of the students so must adhere to moral education first, strengthening occupation moral education. Tourism education is the elementary education and the practice education of tourism education as the foundation of tourism security, it is not a pure academic closed education and it has its own strong industry characteristics and clear objectives. To strengthen the students' professional knowledge application ability, practical goal should be a guiding tourism education process the implementation of guidelines and assessment of tourism education result the important standard.

China's higher tourism education is still followed the traditional mode of education, students learn at school is more abstract knowledge, theory and the actual difference is bigger. The students' potential has not been developed. This traditional tourism education mode to cultivate talent is the ultimate in creative and pioneering consciousness defects inherited talent. Status has a direct effect on the improvement of teaching quality and achieves the training goal. Tourism industry is accompanying our country reforming and opening and the new industry, tourism market, tourism product development, tourism planning and management, tourism resource protection and sustainable development of tourism industry and other aspects, has
yet to be discussed and studied. Only have the consciousness and ability of innovation, to break the normal procedure and model, forecast the prospects of tourism explore the tourism development pattern, put forward new concept and has built tree. Encourage students to make the books with different new ideas, new ideas, to cultivate students' innovation consciousness, so as to train students to be creative and pioneering, strain the ability of the composite type of senior management personnel. The teaching content is to realize the training goal of the carrier, is the transmission of human culture, cultivating students' scientific world outlook, to promote overall development of students as the main channel of China's tourism higher education. From the actual situation, many colleges are the intellectual development as the center and on the cultivation of non intelligence factors for insufficient attention. First of all, to strengthen the basis of theoretical teaching contents, emphasizing students' humanistic education, moral education, professional and ideological education. Tourism management is in a wide range of absorption of management science, economics, marketing, psychology, food science, based on the study of the characteristics of their own, to solve practical problems. Learning and applying the basic theory, for the development of tourism market, improve its management level, increasing economic benefits and has the function of guidance

From the Department of tourism management, tourism enterprises employ rich practical experience tourism education part-time teachers and practice guidance teachers. At the same time, there are plans to organize college teachers to the Department of tourism management, tourism enterprises training positions and practice. First of all in the teaching method should be as soon as possible to realize the modernization of teaching methods, teaching method. Actively promote heuristic, pay attention to ability training and the development of non-intelligence factors, make the students emotions in the active state. Students through teaching can not only grasp the system of knowledge, but also can obtain independent study and update the method and ability of knowledge. Secondly the update teaching means. In order to improve the teaching effect in Colleges and universities, tourism should be modern media such as projection, video, computer aided instruction, multimedia technology used in classroom teaching. This teaching because of its intuitive, dynamic and large information capacity will greatly improve the students' learning interest; promote the teaching content of comprehension and memory.

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