A Study on the Selection Factors and Cluster Types of Educational Tourism

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Abstract

Background/Objectives: The purpose of this study is to identify the attributes of educational tourism and cluster type.

Methods/Statistical analysis: In order to achieve research purpose, factor analysis and cluster analysis were performed using SPSS statistical program.

Findings: As a result of the factor analysis using the data obtained through the questionnaire, the selected attributes of educational tourism were classified as ‘convenience of tourism,’ ‘landscape and tourist products,’ and ‘facility and leisure’ factors. As a result of cluster analysis using factor scores classified as factors, they were classified as ‘natural scenery pursuit group’, ‘tourism activity pursuit group’, and ‘multipurpose pursuit group’. The results of this analysis are valuable information for activating marketing by showing the essence of optional attributes pursued by tourists and the types of tourists seeking.

Improvements/Applications: It is also possible to understand the types of tourism that tourists pursue based on the type of cluster. These results will be basic data for the activation of educational tourism.

Key Words: Education, tourism, educational tourism, optional properties, cluster type
1 Introduction

Education through travel is not a new phenomenon and it can be experienced through travel, culture, art, language, politics. In this way, people can enjoy travel and tourism to pursue various purposes, and it can be assumed that travel and tourism have educational attributes. According to scholars who have studied cultural heritage experience, the experience pursued by cultural heritage tourists is educational experience, and for cultural heritage tourists, learning is more important than fun, and also it is an educational experience rather than simply sightseeing. According to scholars, people are classified as having different needs. For example, humans have a desire to pursue learning and travel in addition to basic human needs. Education in tourism has a wide variety of attributes such as exchanges with local people, sightseeing, language, culture, art, music, understanding of architecture or folklore, myth or scientific knowledge, religion, natural environment, landscape, interest in plants and animals, cultural heritage and historical sites.

Educational tourism is defined as activity that travels primarily for learning and experience. However, even if it is not necessarily learning and experience, there are many types of educational tourism. Tourism activities that are simple to see and enjoy are also included in educational tourism. Museums with historical and cultural values, art museums, cultural tourism sites, and eco-tourism destinations correspond to tourism that satisfies the educational needs of tourists. Although tourism and education are known to be in a partnership relationship, studies on educational tourism have been downgraded and many studies have not been conducted. In addition, much research has not been carried out so far on what kind of optional attributes education tourism has been based on. Thus, the purpose of this study is to examine the composition of educational tourism optional attributes, in addition, to find out how the cluster types of educational tourists are formed through empirical studies.

The growth of education and tourism as an industry in recent decades has led to the recognition of these industries from economic and social perspectives. Countries could become more successful if they could link education and tourism as a place for interna-
tional exchange and learning. In other words, there is much to be empirically examined about connections between education and tourism.

The definition of educational tourism is defined by many scholars. In broad sense, educational tourism is all tourism activities in which education is carried out, and in a narrow sense, this would mean tourism activities aimed at promoting the cultures of tourists or for self-development. Educational tourism is often categorized as general education tourism which emphasize ecotourism and cultural heritage tourism, adult education tourism, and elder education tourism, educational tourism in elementary and junior high schools in Korea and abroad, and student tourism between universities both at home and abroad. Overall education tourism, including exchange programs, adult education, and travel to international or domestic university or school trips can also be viewed as educational tourism. Based on this definition, educational tourism will include both domestic and overseas experience related to work, new language training, medical tourism, cultural tourism, excursion of students, as well as the purpose of vocational development, formal and informal learning. Educational tourism includes several subtypes, including ecotourism, heritage tourism, rural tourism, and student exchange between educational institutions. There are also studies that emphasize the educational qualities of tourist attractions, according to these studies, tourists include cultural and educational motives. There are researches that tourism products such as festivals can give educational effect to tourists, which is analyzed that it has learning composition effect. were interested in cognitive learning theory as a theoretical basis of resource explanations affecting the educational attainment of tourist destinations. They published a study that shows that educational effectiveness increases when applying the theory of cognitive learning to tourists in tourism sites and providing differentiated resource interpretation programs according to the degree of cognitive development of tourists.
2 Materials and Methods

A convenient sampling was conducted for the questionnaire to identify the attributes and cluster type of educational tourism, from June to September 2015 over three months in Seoul and Gyeonggi Province. First, after a sufficient explanation about educational tourism, we surveyed those who answered that they have experience of educational tourism. The questionnaire collected 501 questionnaires, but 485 questions were applied to the empirical analysis, except for the 16 questionnaires with the dependent variable and the missing value of the independent variables. The questionnaire consisted of 24 items to measure demographic characteristics (gender, age, marital status, education level, tourism orientation, income) and educational tourism choice attributes.

2.1 General characteristics of the sample

The demographic characteristics of the sample are shown in Table 1. The sample consisted of 35.8% male, 62.8% female and 1.4% missing. By age, 36.7% of those in their 20s, 14.8% in their 30s, 25.2% in their 40s and 23.3% in their 50s or older. The distribution by occupation was 8.5% for professions, 10.5% for white-collar workers, 7% for production and technical workers, 10.3% for service workers, 6.4% for civil servants and staff, 5.2% for self-employed, 31.3% for college students, 0.4% for retired and unemployed, and 15.3% for full-time housewives. In marital status, 58.4% were married and 41.6% were unmarried, by educational level, 52.2% of high school graduates, 14.2% of professional college graduates, 28.7% of college graduates and 4.9% of graduate school graduates were analyzed. In income distribution, it can be seen that it is composed of 14% less than 2 million won, 18.4% from 2 million won to 3 million won, 22.1% from 3 million won to 4 million won, 16.9% from 4 million won to 5 million won, 11.3% from 5 million won to 6 million won and 7% more than 6 million won.

Table 1: Samples characteristics (N=489)
2.1.1 Selective attribution and reliability analysis for educational tourism

In order to estimate how the choice attributes of education tourism selected by consumers are constructed, we conducted the analysis using the data obtained from the questionnaire. Factor analysis was performed using the principal component analysis and the right-angle rotation method (Varimax) using the newly developed 24 items (see Table 2). As a result of analyzing the factor loading by setting 0.5, the selection attributes of education tourism were classified into 3 categories. The factors were named 'convenience of sightseeing', 'natural scenery and tourism products', and 'facilities
and leisure’ reflecting the characteristics of the measurement items. The explanatory power of total variance is 64.772%, the KMO coefficient is .932, and the Bartlett sphere formation test $\chi^2$ value is 6129.663 ($p < 0.001$). The analysis results are reliable and valid.

Hierarchical cluster analysis was performed using three factor scores derived to segment tourists’ cluster types according to the selective attributes of educational tourism. In determining the number of clusters, the number of clusters was determined before the greatest increase in clustering factor. In this analysis, three clusters with the greatest increase in the coefficients in the clustering schedules were found to be most appropriate (see Table 3). Cluster 1 is highly responsive to natural landscape and tourism activities. Therefore, it was named ‘natural scenery pursuit group’. Cluster 2 was named ‘tourism activity seeking group’ reflecting these characteristics as it showed high scores on tourism infrastructure factor, natural landscape and tourism activity factor. Cluster 3 was named ‘multi-purpose pursuit group’ because it showed high scores on tourism infrastructure factor, tourism cost factor, and natural landscape and tourism activity factor.

Table 2: Selective attributes for educational tourism
<table>
<thead>
<tr>
<th>Domain</th>
<th>Items</th>
<th>Factor loading</th>
<th>Variance</th>
<th>Cronbach's $\alpha$</th>
<th>Eigen value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Convenience of sightseeing</td>
<td>Transportation costs to sightseeing spots</td>
<td>.823</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Travel time to sightseeing spot</td>
<td>.821</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Distance to sightseeing spots</td>
<td>.602</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Transportation to sightseeing spots</td>
<td>.783</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Facilities (toilet, shower, etc.)</td>
<td>.717</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reservation of accommodation</td>
<td>.634</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Accommodation costs</td>
<td>.634</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>The prices of sightseeing spot</td>
<td>.632</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tourist information</td>
<td>.562</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Local animals and plants</td>
<td>.824</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Natural Landscapes and Touring Products</td>
<td>Local specialties</td>
<td>.784</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Beautiful scenery</td>
<td>.738</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>History and cultural resources</td>
<td>.644</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Various local foods</td>
<td>.634</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Various area attractions</td>
<td>.592</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Facilities &amp; Leisure</td>
<td>Amusement facility</td>
<td>.893</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Camping facility</td>
<td>.802</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Various accommodation</td>
<td>.592</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Leisure activity</td>
<td>.558</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Cumulative 84.772% / Kaiser-Meyer-Olkin = .912 / Bartlett $p=0.01296$.631($p<0.000$)

Table 3: Cluster analysis and post-test on educational tourism choice attributes
2.1.2 Statistical analysis

In order to verify the validity of cluster analysis results, multivariate analysis of variance (MANOVA) was conducted based on four factors derived by factor analysis. For the multivariate ANOVA, three factors were set based on the factor scores and the cluster variables generated from the K-means cluster analysis were used. Pillai’s Trace, Wilks’ Lambda, Hotelling-Lawley and Roy’s Greatest Root values were all statistically significant (p < 0.001). Therefore, it is shown that the results of the cluster analysis using three attributes of educational tourism selection attributes are valid. In order to verify the validity of cluster analysis results, multivariate analysis of variance (MANOVA) was conducted based on four factors derived by factor analysis. For the multivariate ANOVA, three factors were set based on the factor scores and the cluster variables generated from the K-means cluster analysis were used.

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<tr>
<th>Division</th>
<th>Cluster I (n=112)</th>
<th>Cluster II (n=258)</th>
<th>Cluster III (n=112)</th>
<th>F-value (probability of significance)</th>
<th>Scheffe multiple range tests</th>
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<tbody>
<tr>
<td>F1 Tourism infra</td>
<td>3.24</td>
<td>4.16</td>
<td>4.82</td>
<td>590.474***</td>
<td>-7.138</td>
</tr>
<tr>
<td>F2 Tourism costs</td>
<td>2.92</td>
<td>3.60</td>
<td>4.00</td>
<td>453.106***</td>
<td>-5.675</td>
</tr>
<tr>
<td>F3 Natural scenery and tourism activities</td>
<td>3.36</td>
<td>4.05</td>
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3 Results and Discussion

The purpose of this study is to identify the factors of selective attribute of educational tourism and to examine the type of crowd of tourists using the result of factor analysis. As a result of the factor analysis on the selection attributes of educational tourism,
it was revealed that convenience of tourism, natural scenery and
tourism products, and facilities and leisure factors.

The results of this analysis show that consumers choose edu-
cational tourism by these three factors. The cluster analysis was
conducted to find out how the cluster types of tourists seeking ed-
cational tourism are structured. As a result of analysis, it was
classified into natural landscape pursuit group, tourism activity
pursuit group, and multi-purpose pursuit group. Based on the
results of the analysis, it can be seen that the optional attributes
of educational tourism also pursue the convenience of tourism and
consider the natural scenery at tourist sites and the tourist prod-
ucts, facilities, and leisure activities that can be experienced at the
tourist sites. This analogy can be easily grasped through clusters.

4 CONCLUSION

This study has the following practical implications in terms of mar-
keting. The result of the selection attribute factor of tourists who
become a consumer in education tourism market becomes an op-
portunity factor to grasp the target market as a potential consumer.
This is the first thing that should be grasped in market segmenta-
tion, it means to grasp the desires and assumptions of the market
or potential customers. As a result of the above analysis, it is
necessary to recognize carefully that the behavior of the potential
consumer of educational tourism reflect realistic demand. Market
segmentation means identifying these different consumer needs and
better meeting their needs, in order to effectively differentiate each
product, it is necessary to find differences from other consumers
and cluster them into commercially significant segments.

The results of factor analysis and cluster analysis have signifi-
cant marketing and analytical implications. However, when these
results are used as an independent variable and analysis that affects
the demand of education tourism is conducted, it can have a bigger
meaning in terms of marketing. Such research will be expected in
the future.

Acknowledgment
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References


