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UNPACKING THE EXPERIENCE OF THE BIOSPHERE RESERVE TOURISM FROM THE ACADEMIC TOURISTS' PERSPECTIVES: A CASE OF TASIK CHINI

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Abstract:

Biosphere reserves are well recognized as a 'learning site' for reconciling conservation, development, and learning functions. Being a learning site, the Biosphere reserves received many visitors, including academic tourists. This article aims at uncovering what academic tourists perceived as the biosphere reserve tourism of Tasik Chini Biosphere Reserve. Based on the academic tourists' surveys conducted in 2012 and 2014, this study shows that the conservation, socio-ecological learning, and problem-solving experiences are key components of the Biosphere Reserve tourism. The context of entertainment, education, esthetic, and escapism experiences varied among academic tourists. While the academic tourists have ranked the first two components; entertainment and education at a high level of achievement, the esthetic and escapism components on the other part have been ranked at lower achievement. In bridging these contradictory achievements, the study suggests the holistic learning approach. The realistic integration of entertainment, education, esthetics, and escapism is meant to fulfil the needs of the academic tourist's needs during their visit to the Biosphere reserve sites, hence, responded to the rising of experiential tourism and experience economy.

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Introduction

Biosphere Reserves (BR) are areas or sites that have global recognition in promoting and practicing sustainable development approaches. As of 2020, there are 714 biosphere reserves in 129 countries; with Asia and the Pacific Asia contributing 157 sites in 24 countries, the second highest sites of all BR(s) in the world (UNESCO 2020). Established for almost 50 years under the umbrella of UNESCO's Man and the Biosphere (Program MAB) (1971-2020); the Biosphere reserves seek to reconcile conservation of biodiversity, cultural values and economic and social development through partnerships between people and nature (UNESCO, 2020, 2012; 2017; Ishwaran, 2012; Kusova *et al*., 2007; Habibah *et al*., 2010; 2012a; 2012b). In response to that, a changing of BR's function from undertaking a scientific-based research at the 'learning laboratories' to the more applied and multidisciplinary outcome-based researchers at the 'learning sites' or 'excellence sites' seem to be competitive and comply with the goals of the BR roles. These initiatives have resulted successful exemplars in resolving socio-ecological problems and management at both local and international scale (Ishwaran, 2012; Price, 2002; Ishwaran *et al*., 2008; Kušová *et al*., 2008; Ferreira *et al.* 2020). Added to this, many BRs also developed ecotourism as part of the socio-economic means and environmental conservation efforts, some labeled them as 'community-based ecotourism', 'local empowerment' and environmental-based learning destination and 'tourism learning destination' (Schultz and Lundholm, 2010; Coria and Calfucura, 2012; Habibah *et al*., 2013; Mayaka and Akama, 2007; Schultz *et al.* 2011).

However, due to the changing sphere of the tourists' demand and the significance of experience economy in recent years (Pine and Gilmore, 1998; Gilmore and Pine 2006), destinations, thus, have to be strategically constructed, repackaged and brand their products to ensure their sustainability and competitiveness among the prospective tourists and destinations. This has no exemption to the biosphere reserves. It has been argued that the BRs should be self-sustained as tourism destination, especially in meeting with the tourists' needs who seek total experiences of the BRs' tourism. This also means that visitors or tourists are expected to have the following experience: The visitors or tourists will receive scientific knowledge of the Biosphere reserve and learned about conservation, specific site and rehabilitation efforts and at the same time, will be deeply appreciated and immersed with the entertainment, educational, esthetics and escapism of the BR tourism experiences. Nevertheless, from the past research, the practicality of the learning programs that meets both needs is still understudied and comprehended.

Moreover, with the challenge to achieving Sustainable Development Goals 2030, all BR(s) is expected to fully be committed to pursue not only the achievement of the Goals within Biosphere Reserves, but also to give a meaningful contribution to the global efforts. Up to now, examples of best practices in educational roles include *Youth Climate Camp* initiated by the Gunung Leuser and Cibodas Biosphere Reserves, Indonesia, *Education Project* by Dublin Bay Biosphere Reserve, Ireland, *Raising Awareness Among Kids And Youth* in East Carpahthia Transboundary BR, Poland and Slovakia and *Citizen's College and Volunteering Program* by Mount Sorak BR, Korea (UNESCO 2020). These initiatives, therefore, provide the significance of learning sites of the BR in sustainable development goals, which Malaysia has no exception.

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In Malaysia, Tasik Chini has been accorded as the first Biosphere Reserve in 2009 (Habibah *et al*., 2011). Tasik Chini is a sensitive area of class 1, rich in flora and fauna as well as the culture and livelihood of the aboriginal tribe. Like other BRs, Tasik Chini has to execute three major functions, comprising development, conservation and logistic functions. Of these roles, providing a learning experience is one important logistical function. There is a series of organized tours and non-organized tours since 2009 to 2014. It was aimed at becoming a renowned knowledge ecotourism destination and a learning site of the Malaysian Biosphere reserve (Habibah *et al.*, 2013a). However, being a young Biosphere Reserve, it is crucial that it has a comprehend brand of the Biosphere reserve tourism as one of its niches. From its inception in 2009 to 2014, Tasik Chini has hosted several programs which it intended to develop Biosphere Reserve tourism, yet it is not tested and qualified by the crowds of academic tourists whom they have attended. Hence, with the focus of three programs that they have organised, it provides answers to questions posed here: i) what defines biosphere reserve tourism? and, ii) Do differences exist between academic tourists ranging from participants – both locals and internationals, who came for the mobility programmes, international scientific visit and problem-based learning visits?

Considering an urgency to uncover the Biosphere reserve tourism in the changing sphere of the experience economy, this study aims to identify the academic tourists' understandings and expectations on what signifies as the Biosphere reserves' tourism in Tasik Chini Biosphere Reserve, with a special focus on the three academic students' group, namely, organised mobility program students, international student visit and a problem-based learning visit from local academic tourists.

Literature Review

Before a theoretical framework is introduced in this study, literatures on Biosphere reserves, academic tourists, the learning approaches in biosphere reserve and experience economy were explored..

Biosphere Reserves

Biosphere reserves (BR)(s) are protected areas of representative terrestrial and coastal environments for their values in conservation and in providing the scientific knowledge, skills and human values to support sustainable development (UNESCO 2020). BR(s) is accorded by the United Nations Educational, Scientific and Cultural Organization (UNESCO) Man and Biosphere (MAB) Program, aiming at conserving biological diversity, furthering scientific knowledge and develop technical competence and human values necessary for sustainable resource management and use. In this regard, BR is seen as the building blocks of bioregional planning, which form part of regional and national spatial development frameworks furthering sustainable utilization of resources at both levels.

In practice, biosphere reserves are nominated by national governments and remain under the sovereign jurisdiction of the states where they are located. Their status is internationally recognized. They consist of three interrelated zones that aim to fulfil three complementary and mutually reinforcing functions: i) The core area(s) comprises a strictly protected zone that contributes to the conservation of landscapes, ecosystems, species and genetic variation. ii) The buffer zone surrounds or adjoins the core area(s), and the third, a transition zone is used for activities compatible with sound ecological practices that can reinforce scientific research, monitoring, training and education.

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As of 2020, there are 714 biosphere reserves in 129 countries, including 21 transboundary sites. They are distributed as follows: 85 sites in 31 countries in Africa33 sites in 12 countries in the Arab States157 sites in 24 countries in Asia and the Pacific, 302 sites in 38 countries in Europe and North America and 130 sites in 21 countries in Latin America and the Caribbean (UNESC0 2020).

Defining Academic Tourist

To date, there is no one definition on academic tourist in comparison to the bulk of educational tourism, including mobility programmes, student exchange programmes and edu-tourism. The term academic involved formal learning of a person who he or she attended the school, college or university (Christidou, 2011). Therefore, an academic tourist is a person who travelled domestically or abroad with the purpose of learning from the real and hands-on experiences done outside classroom.

The academic tourists are attended by specialized staffs/host during their visits. In some destinations, problem-based learning or action-based learning is set as the specialty on offer. During academic visits, hands-on activity's leveraged students with knowledge, attitude and culture of the local community. In fact, learning about conservation, environmental issues and rehabilitation initiatives differ across natural setting of the BRs tourism (Kruse-Graumann, 2007; Nguyen *et al*., 2009; Batisse 1997).

In this study, the academic tourist is referred as those individuals or a group of students, who travelled or visited the BR site for the academic purposes, at least in duration of 24 hr on site, be they enrolled as the partial or full-course student at their host university. The major characteristics of the academic tourists are depicted in Table 1.

Table 1. The academic tourist characters

Aspect	Academic Tourists
Type of travel	Domestic and international academic tourist, day trip or overnight depending on the types of programmes
Motives of travel	Academic first, deep to surface learning, thematic learning
Itineraries of activities	Planned, and meet the academic learning outcomes
Age group	Young, early 20s, active personality
Spending	Package arrangement with specific itineraries. Economic in terms fee and spending
Host	Host by the staff/experts of the programmes
Site chosen	Choice pre-determined, meeting the standard required in the academia
Duration	short or long duration
Academic	Diverse disciplines, social sciences and pure sciences

Source: Source: Authors' analysis

The Learning Approaches of the Biosphere Reserve Sites

There is an emerging literature on diverse functions of the Biosphere Reserve. The topics ranged from the purist ecosystem services to applied and multi-disciplinary issues. This includes visitors' acceptance, involvement and benefits of local community as well as resilience and adaptation to climate change. Recently, there has been a tendency of establishing

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a learning destination or learning sites (McCarthy *et al*., 2006; Kay *et al*., 1999; Tippett *et al*., 2005; Kušová *et al*., 2008; Van Mai and Bosch, 2010; Nguyen *et al*., 2009; Schianetz *et al*., 2007; 2009; Gibson, 1998) and as a result, thematic sites emerged significantly. These initiatives vary at various levels-area, region, audiences and collaborations, including with the higher learning institutions, researchers and school children (Christidou, 2011; Boucher *et al*., 2003; Buss 2007; Zbyranyk, 2012; Manuel-Navarrete *et al*., 2006; Levrel and Bouamrane, 2008). Looking into the initiatives shown in Table 2, each learning site is designed to establish its site-specific knowledge. This initiative is not a new agenda among the biosphere reserves. Since its recognitions as the learning laboratories during the Seville strategy in the 70s, education and learning are the focal point of logistic functions of the BRs.

Table 2. Approaches On Learning Destinations

Scholars	Approach	Principle Components/ Attributes
De la Barre (2005)	Learning travel (Also known as"educational travel")" or "enrichment travel	Series of formal and informal learning, travel, and social activities. Engages people in memorable 'ad-ventures'. Have unique selling proposition-quality-learning experiences, dynamic resource specialists and a premium pay for these experiences.
Khelghat-Doost *et al*. (2011)	Regional Centre of Expertise (RCE)	A framework of partnership that fosters capacity building and supports innovative education for sustainable development. Three key factors are leadership, partnership and networking
Schianetz *et al*. (2007)	Learning tourism destination (LTD)	The LTD fundamental elements are (i) Shared vision and goals, (ii) Information system, (iii) Continuous learning and co-operative research, (iv) Co-operation (informal collaboration), (v) Co-ordination (formal collaboration), cultural exchange (vi) acceptance of different worldviews and belief systems, (vii) Participative planning and decision making, (viii) adaptive management.
McCarthy *et al.* (2011)	Social learning and sustainability	Inclusive, open process and opportunities for increased public understanding of the purpose and role of the biosphere reserve.
European Commission MBC (2009)	Tourism Learning Area (TLA) CARE concept Complexity, esthetics, Responsibility and Ethics (CARE)	An exchange of learning experiences aimed at increasing quality, innovation and competitiveness within the industry. Interdisciplinary environmental concepts that leads toward deeper engagement with environment. Four key principles are: Complexity interrelatedness of natural and human created systems, esthetics: Appreciation for the natural world; Responsibility: Responsible action and explore environmental impact of their decisions and actions; Ethics: Practice environmental ethics.

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Ishwaran (2012)	Learning site, Learning laboratory	Diverse learning issues-involving community, adaptation and resiliencies. More scientific research, issues concerning biological, physical and chemical aspect of the BR

Source: Authors' Compilation from above mentioned references, 2020

Some scholars further proposed an integration of both science and local/native knowledge as the composition of the experiential and holistic learning experiences (Ballard et al., 2008; Canning, 2005; Flitner et al., 2006.). Educationists, on a similar vein, stressed on both tacit and explicit knowledge or deep and surface learning as the learning mode and perspectives (Schultz and Lundholm, 2010; Ankomah and Larson, 2000).

From the above literatures, three major components are key determinants of an established BR tourism. Firstly, each BR has its own site-specific knowledge (Coria and Calfucura, 2012; Galliford, 2010; Ishwaran *et al*., 2008), whereby scientific and social-ecological issues are attempted by multi-disciplinary approaches. Recent trend shows that local and indigenous culture, natural landscape, traditional ecological knowledge and authentic experiences are the buzzword in packaging the BRs' experiences.

Secondly, the locals should become the providers or host of the experiences of site concern. The seminal work on local community involvement suggests that learning experience should be in and within the locality and by the locals themselves (Preety *et al*., 1995). As many BRs work closely with the research institutions, co-hosting the programmes and activities will therefore ensure the contextual and content to the learning. However, many sites still lack the host's skills, hospitality and the real meaning of the BR tourism, due to socio-cultural differences and low educational attainment.

Thirdly, the learners of the BRs tourism vary accordingly to motivations, programmes and segmentation. Studies on the BRs' visitors found that young school children, families and youth volunteers display diversities of interest, taste and demand (Ankomah and Larson, 2000; Manuel-Navarrete *et al*., 2006). Taking a case project entitled 'breakfast: Healthy-regional-sustainable project of the UN Decade', Kruse-Graumann (2007) found that children enjoy a lesson on eating healthily. In contrast, Kriesel (2011) compares the visitor centre in Sweden and Germany's BR and found that even though the formal way of learning provides ESD contents, touristic and informal learning provides enjoyment and remembrance. All these major components play vital roles in Biosphere reserve tourism.

The Experience Economy

According to Pine and Gilmore (1998), the idea of experience economy has prompted many tourism sites to respond to the changing of tourists' needs. What is important for the BR tourism is that the four realms of experience economy have to be transformed in the actual programs or activities? Due to the limitation of the experience economy and the BR tourism, the authors introduce how activities or programs are deduced into the experiences in the site of the BR. Figure 1 simplifies the meaning of the four components of the BRs, which these compositions were then used to analyze the academic tourists' visitation at the study site.

Theoretical Framework

Considering the recognition of the BR functional role as a learning site (Kušová *et al*., 2008, Ishwaran *et al*., 2008; Francis and Whitelaw, 2004; Ishwaran, 2012), the components of the

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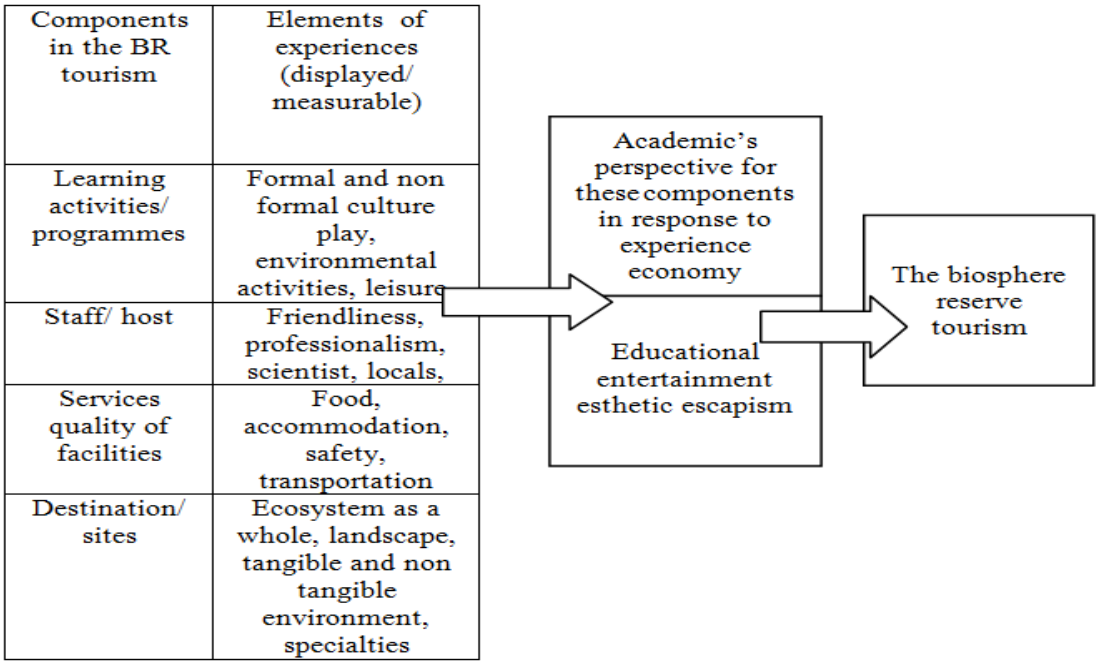
experience economy at Tasik Chini are proposed as follows: First, the foremost component of the BR tourism is the educational experiences.



The BR tourism activities, thus, able to be experienced in a holistic learning perspective, especially in reconciling environmental issues and sustainable learning. The learning processes help to expose the socio-cultural elements, especially among the locals. Second, is the entertainment; as the offering of BR tourism is incomplete without incorporating the elements of fun, leisure and play. The entertainment, however, is blended in the learning activities, even during the purist science-based session. The entertainment, thus, takes place during the interactive sessions with the locals and within the peer groups and facilitator-experts interactions, especially between internationals and local academic students. Third, is the esthetic component of the BR tourism. The hospitality of the locals as well as the composite tourism facilities such as accommodation, food, safety and cleanliness must be well prepared by the host. Finally, is the escapism component. Although learners came to BRs with an educational motive, the site offers specialties of the precinct ecosystem, beautiful landscape, unique culture and attractions. In total, Biosphere reserve tourism provides all components, likely to be the ensemble as the utmost experience of the academic tourists of Tasik Chini Biosphere Reserve.

Methodology

The Study Area

Tasik Chini is the second largest natural freshwater lake in Malaysia (Habibah et al.2010; Habibah et al., 2013a). In 2009, Tasik Chini area was designated as a UNESCO Biosphere Reserve, covering the lake catchment area and its feeders, totalling 6,951.44 hectares (Habibah *et al.*, 2011). The water body comprises 12 interconnected open water bodies called "laut" by the local Orang Asli (Habibah *et al* 2013b, 2013c). It is surrounded by natural hills and lowland dipterocarp forests, vegetated low hills and undulating land, which constitutes the watershed of the region. The indigenous Jakun tribe lives around the lakeshore and the surrounding areas

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(Habibah *et al*., 2011). Development of ecotourism facilities such as chalet, restaurants, water transport and jetty, local handicrafts compliment the learning experiences (Habibah *et al.* 2013b; 2013c).

As of October 2020, Tasik Chini Biosphere Reserve is also awarded as a state park by the state of Pahang, which means that the forest will be conserved and preserved, with only sustainable development projects are allowed. Being one of the areas in ECER and a living laboratory of Universiti Kebangsaan Malaysia, Tasik Chini has been equipped with a Freshwater Laboratory Complex to help monitor lake and water quality. Among other services offered, are the eductourism packages and community engagement programs and facilities are shown in Table 3.

Table 3. Tasik Chini Biosphere Reserve and Provision Of Facilities

Components	Characteristics and provision of facilities
Tasik Chini as a Biosphere Reserve	• Comprising a three tier zoning of designated areas, core, buffer and transition areas. This includes Orang Asli settlement as the local community residing in the core zone, traditional kampung and Felda community.
Research Complex	• Freshwater Laboratory Complex with a complete facilities for R & D – comprising: - Hydrology and Climatology Laboratory– PPTC business office, Gallery, Water Quality Monitoring Network Laboratory, Hydrology and Climatology Laboratory, cafe - Instrumentation & Microbiology Laboratory – Microbiology laboratory, Analytical data, Sterilization Room, GCMS Laboratory, ICP-OES Laboratory, Biogas Laboratory, Resource Room - Water Analysis Laboratory – Water Quality Laboratory, Lecture Room, Aquaculture Laboratory, Fitoremediation Laboratory, Community Space, Calibration Laboratory, 1 Multipurpose Space Unit
Facilities	• Community Square Open space suitable for outdoor activities., accommodate 150 people • Meeting Room The enclosed rooms come with air conditioning, accommodate up to 60 people. • Camping Site, 12 tents, 1 tent fit for 3-5 people,Facilities: toilet, bathroom and pavilion • Jetty; The 230-meter long walk from the PPTC Complex to Lake Chini. The height of the jetty is 6 meters above the water level of the lake. Waterways for recreational and recreational activities. • Dormitory, 2 Dormitory Block (capacity of 80 individuals at a time). • Staff Quarters, Ekohouse; Anjung,

Source; PPTC, (2020). https://pptc.my/en/services/fresh-water-complex/and https://pptc.my/ en/services/ accommodation/(2020)

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Research Design and The Learning Programmes as the Source of Data &Respondents

This study draws a thematic research design to cater for the learning appreciation of the visitors to the study site. Being a Biosphere Reserve, the research design aimed to disseminate three major functions of the BR, conservation, development and logistics (Habibah *et al.* 2013c). Tasik Chini has hosted several learning programmes with the cooperation of the subject experts and facilitators. It has introduced learning programmes that encourage the combination of scientific knowledge and hands-on experiences as tourism activities. This includes learning its ecosystem, conservation and social-cultural heritage as well as daily life. In this study, three learning programs serve three groups of academic tourists. The following programmes has provided the data for this study:

The Mobility Program for Sustainability of Tropical Heritage

The Mobility program was designed by the Tasik Chini Research Centre (PPTC) with an intensification of learning about the sustainability of the BR (Habibah *et al.,* 2013c). The program comprised a 2-3-day session, held at the Tasik Chini Biosphere Reserve. This program offered four themes, namely sustainability of the ecosystem, conservation and restoration, livelihood of the community and learning about culture of the guest-host relationship. It is anticipated that the learning of Sustainability of Tropical Heritage among the academic tourists would be achieved, especially on the specific-site knowledge of the Biosphere Reserve (BR).

The Mobility Program for the Sustainable Environmental Management

This mobility program is designed to meet the Hong Kong University Students visit in 2012. This program brings an environmental management approach of the Malaysian Biosphere reserve as a case study. Lessons are hands-on activities, comprising conservation of BR, fish hatchery, cultural and local visit to the orang asli villages. Students' evaluation is undertaken only for the activities they had during the trip.

The Problem-Based Learning for Integrated Design Project

The local undergraduate students set Tasik Chini as their Problem-Based Learning (PBL) site for integrated design projects in. The program was self-managed by the undergraduates; with modes of learning involved hands-on case at the selected site, on campus lectures and interactive panel session with the experts. The learning activities were on site, organized, covering selective conservation and rehabilitation efforts, lake and social-cultural visit to the Orang Asli villages, fish conservation and sustainable development.

Data Collection and Analysis

This study used a mixed method approach and the following data were utilized in comprehending the approaches initiated in Tasik Chini. The primary source was the data bank of the Tasik Chini Biosphere Reserve; which provided series of events held from 2009 to 2014. The data included the proposals, event reports and program book as well as the survey results. The data provided understandings of knowledge orientation, scientific and play entity, duration, location and learning objectives as well as the learning community-the participants and experts involved. The questionnaire was used across the samples of the respondents. Questions related to the experiences of the events of each targeted sample.

The second was the qualitative data derived from event observation and in-depth interviews with the participants. This is to ensure the experiential learning with the facilitators and subject

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Volume 5 Issue 21 (December 2020) PP. 163-183
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experts are captured, especially when the respondents react during their hands-on learning. This data helps to relate their evaluation from the activities that they had done.

The third was the surveys conducted during each program, especially in drawing the participants' characters and their understanding of the BR tourism experiences. The questionnaire used during the survey was a combination of open and structured questions, which have been prepared by the team researchers. The details of the questionnaires include the background of the students, their involvement in the hands-on learning and the rating of the four components of the experience economy, namely education, entertainment, esthetic and escapism.

The questionnaires also seek suggestions for making the learning experiences to be in tandem with the goals of the BR. To ensure all participants had their voices and evaluation captured, there was a slot for survey and evaluation during the lectures. As expected, all participants responded to the survey. A total 101 respondents representing three groups are 55 respondents of Mobility Program, 15 Hong Kong students' on scientific visit and 31 Engineering Problem-based Learning students respectively. The data, analyzed with the SPSS version 20 were utilized in deriving the objectives of the study, uncovering the academic perspectives on the BR tourism within the realms of the experience economy.

Results

The Academic Tourists Profiles

The academic tourists' demographic background is shown in Table 4. The results indicate that there are no gender differences, age group, courses enrolled and faculty and exposure of the BR. They have either enrolled as the faculty's environmental sciences or other sciences subject at their home university. Duration of stay varied from 2-3 days to one-week field visit. They were guided by their professors, lecturers and university officers. The three groups are also in a similar age group-the medium age group was 22 years old. All groups mentioned that they had knowledge on environmental science's subject. However, the BR details were recent to them. It was during the introduction of the ice-breaking session; they knew that Tasik Chini was the pioneer BR in Malaysia.

Table 4. The Academic Students' Background

	The Mobility Programme Programme students	The Hong Kong international student visit	The Engineering PBL case study visit
Numbers of academic Tourists, gender	55 students, 22 males (40) and 33 females (60%)	15 student, 3 male, 12 females	31, 17 male and 1 4 females
Age group	Age group of 21 -25	Age group of 21 -25	Age group of 21 -25
Place of origin/ Countries/state	various origin, international, Malaysian	Hong Kong origin and British	Malaysia of diverse states
University discipline and coursework	Second year of diverse science, and social science faculty	Second and third year of Hong University of Technology,	Fourthyear engineering undergraduate

Journal of Tourism, Hospitality and Environment Management
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Visit to Biosphere reserve, Tasik Chini and others	First time to Tasik Chini, mixed of visit of Br at the home country	First time to Tasik Chini and none to any of the BR at their home country	Mixed, first timer and repeat leisure tourist.
Knowledge on Conservation, ecotourism and Biosphere reserve	With the background of environmental science and social sciences, the response rate of the BR was satisfactory. Only small numbers mentioned They don't know about BR	Of the total, only three mentioned don't know about the BR, however all knew about conservation and ecotourism.	Stated they knew the BR before visiting due to information disseminations with the panel experts of TCBR.

The Biosphere Reserve Tourism of Tasik Chini

As many mentioned that the academic tourism activities are based on thematic learning, especially in understanding BR initiatives towards achieving sustainability, the learning contexts of all programs are well appreciated by the academic segments. Four components of the BR were rated with the five Likert scale ranging from 'very poor' to 'very good'. This allow the respondents to evaluate the programs, facilities and other provisions.

Table 5 shows results of extensive components of the BR tourism of Tasik Chini. The results from the three groups showed that their appreciations about learning are almost similar. Their ratings for the components in the learning content, host and destination were ranked at the first top four components of all evaluated items. The Tasik Chini's content, diversification and information were rated by the Mobility program, Hong Students and Engineering Students at the rank one, 5th and 5th respectively. Interestingly they have rated the staff/ experts at the rank one and rank two of the total BR tourism components.

Table 5. The Overall Tasik Chini As The Biosphere Reserve Tourism Destination

Components in the BR Tourism	**Components of the Experience Economy**	**Element on Offer at Tasik Chini BR**	**Mobility Program**		**Hong Kong international scientific visit**		**PBL engineering student visit**	
			N-55, Mean	**Rank**	**N – 15, Mean**	**Rank**	**N-31, Mean**	**Rank**
Learning Activities/ program	Educational	Program and activities	4.09	5	3.68	2	4.48	1
		Content, diversification,	4.35	1	3.35	5	4.19	5
		Social, Cultural and leisure	4.13	4	3.33	6	4.35	
Host	Educational, esthetic, Entertainment	Facilitator and staffs	4.29	2	3.93	1	4.45	2
Services	Esthetic, entertainment.	Overall services	3.89	8	3.67	3	3.90	6
		Accommodation	3.22	10	1.47	10	3.74	7
		Transportation	4.00	6	3.00	7	3.90	6

Journal of Tourism, Hospitality and Environment Management
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		Cleanliness and safety	3.33	9	2.40	9	3.32	8
Destination	Escapism.	Tasik Chini as a learning site	4.18	3	3.60	4	4.35	4

As for a learning site, the groups ranked Tasik Chini as either at third or fourth position. It can be seen through the mean values generated from the Mobility program; Hong Kong students and Engineering students were at the range of 3.30 to 4.35. From this result, the BR tourism provides the context and content of the Biosphere reserve experiences. The learning themes each group followed and experienced are rated well, thus, indicating the strength of Tasik Chini was not contested by the academic tourists.

However, evaluation for the 'services' showed an average mean of satisfactory situation, especially pertaining to the accommodation, food, transportation, safety and cleanliness aspects. These results indicate that the hospitable experience has yet to be achieved. What lacking for the academic tourism was the 'personal touch' and 'opportunity of self-reflection' what Biosphere reserves mean as the platform for sustainable development.

Educational Experiences

The educational experiences were highly appreciated by the academic tourists of Tasik Chini. The students rated these experiences the highest score of the overall dimension of BR tourism. Even though variation of the programs existed between groups, range from one day to 2-3-days visits, the educational experiences were of their main concern of knowledge experience and excitement. Table 6 further displays activities of the academic tourism in Tasik Chini. The results indicate that the academic tourists were satisfied with the diversification of the activities. For the Mobility program, more than two third of the activities had their mean values above the average mean. Only three activities were rated as below the average means. The Hong Kong Students showed slightly better, with only one activity below average mean.

The engineering students rated their activities at range of above-average means 3.89 at almost 80% of the total activities. With four activities rated below average means, the results, however, indicate that the engineering students appreciate less for their 'usual in-house practices.' Their excitement and challenging experiences were accommodated with the outdoor, authentic problems of lake ecosystem management, including eco-house construction, slope and green building. They even commented that existing development is not appropriate due to no clear boundary of the lakeshore, development area and watershed protected area.

Entertainment Experiences

The entertainment experience is also key component for the BR tourism. In this regard, the components of leisure and local play were directly felt by the students. The results shown in Table 6 indicate entertainment experiences were appreciated by the groups. The Mobility Program students tend to appreciate most the traditional style of Kayaking (M 4.67, *SD* 0.47), lotus planting (M 4.27, *SD* 0.65), fauna and flora (M 4.25, *SD* 0.27) and blowpipe (M 4.16, *SD* 0.63).

Among the Hong Kong Students, they felt all activities fit well with entertainment components. The lake excursion, water quality and hydrology as well as the talk on rehabilitation and conservation program were rated high with the mean values reach 4.13 to 4.20 and the values are M 4.20 (*SD* 0.56), M 4.14 (*SD* 0.56) and M 4.13 (*SD* 0.64) respectively. As for the

Journal of Tourism, Hospitality and Environment Management
JTHEM
EISSN: 0128-178X
Volume 5 Issue 21 (December 2020) PP. 163-183
DOI 10/35631/JTHEM.5210010

engineering students, despite they had appreciated the cultural activities; results, however, demonstrate that the engineering-based activities were more appreciated. The Slope Failure Mitigation project, lotus rehabilitation project and development of Fresh Water Laboratory are the three major activities rated at the mean values of 4.23 (*SD* 0.71), 4.16 (*SD* 0.68 and 4.13 (*SD* 0.76) respectively. The entertainment was also expressed in favour of the actual working environment such as 'having working outside with the curb of natural climate', as this brings them to the real engineering students' exposure including working in the rain, bad weather and high risk.

Table 6. Activities Offered At The Biosphere Reserve Tourism

Program	Activity	Theme and specification	Mean	Std deviation	Rank activity
Mobility Program	Activity 1	Fish nets set up	3.510	0.960	7
	Activity 2	Visit to hatchery site and acclimatization cage	3.270	0.732	8
	Activity 3	Water quality and hydrology	4.050	0.524	6
	Activity 4	Macrophyte Sightseeing and fish harvesting	3.270	0.560	9
	Activity 5	Kayaking traditional style	4.670	0.474	1
	Activity 6	Social cultural	4.070	0.705	5
	Activity 7	Lotus planting and forestation	4.270	0.651	2
	Activity 8	Fauna and flora walk	4.250	0.584	3
	Activity 9	Blowpipe	4.160	0.631	4
		Average mean score	3.976		
Hong Kong	Activity 1	Social Cultural	4.070	0.704	4
Students	Activity 2	Talk on rehabilitation and conservation program	4.130	0.642	3
	Activity 3	Water quality and hydrology	4.140	0.516	2
	Activity 4	Lotus Planting	3.730	0.458	5
	Activity 5	Lake excursion	4.200	0.561	1
		Average means	4.054		
Engineering	Activity 1	Monitoring station	3.940	0.814	7
Students	Activity 2	Barrage	3.900	0.539	8
	Activity 3	Lotus rehabilitation	4.160	0.688	2

Journal of Tourism, Hospitality and Environment Management
JTHEM
EISSN: 0128-178X
Volume 5 Issue 21 (December 2020) PP. 163-183
DOI 10/35631/JTHEM.5210010

Activity 4	Fish Hatchery and conservation	3.840	0.779	9
Activity 5	Water sampling stations	3.680	0.748	10
Activity 6	Intersection plot	3.110	0.333	12
Activity 7	*Sungai Jemberau and Sungai Chini*	4.000	0.730	6
Activity 8	Slope failure mitigation project	4.230	0.717	1
Activity 9	Development of fresh water laboratory	4.130	0.763	3
Activity 10	Housing of Orang Asli	4.100	0.597	4
Activity 11	Open waste disposal sites	3.350	0.486	11
Activity 12	Oil palm refinery visit	4.100	0.746	5
	Average means	3.890		

Esthetic Experience

Tasik Chini has long been recognized as the site of authentic and legendry of *Naga Sri Gumum*. Apart from this, the cultural heritage of the aboriginal people and its pristine freshwater lake has resulted many incoming ecotourists. Looking into the results displayed in Table 6, the esthetic of the site was appreciated as part of the BR tourism entity. From the three groups of the academic tourists, the esthetic concerns are revealed more by the mobility program participants compared to the engineering students. They felt the esthetic aspects especially learning and interacting with the locals-women, the headman and young schoolchildren. The boatmen skills during lake excursion and performances of *Kelundang* dance were authentically shared with the visitors.

On the other hand, the esthetic expectation comprising services of several facilities achieved 'satisfied standard'. Their ratings on food, cleanliness and safety were at the position of the three bottom components of the BR tourism. The food provided seemed not to match with their taste back home. The excerpts of the academic tourists in Table 7, further shown the understanding of the aboriginals and new local culture. In fact, their perspective was quite critical as they opined that the cultural tradition should be conserved without the depriving local opportunities to modernization.

Escapism Experience

The respondents were also asked to express their nature of escapism when they visited Tasik Chini. The three groups of academic tourists agreed on the escapism in nature that Tasik Chini has on offer. From Table 7, the expression with regard to escapism was rated at the fourth priority components of the BR tourism which the mean values are at 4.18 for the Mobility Program students, 3.60 for the Hong Kong Students and 4.35 for the Engineering students.

Journal of Tourism, Hospitality and Environment Management
JTHEM
EISSN: 0128-178X
Volume 5 Issue 21 (December 2020) PP. 163-183
DOI 10/35631/JTHEM.5210010

Table 7. The Social-Cultural Perspective

Mobility Program	Hong Kong Students	Engineering students
"The social cultural activity was all fun to Participants. They exposed us to the local culture and tradition. The weaving Session was so much fun though I couldn't wave at all. (Respondent Number 9)	"The living environment of natives. The way they hunt how close they are with the nature. They are very friendly and welcoming (Respondent Number 3)	"Simple livelihood and not damaging nature. (Respondent Number 11)
"The mutual relationship of the Indigenous people. The culture that reflects their strong identity, although with the mass development striking the nation, these Cultural benefit shall sustain the heritage of the area. The cultural show was fun. " (Respondent Number 7)	"It impressed me that world be the way far from technology. The shooting session was a great experience. I've learnt much about their lives which was not as worst as me thought" (Respondent Number 7)	"We can learn their culture and on another hand, we can share knowledge with them". (Respondent Number 30)
"The instruments that the native people played were awesome. The boat is exceptional even though it's just loading stick to a log. The dance was rhythmic and encouraging. Weaving was fun, but I doubt it would be if your livelihood depends on it." (Respondent Number 4)	"I learnt about the lifestyle, wise and the culture of the tribe. But it would be better if we can communicate with the local citizen in English". (Respondent Number 15)	"I notice around me are the modern development which wouldn't affect the life of orang asli". (Respondent Number 25)

Source: survey

Furthermore, with the expression upon completion the respondents have given, Tasik Chini was considered as a precious global heritage that ought to receive more attention. The preservation of Lotus and indigenous culture is of their concern. In fact, the site is suitable for all and to make conservation a reality; all stakeholders should be involved (Table 8). For the mobility students, they assert on leisure of an ecotourism site. Kayaking, boat ride and serenity of the lake are the expressions they wrote about the activities they wished this site could have offered them. Majority deeply felt the experiences of Tasik Chini as an escape.

Table 8. First And Last Impression On BR

Respondent representing	upon completion the program, last impression of BR program
UKM	The perfect spot that reflects all the crucial elements of BR. Tasik Chini needs wider attention & publicity to expand the awareness through the globe. All participants include government, public sectors, citizen (Globally) to put more effort in terms of finance and logistics management. Good luck!

Journal of Tourism, Hospitality and Environment Management
JTHEM
EISSN: 0128-178X
Volume 5 Issue 21 (December 2020) PP. 163-183
DOI 10/35631/JTHEM.5210010

India	As Biosphere Reserve, Tasik Chini has definitely preserved biodiversity without underestimating the culture of indigenous people. Local and international bodies should be encouraged move to promote Tasik Chini as Biosphere Reserve
Australia	It is heading towards a sanctuary for biodiversity within its area. Bringing back the fishes is a good choice. I hope that in 3-5 years time, when I come back with a net, I will not see small fish tangled up in my net. It is important that the trees to be conserved as well as the surrounding hills. I noticed many of them have bald spots. Imagining its long-term effects on the lake is horrible. Expanding the lake boundaries is a good idea as long as we are mindful of the indigenous people. Overall, it is for a good cause.
China	In a word, I think Tasik Chini is a fantastic place as Biosphere Reserve. It contains different kinds of fishes, birds and other wildlife. Therefore, it is a diversity place. On the other hand, the workers here are also very hard working. If everyone can continue their passion, this place will become better and better. The technology used here is also perfect.

When asked whether they would come again or revisit this site, Table 9 shows that majority are looking forward to this idea. For the three groups, more than 50 to 69% agreed that they would seek opportunities for revisit trip. However, the mobility students mentioned time and cost factors are the major factor of hindrances. The study also gauged the respondents' intention to recommend to their friends and relatives. Of all, the international students from the Mobility Program and Hong Kong University showed their eagerness were more than the local students, as the respective percentages from these two groups were higher than the Engineering students, with 91.7%, 86.7% for Mobility Program and Hong Kong Students and Engineering Students 58.1% respectively.

Table 9. Questions On Intention To Visit And Recommendation On Tasik Chini As BR Tourism

Questions		Mobility students		Hong Kongl Students		Engeenering students	
		Frequency	(%)	Frequency	(%)	Frequency	(%)
Wil you visit Tasik Chini again	Yes	38	69.1	9	60	16	51.6
	No	9	16.4	2	13.3	2	9
	May Be	8	14.6	4	26.7	13	41.9
Will you recommend Tasik Chini to your friends and relatives?	Yes	51	91.7	13	86.7	18	58.1
	No	2	3.6	2	13.3	4	12.9
	May be	2	3.6	-	-	9	29

Journal of Tourism, Hospitality and Environment Management
JTHEM
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DOI 10/35631/JTHEM.5210010

Discussion

From the results of the study, the Biosphere reserve of Tasik Chini has brought about 'new experiences' that fits the needs of the academic tourists and experiential economy. The experiences consist of educational purposes, followed by the entertainment, esthetic and escapism. The focus on the educational purposes seems to correspond with key functions of the BR, especially in logistic functions. The site achieved the standard of educational and entertainment components, besides the originality of esthetic and escapism as the attractions. The host, hence, has provided. major and core elements of the BR tourism. Also, as an ecotourism destination, the services has to be upgraded as necessity of the tourists.

Comparing all the above results in the context of the learning sites elsewhere, Tasik Chini has shed some lights on how the BR sites can respond to the needs of the experience economy. This will encourage stakeholders to plan and develop the site-specific knowledge as their niches. The results also provide empirical evidence that academic tourists are unique as one of the emerging tourist segmentations. The programs shared both formal and informal learning compared to the formal informational centre. This findings also support the fact that each BR has its own site specific knowledge as found by scholars in many other BR(s) (Coria and Calfucura, 2012; Galliford, 2010; Ishwaran *et al*., 2008).

In fact, looking into the recent events held by the Biology Student of Faculty of Science, UPM in collaboration with Tasik Chini Research Center (PPTC) and other agencies, the program "Let's Listen to Nature 4.0" with a theme "Nature is the Art of God" emphasized the transfer of biological science to the community of Orang Asli children (Mohd Noor Hisham et al. (2020). This is a positive approach that can ensure the sustainability of the programs in the biosphere reserve tourism.

While studies showed that diverse segments of tourists as families, young children and scientists differ in their interests, the academic tourists in this study show similar characters of diversity of the segments. The mobility program students are concerned of their scientific-based knowledge that the BR has its strength. In Tasik Chini, the attraction that makes general tourists is the lotus, lake and cultural attraction. These have to be well blend with the standard that has been set by the academic tourists. The results of attractions preferred by the academic tourists compared to the other BRs worldwide showed the notion of a specific site is relevant to all BRs. Tasik Chini has its specialties' as the natural lake and attraction of lotus. The conservation efforts by the Tasik Chini BR were expected to become the core initiatives shared for. This evidence that the learning site can attract academic tourists of various educational and experiential needs as suggested by scholars, especially the academic tourists from the higher learning institutions, researchers and school children (Christidou, 2011; Boucher *et al*., 2003; Buss 2007; Zbyranyk, 2012; Manuel-Navarrete *et al.*, 2006; Levrel and Bouamrane, 2008).

This study eventually provides local evidences that helps Tasik Chini to reset their packages of eductourism as the Biosphere Reserve Tourism, promoted at the international level by the Responsible Tourism Institute (RTI**)**, a founding member of the Global Sustainable Tourism Council **(**GSTC), sponsored by the United Nations Foundation (Biosphere Tourism 2020).

Journal of Tourism, Hospitality and Environment Management
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Conclusion

This study shed some evidence on the changing roles that the Biosphere reserve can meet with the experience economy. The Tasik Chini site has initiated attempts to uncover the characters of the academic tourists whom most of the BRs have opportunities to attract this segment.

The academic tourists mostly travelled in groups favour the site-specific knowledge which instills the hands-on activities and issues of their academic concern. Nonetheless, the content of entertainment, esthetic and escapist should be felt during their visit. The services such as accommodation, food, cleanliness and safety are components not to be underrated as these experiences are the basic tourism experiences.

Looking into their needs to 'self-explore' and 'self-reflection' at the site, this means that 'the individual sphere of seeking experiences' should become essential ingredients of the itineraries. What is crucial is the specialized segmentation plan of academic tourists, as domestic or locals and international tourists differ in some components of the BR tourism. This study also suggests some recommendations for the implementation of the promoting the Biosphere reserve tourism, as follows:

i) A clear framework of Biosphere reserve should be set up within the Biosphere reserve managerial board.
ii) Biosphere reserve should have a special section on branding and promotion to ensure suitability of packages.
iii) Academic tourists should become one of the prioritized segments in the Biosphere reserve as well as other protected areas.
iv) For sustainability and wider promotion, familiarization trip among tourism agencies should be organized.

However, this study has its limitations. The study has not considered the recent educational studies carried by the research centre that has been furnished a complete Research Complex which will also influence the overall responses as there are full support of handling programs and events. In fact, with the Covid-19 pandemic and site closure is still is ongoing, there is no current case or example that can be added to the study. This situation warrants further study that Tasik Chini has to consider ensuring that the country will be also contributing the best practices for learning destination to academic and scientific tourists. With the Standard Operation Procedures that one destination should ensure, this study, thus help the stakeholders to uncover the priorities during any Biosphere Reserve tourism is offered.

As a conclusion, although the BR tourism focused on their responsibility in providing the knowledge experience, basic components of tourism should not be taken for granted. The academic tourists in the changing experience economy demand quality knowledge and experiences; hence, providing programs and activities that these components are actively immersed and participated ensure the sustainability of the BR tourism of Tasik Chini.

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