Teaching tourism in geography through an inquiry-based approach (IBA)

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Article Info

ABSTRACT

An Inquiry-based approach (IBA) is a teaching approach that promotes students' active learning and inquiry. This study examined the effectiveness of IBA as a tool for teaching Geography and explored the students' perceptions when they were taught using IBA. The investigation was carried out in one secondary school in Brunei Darussalam. A total of twenty students aged between 15 to 16 years old were selected as participants. This research adopted a qualitative approach using an action research. Data was collected from lesson observations, focus group interview, and achievement tests. The findings showed that there were remarkable improvements in the students' achievement tests. IBA successfully had helped students to develop some personal and inter-personal skills and encouraged them to become independent learners. However, there were some issues identified in this study. Obtaining information for their research was a challenge for many students, as they had limited access to computers and the Internet outside the school. The findings also revealed that the role of the teacher as the facilitator in IBA could be a challenge to the teacher herself.

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1. INTRODUCTION

The pedagogical characteristics in Brunei had once been described as mostly teacher-centered, traditional and didactic [1-3]. Realising this, the Ministry of Education in Brunei had outlined the teaching and learning model designed to develop the core skills for the 21st century, namely collaboration, knowledge construction and critical thinking, communication, ICT, and real world problem solving skills [4]. In order to achieve this, the teaching and learning settings were devised to be dominantly learner-centered with students being actively engaged in learning both individually and in groups, and the teachers to adopt teaching and learning instructions that cater for the different learning abilities and learning styles of the students [4]. Subsequently, the teachers' role was no longer as sole transmitters of knowledge but as facilitators in students' learning. An approach that was very much conforming to these pedagogical characteristics was the Inquiry-based approach (IBA). Therefore, the following research questions were attempted in this study: How effective was using Inquiry-based approach in teaching Tourism? And what were the students' perceptions on the use of Inquiry-based approach in teaching and learning?

In an Inquiry-based approach, the students were encouraged to become active learners as it engaged students in their learnings and gave them freedom to explore [5]. In other words, IBA enabled students to experience the processes of knowledge creation and developed students' research skills to become life-long learners [6].

IBA helped in the process for answering questions and solving problems based on the logical examination of facts and observations [5, 6]. It represented active learning and the teacher's role was to facilitate students' learning [7]. In IBA, learning was driven through the students' inquiry and their need for facts, procedures and guiding principles in order to explore possible answers [5, 6]. In fact, IBA was a form of self-directed learning in which the students were responsible for determining what they wanted to learn; identifying resources and how best to learn from them; using resources and reporting their learning; and assessing their progress in learning [8].

In Geography lessons, IBA could be done either as a short in-class activity or as a component of a field course [9-11]. In some instances, Inquiry-based approach in learning might require teacher and students to be outside of classroom, seeking the information that they needed there in order to understand the problem or question [11]. In most cases, learners would be in the classroom, but even though problem identification, data analysis and reporting of conclusion usually done in classroom, the data gathering or collection usually required the learners to go elsewhere [9-11].

2. RESEARCH METHOD

The methodology adopted in this study was action research as it involved an empirical investigation of the effectiveness in using Inquiry-based approach to help students' understanding of 'Tourism'. The design of this action research involves the process of planning; acting; observing; and reflecting [12]. In this research, the participants were a class of 20 students in Year 11 (aged between 15 to 16 years old). The chosen topic taught in this study was on 'Tourism' and the sub-topic was 'Tourism in selected Southeast Asian countries'. The selected Southeast Asian countries were Brunei, Thailand, Singapore, Malaysian and Cambodia. Subsequently, the instruments used to collect the data were the pre- and post-tests, lesson observations and semi-structured interview. The main limitation for this study was the small sample size, therefore the findings generated could not be generalised to all schools in Brunei.

In this study, the data was analysed qualitatively. The pre- and post-achievement tests were marked by the teacher (the first author) and further moderated by two geography teachers who had adequate content knowledge on tourism. Data transcribed from the lesson observation was analysed, coded and categorised into themes in which the emerging themes identified helped to answer both research questions [13]. The interviews were transcribed and analysed. The transcribed data from the five group interviews were further compared for easy identification of the common themes that helped to answer the research questions.

3. RESULTS AND ANALYSIS

3.1. The use of Inquiry-based approach (IBA) in teaching 'Tourism'

The research findings supported the claim that using Inquiry-based approach increased students' content knowledge through the development of the information-processing skill [6] and [11]. Figure 1 displayed the comparison of marks between the students' pre- and post-tests. In the pre-test, only 45 percent of the students scored full marks in the items of low-order thinking skills (Item 1, 2, and 3). After the IBA intervention, the percentage of students' who scored full marks for item 1, 2, and 3 had increased to 96.7 percent. For items of high-order thinking skills (item 4, 5, and 6), only 23 percent of them scored full marks in the pre-test and afterwards, an improvement of up to 41.7 percent was noted in their post-test. Overall, the findings had shown that the students were able to perform well in their post-tests compared to their pre-tests.

Examples of students' answers for the high-order thinking skills items were shown in Table 1. After the implementation of the IBA, during the post-test, for example, for question 5, student N18 was able to explain the reasons for Brunei to promote its tourism and student N2 was able to describe the impact of tourism to the people in Malaysia. For majority of the students, there was a significant improvement in the students' post-test, compared to their pre-test answers. The students had developed skills in ICT, teamwork, leadership and collaboration. They learned to communicate well with one another, making the right decisions to produce best outcomes, respectful of other's opinions and assisting one another in completing the given tasks. The students also had developed a sense of appreciation and nationalism within themselves. This showed that the investigation and discussion activities had helped them to discover and make sense of their learning. Hence, students socially construct their knowledge during IBA lessons.

ITEM ANALYSIS

STUDENT'S CODE	PRE ACHIEVEMENT TEST							POST ACHIEVEMENT TEST						
	Item						Total	Item						Total
	1	2	3	4	5	6		1	2	3	4	5	6	
N1	0	2	0	4	2	4	12	1	2	2	7	3	6	21
N2	0	1	1	6	1	3	12	1	2	2	10	3	7	25
N3	1	2	1	6	2	1	13	1	2	2	7	2	4	18
N4	0	2	2	8	2	0	14	1	2	2	7	2	4	18
N5	1	2	2	6	3	3	17	1	2	2	10	3	5	23
N6	0	0	0	5	1	3	9	1	2	2	10	2	5	22
N7	0	1	1	7	1	1	11	1	2	2	9	2	4	20
N8	0	2	0	6	1	0	9	1	2	2	9	2	3	19
N9	0	0	2	8	3	3	16	1	2	2	10	3	6	24
N10	1	0	1	4	1	0	7	1	2	2	6	2	3	16
N11	1	0	1	6	1	0	9	1	2	2	7	2	2	16
N12	0	2	0	6	2	2	12	1	2	2	10	3	6	24
N13	1	0	1	4	1	0	7	1	2	2	10	3	4	22
N14	0	2	0	5	3	3	13	0	2	2	10	3	0	17
N15	1	2	2	6	3	2	16	1	2	2	8	3	5	21
N16	1	0	1	5	2	0	9	1	2	2	8	3	2	18
N17	1	2	0	3	3	1	10	1	2	2	9	3	3	20
N18	0	2	1	7	3	4	17	1	2	2	10	3	7	25
N19	1	2	1	8	2	3	17	0	2	2	9	3	5	21
N20	1	2	2	5	3	2	15	1	2	2	10	3	7	25
TOTAL MARK	1	2	2	10	3	7	25	1	2	2	10	3	7	25

Figure 1. Comparison between the students' pre- and post-tests

Table 1. Comparison of Students' Pre- and Post-Test Answers

	Pre and Post-test Question	Pre-test answer	Post-test answer
Student N18	Question 5. There has been an overall growth in global tourism in recent years. Explain why Brunei needs to promote its tourist attractions.	*So that Brunei can have extra income to support the country's expenses.*	*Brunei needs to promote its tourist attraction so that it can be an extra source of income to the country rather than depending on oil and gas alone. Brunei has many beautiful natural places of attraction like the 'Ulu Belalong Recreational Park'. By promoting this we can spread awareness to tourists so that they can appreciate the nature and help to protect them. The economy of the local people can increase when tourists use the local facilities like paying for hotels, drivers, foods, and also buy local products.*
Student N2	Question 6. With reference to examples, assess the impact of tourism on the people and environment of a country of your choice.	*Tourism may bring bad impact to the country, Malaysia. Too many people will cause over-crowding*	*Malaysia is an example of a country that made tourism as an important industry. There are several impacts of tourism on people and the environment in Malaysia. Tourism may have an effect on local people economy. Tourism industry is a seasonal industry. During period when not many tourists come to the country, the local people will have to find other jobs to support themselves.*

When students were asked on how they managed to do well in their post-test, one student said that the investigation and discussion activities that they did during IBA lessons had helped a lot. Another student added that discovering the information had helped to increase her understanding on the topic and made it easy for her to relate the theory with real life examples. Hence, an Inquiry-based approach encouraged students' discovery of concepts in ways that made sense to them [5] and [7]. In this study, the student's knowledge was socially constructed and expanded during the discussion and presentation session as they acquired extra or new information on the tourism activities of other countries. The excerpts below supported this claim when students were probed on the benefits of discussing and sharing the group's findings in class:

Student N1:   "*ehmm … yes, from having to discuss with the others, uhmm … and also listening to the others, give, I mean gave me information on other places of attraction in countries like Cambodia, Singapore and all ASEAN countries*".

Student N7:   "*Although our group only did research on places of attraction and tourism issues in Thailand, but at the end of the day I gained extra information on the other four countries Singapore, Malaysia, Cambodia and Brunei. Emm.. I now know that although we are in the same ASEAN group but we have different culture, religion, living standard and beliefs*".

Student N10:   *"I never knew that a network tunnel with the name Chu Chi exists in Vietnam and was once used by the Viet Cong soldiers to hide from the American soldiers!"*

Besides developing students' content knowledge, IBA had helped develop students' critical thinking skills [6]. From the lesson observation, one student (N20) critically raised an issue by asking why most developing countries worked hard in trying to promote their tourism industries, when rapid growth of tourism would bring negative impacts to their countries. In response to this, student N3 had responded to the issue raised by N20 by stating,

"Our group has found out that although not all impacts from tourism are bad, ehmm ... there are also positive effects from tourism. LEDCs want to develop their tourism industries because the positive effects are more than negative. Tourism brings money, poor countries can use the money to develop their countries".

N15 added this by saying,

"Yes like in Kenya, the country promotes Wild-Life safari to attract tourists to come and see the wild-animals in their natural habitat. This helps to bring money to the country as tourists prepare to pay large sum of money just to watch zebra, giraffe and tiger in real life situation".

Based on the responses above, the students were able to reason out the issue raised by student N20 earlier. In addition, this research found that when students were actively engaged in their group discussions and brainstorming sessions, they tend to develop some personal skills. This could be seen from the claims made by the students during the interview sessions:

Student N8:   *"I have never been a team leader before. I really enjoyed when we discuss on how to divide the work between us. I tried to be as fair as possible and hear everyone's opinion"*.
Student N19:   *"We always use Microsoft power-point for presentation. This is my first time using 'Prezi' during the presentation. It was so much fun and interesting"*.
Student N7:   *"I think our group was the best. We helped each other and always encouraged one another so that everyone would not be shy to take part during the group activity"*
Student N10:   *"I learned to respect other people's opinion. I also found out that I could type faster using a computer. I also learned how to insert a video in our presentation slide"*.

Based on the interview excerpts above, it could be concluded that the students had developed the skills in ICT, teamwork, leadership and collaboration. They learned to communicate well with one another, made decisions to produce the best outcome, respected their friend's opinions and assisted one another to complete the given tasks. In addition, it was observed in this research that the discussion and sharing sessions of information on other countries had developed a sense of appreciation and nationalism within the students.

3.2 The students' perceptions on the use of IBA
3.2.1. Increase in students' confidence level
The findings showed that the students enjoyed working in groups during discussion and finding information. It helped to increase their levels of confidence when communicating with one another and during presentation. They felt appreciated when their friends listened to their opinions. They also gained new knowledge through the sharing of ideas. The following excerpts revealed their claims:

Student N8:   *"I am scared of presenting but because we do it in group, I feel better and less nervous."*
Student N5:   *"I enjoyed working in a group. It makes finding information much easier and I am able to understand better"*.
Student N13:   *"I feel confident and I really like it especially when my friends listen to what I was saying"*.
Student N19:   *"I thought that our country belongs to MEDCs, but after listening to the other group that did research on Brunei, I learned that we are actually in the LEDCs group"*.

3.2.2. The students highly depended on the teacher's guidance
In this study, the students asserted that the teacher's guidance during the lesson implementation was crucial especially when they encountered problems in understanding the questions. This evidence could be seen from the excerpts below:

Student N5:   *"At first, I didn't understand how to answer the questions that were given. After teacher explained it, then I was cleared on what to do".*

Student N3:   *"I felt better because teacher was always there to help us when we had difficulty in doing the tasks"*

Student N1:   *"When we got stuck, we asked our teacher on what to do. Only then, we were able to do our work."*

Student N9:   *"When searching for information… when we didn't know which one was useful, our teacher helped us with it."*

The above responses indicated that guidance from the teacher was very important to ease the students' learning process. It was vital that all students were given equal opportunities to get feedback as well as assistance from the teacher. Hence, the teacher should play an important role in encouraging students' participation during the class discussion and activities.

Besides the positive responses from the students regarding the teacher's presence and guidance throughout their learning, it was found that one student preferred that the teacher would just leave them alone when doing the given tasks, as shown in the excerpts below:

Student N16:   *"I felt uncomfortable when the teacher sat in our group and asked us our progress. I think the teacher was checking up on us and I didn't like it."*

Researcher: *"Would you like to elaborate more why you did not like the teacher to ask about your group's progress?"*

Student N16:   *"Please don't be angry, it's just that I felt that the teacher did not trust us with the work."*

Although facilitated learning was an important requirement in an Inquiry-based approach, according to the teacher, it was difficult for her to give the students their freedom in their learning since each of them had different individual needs. In other words, the amount of guidance provided by the facilitator was a delicate one that varied according to the experience and confidence of both the facilitator and the learner in relation to the subject matter [11].

3.2.3. Increase in students' interest and motivation to learn the topic

From the interview, the researchers found that the students had enjoyed their learning during the Inquiry-based approach that helped increase their motivation to learn the topic.

N20:   *"I loved the way our teacher taught us using inquiry-based! It was fun and interactive… we could move the table and chairs so that we could work better in our group. My friends and I always looked forward to the class."*

N15:   *"I liked the way the teacher put us in groups so that we could find the solutions to the questions given. We were so excited when we were able to answer the questions and couldn't wait to do the next question."*

3.2.4. Students' difficulties in accessing the Internet for research

From the interview, it was found that the students encountered difficulties when they had to do the Internet search. This was due to the slow intermittent Internet connection that took most of their time. Another reason was because they did not own any computers nor have any access to the Internet at home.

N11:   *"Ugh … the Internet connection was really slow especially when everyone was using it."*

N14:   *"Our group had to do extra on-line research at the library and at home because we were not able to complete the task during class."*

N7:   *"It worried me because I was not able to complete searching for the information during class. But I am thankful than one of my friends let our group did the on-line research at his home."*

3.2.5. Lack of computer maintenance and incompatible computer software

During the interview, two groups mentioned that they had difficulties during the learning process when they had to use the school's computers. The first group commented that the school computer that they used broke down all of a sudden while they were doing their work. They had to use another computer and started the whole process of research from the beginning, as they could not retrieve the information from the previous computer. Meanwhile, for the other group, their challenge was that the school computer did not support the group's presentation software, that is, 'Prezi' presentation software. As a result, these students encountered difficulties when it was their turn for presentation. Similar with other findings, it was best to

ensure that students had access to good computers as well as reliable Internet connection since majority of them did their research through the Internet [14] and [15].

4. CONCLUSION AND RECOMMENDATION

This research had provided valuable insights into the use of IBA in teaching the topic of Tourism in geography lessons. The findings had shown that IBA was an effective tool in teaching Tourism. It was observed that the students had developed their content knowledge and this could be seen from the students' outstanding achievement in their post-test results as compared to their pre-test. In addition, most of the responses from the students' views on the use of the IBA in their learning were quite positive. However, there was one issue of student whom disliked the notion of the teacher checking-up the progress that the group had made. Another issue was regarding the poor Internet connectivity in school that had affected the quality of the students' research time allocated during class. Subsequently, it was also reported in the study that majority of the students encountered difficulties in accessing the Internet after school hours for the group work research. In conclusion, IBA is an inductive approach, therefore teacher guidance is still vital in students' learning and students should not be given full freedom without teacher steering them in the right direction.

Overall, the results indicated a positive effect of using IBA in students' learning of the topic 'Tourism'. However, it should not be over-generalised that IBA was the only tool used to teach Tourism effectively. Furthermore, as this research only focused on data obtained from a small sample in one secondary school, hence, generalisation on the effectiveness of using inquiry-based approach could not be applied to all schools in Brunei. Hence, it is recommended that further research on a wider sample should be done in order to find its similarities and differences in its effectiveness.

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