Observação de baleias na perspectiva da tripulação no sul da Bahia – Brasil

Whale watching from the perspective of the crew in southern Bahia – Brazil

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RESUMO: A observação de baleias é uma atividade turística que permite aos visitantes observar cetáceos. Este estudo descritivo, de abordagem exploratória e qualitativa, analisou o perfil sociodemográfico, os tipos de aprendizagens, os conhecimentos e as necessidades de formação da tripulação das embarcações turísticas que levam visitantes para avistar baleias-jubarte no litoral sul da Bahia, Brasil. Os dados foram coletados por meio de entrevistas semiestruturadas, seguidas de análise de conteúdo. Os resultados indicaram que a maioria dos tripulantes/pilotos era do sexo masculino e apresentava formação adequada, embora o desempenho tenha se mostrado baixo entre todos os trabalhadores envolvidos. Além disso, a educação demonstrou ser uma característica da atividade de observação de baleias. Esses resultados revelam a urgência de novos estudos que enfoquem as reais necessidades de formação da tripulação das embarcações envolvidas na observação de baleias.

PALAVRAS-CHAVE: Baleias-jubarte; Condutores de visitantes; Ecoturismo; Lazer.

ABSTRACT: Whale watching is a tourist activity that allows visitors to observe cetaceans. This descriptive study, with an exploratory and qualitative approach, analyzed the socio-demographic profile and types of learning, knowledge, and training needs of the tour boat crew who take visitors to see humpback whales on the southern coast of Bahia, Brazil. Data were collected through semi-structured interviews followed by content analysis. The data showed that most of the crew/drivers were male and adequately trained, although performance was low for all the workers involved. Moreover, education was characteristic of the whale watching activity. These results reveal the urgency of new studies that focus on the real training needs of the vessel crew involved in whale watching.
KEYWORDS: Humpback whales; Visitor drivers; Ecotourism; Leisure.

Introduction

Tourism gained popularity during the industrialization era when the elements of modernity in the transition from the 19th to the 20th century began to modify the structural model of urban centers (Berman, 1986; Oliveira, 2011; Barreto, 2014) and leisure activities were targeted to capitalist society (Barreto, 2014).

According to Amrein (2020), the easy propagation of cultural elements benefited ecotourism and the labor market, as tourism became the main economic activity. Cook et al. (2020) corroborate this finding by stating that the ecosystem and cultural services provided by whales can bring well-being to human beings. In this regard, the specific ecosystem services of whales were evaluated according to their classification in the Common International Classification Ecosystem Services (CICES), which is the most appropriate mechanism for its valuation, and the consequences for decision-making.

Historical evidence related to ecotourism is inconclusive. In Brazil, the Instituto Chico Mendes de Conservação da Biodiversidade (ICMBio) establishes norms that include ecotourism. Thus, marine tourism provides profit (Higham et al., 2016) and economic viability for whale watching (Schwoerer; Knowler; García-Martínez, 2016). Tischer et al. (2020) discuss the structural elements of programs that promote ecological activities in Brazil. In the case of the interpretation of wildlife in the marine environment, the tours stimulate participant cognition.

Whale watching is one of the most popular tourist activities in the world (Hoyt, 2001). This activity provides the public with opportunities to observe cetaceans in their natural habitat (IWC, 1994). O'Connor et al. (2009) estimated that the whale watching industry generates US$ 2.1 million per year and involves 13,000 tour workers and 13 million tourists.

Projects that promote wildlife observation are, in a way, collaborating with the protection of endangered specimens (Tischer et al., 2020) and boosting the world economy. The flagship species or “charismatic” animals help to balance the social, cultural, and economic sectors of the host locations (Tischer et al., 2020; Amrein, 2020). However, the negative impacts associated with marine life observation can change the behavior of animals, and, consequently, disturb the dynamics of their survival. (Junior, 2017; AMrein, 2020; Fernández et al., 2020; Cook et al., 2020). Behavioral disturbances such as noise produced by tourist vessels (Sprogis; Videsen; Madsen, 2020) must be mitigated by considering good practices and standards (Arranz; Glarou; Sprogis, 2021).

Studies conducted in Brazil (Cotes et al., 2021; Cotes et al., 2018; Cotes et al., 2017b) highlight the importance of training ecological tour drivers/guides. Currently, studies that address lifelong professional learning (Gilbert; Trudel, 2001; TrudeL; Culver; Richard, 2016; Cotes et al., 2017b) allow workers to attribute meaning to their activities, which helps subjects create a biographical identity (JARVIS, 2013; 2015) with emphasis on formal, non-formal, and informal situations (NElson; Cushion; Potrac, 2006; Mallett et al., 2009; Jarvis, 2013; 2015; Cotes et al., 2017b).

In this regard, Shon (2008) indicates that every worker must have the ability to reflect in action, where knowledge is established throughout the

career and leads to decision-making, which can change the way the individual understands reality (Tardif; Raumond, 2000).

In view of the importance of environmental awareness, the training process, and the role of the labor market in the development of ecotourism (Cotes et al., 2021; 2018; 2017a; 2017b; Amrein, 2020; Fernández et al., 2020; Cotes; Alvarenga; Nascimento, 2020; Tischer et al., 2020; Freire; Almeida, 2018; Junior, 2017) this study identifies the sociodemographic profile and the types of learning, knowledge, and training needs of the tour vessel crew who take visitors to observe humpback whales (*Megaptera novaeangliae*) on the southern coast of Bahia, Brazil.

Materials and methods

Study area and participant selection

The locations for data collection were intentionally selected in the Ecotourism Pole of Costa do Cacau (Bahia, 2002), in the tourist cities of Ilhéus and Itacaré, Bahia, Brazil. These cities were selected because they are close to the university in which this study was conducted. The participants were all workers involved in whale watching activities, namely drivers/guides, sailors, and captains of the vessels.

Data collection

Data were collected through a semi-structured interview adapted from Cotes et al. (2017b; 2017a; 2018; 2021) and Cotes, Alvarenga, and Nascimento (2020). The analyzed factors were level of training, the knowledge to work in the area, driving procedures needed for the sightings, types of learning (formal, non-formal, and informal), and training needs mentioned by the participants.

The research was approved by the Ethics Committee of a public university located in Brazil, protocol Nº. 00801018.8.0000.5526. Due to the coronavirus pandemic, the interviews were carried out remotely using Google Meet (Calliyeris; Las Casas, 2012; Faleiros et al., 2016).

Data analysis

The 12 interviews were transcribed in full and stored on file. The full transcriptions were sent to the interviewees, so they could consent to the veracity of the data in the files and make any adjustments, inclusions, and/or deletions. The respondents represent 80% of the study's target audience.

Bardin's (2010, p. 121) content analysis was used, consisting of pre-analysis, exploration of the material, treatment of results, and inference and interpretation. In the pre-analysis, the interviews were organized into generating themes (a *priori*) based on the exhaustively read transcripts, to then apply the units of meaning found in the pre-analysis.

This study is based on descriptive analysis with an exploratory and qualitative approach. Descriptive analysis with an exploratory approach investigates the social sector through the bias of practice and presents information on a social group or a specific theme, while the exploratory approach analyzes theoretical concepts through the formulation and re-signification of ideas (Gil, 2008). The qualitative approach analyzes the

collected material and enables reflective discussions on the purpose of the study (Flick, 2009).

Data were separated between the three crew members involved in whale watching, namely the drivers/guides, sailors, and captains. All three were required to verify the singularities in each worker since all three jobs complement each other, that is, one would not be efficient without the other two.

Results

Sociodemographic profile

The results associated with the professional profile of the tour vessel crew are shown in Table 1.

Table 1. Socio-demographic profile of participants (drivers/guides, sailors, and captains).

Topics	Categories	Responses *(N=12)*	Percentage *%*
Age range	up to 40 years old	8	66,7
	over 40 years old	4	33,3
Gender	Male	8	66,7
	Female	4	33,3
Marital Status	Single	6	50,0
	Married	5	41,7
	Living with partner	0	0,0
	Divorced	1	8,3
	Separated	0	0,0
City / State	Ilhéus- BA	5	41,7
	Itacaré- BA	6	50,0
	Uruçuca- BA	1	8,3
Monthly income	up to one minimum wage	5	41,7
	greater than one minimum wage	6	50,0
	did not answer	1	8,3

Source: Developed by researchers.

Academic education

The academic background of the crew members involved in the whale watching tours is shown in Table 2. As observed, all the drivers/guides have degrees in biological sciences and have from 4 to 17 years of experience.

Table 2. Training of interviewed drivers/guides (formal and non-formal learning).

Topics	Categories	Answers *(N=6)*	*%*
Academic background	completed Master's degree	2	33,3
	completed Doctorate	4	66,7
Training time	up to 10 years	3	50,0
	more than 10 years	3	50,0
Subject Methodology	yes	3	50,0
	no	3	50,0
Didactic Subject	yes	2	33,3
	no	4	66,7
Driver/Guide Training	yes	1	16,7
	no	5	83,3
Min. Tourism Qualification	yes	1	16,7

	no	5	83,3
ICMBio/IBAMA Training	yes	0	0,0
	no	6	100
First Aid	yes	6	100
	no	0	0,0

Legends: Ministry of Tourism = MT; Instituto Chico Mendes de Biodiversidade = ICMBio; Instituto Brasileiro de Meio Ambiente e Recursos Naturais = IBAMA. Note: All drivers/guides are graduates. Source: Developed by researchers.

Types of learning

Table 3 shows the results for this type of informal learning.

Table 3. Factors related to informal learning.

Topics	**Categories**	**Answers (N=12)**	**%**
Learning from visitors	yes	8	66,7
	no	2	16,7
	did not answer	2	16,7
Learning from colleagues	yes	10	83,3
	no	0	0,0
	did not answer	2	16,7

Source: Developed by researchers.

Impacts and characteristics of whale watching

This section aggregates the results on the opinion and perspective of the 12 participants about the environmental and social impacts and the nature of whale watching, collected during the tour.

For most of the 12 respondents, the tours influence the explored environment and the negative impacts are suppressed from the discussions on environmental awareness.

Table 4. Opinions about the impacts and direction of ecotourism tours (driver/guide, sailor, and captain)

Topics	**Categories**	**Answers (N=12)**	**%**
Environmental impact	yes	10	83,3
	no	2	16,7
Social impact	yes	11	91,7
	no	1	8,3
Feature of tours for professionals	education	8	66,7
	adventure	4	33,3
Characteristics of the tour for visitors from the perspective of the tour workers	education	3	25,0
	adventure	2	16,7
	both	6	50,0
	did not answer	1	8,3

Source: Developed by researchers.

For most of the 12 respondents, the tours influence the explored environment and the negative impacts are suppressed from the discussions on environmental awareness.

Discussion

Sociodemographic profile

The results reinforce the low participation of females and the strong male presence in ecotourism tours in Brazil, which has been reported in other studies (Paixão; Tucher, 2010; Paixão et al., 2011; Paixão, 2012; Paixão, 2013; 2015; Cotes et al., 2018; 2017a). The s sailors and captains are mostly male since the vessels are mainly used for fishing.

In this segment, income appears as another important factor. In Itacaré, the frequency of tourists in high and low seasons can influence the income of these workers, which is not true for the city of Ilhéus. A comparison with the data in the study conducted by Cotes et al. (2018) in national parks suggests that humpback whale watching in Itacaré and Ilhéus is more profitable for the tour workers. However, the profit of the studied participants varies constantly due to their dependence on tourist seasons, which does not occur with the drivers/guides in the study by Cotes et al. (2017b; 2017a; 2018), who have a year-round flow of visitors to the National Parks.

Moreover, the humpback whale watching season on the south coast of Bahia begins in June and can continue until October, which reduces by two-thirds the possibility of whale watching tours when compared to tours in Brazilian National Parks.

Academic education

The data collected in this study reveal that the drivers/guides are qualified to meet the demands of the work, as they have master's and/or doctorate degrees and professional experience. When confronted with the findings of Cotes et al. (2018), the drivers were more qualified for whale watching than the drivers/guides of the two National Parks. Furthermore, the sailors and captains were mostly adequately trained for their work.

One of the captains is enrolled in an undergraduate course in physical education. In contrast, other studies, including the study of Cotes et al. (2018), reported that the sample universe does not include drivers/guides with degrees in fields of movement culture (Cotes et al., 2023).

Formal, non-formal, and informal learning

The results trigger discussions about the types of learning for the training of whale watching workers on the south coast of Bahia. (Gilbert; Trudel, 2001; Trudel; Culver; Richard, 2016; Schwartz, 2010; Oliveira, 2016; Cotes et al., 2017b; Perez, 2020). The literature suggests that training comprises different types of learning, which is acquired and characterized according to formal (institutionalized), non-formal (training), and informal (skills through social and family relationships) factors. Thus, each sector has specific attributes that define the functional role of the citizen in the social field, and, in this study, the three types of learning are considered relevant to the success of the product.

In this regard, interesting results were observed regarding the formal learning of these workers, and the drivers/guides showed considerable experience and training in their area of expertise. However, the data for the

group of six sailors and captains (Table 3) indicates that two members of the group are seeking higher education (formal learning). Therefore, the importance of continuing education should be emphasized, which, in this case, was observed in the trajectory of all the respondents and punctuated in the studies of Cotes et al. (2017a; 2017b; 2018) and Cotes and Alvarenga, and Nascimento (2020).

Learning is the result of a long process during the subject's life, where the acquired knowledge is accompanied by signs and meanings for the different training experiences that he/she experiences, which suggests a permanent restructuring in the individuality of the life history of each subject (Jarvis, 2013; 2015; Cotes et al., 2017b).

In formal learning, Brazilian society shaped under the perspective of capitalism considers higher education as fundamental for entering the labor market, given that "[...] professional training courses, graduations, post-graduations, and all formal qualifications in general [...] (Perez, 2020, p. 2)", indicate the domains of the citizen.

When analyzing the interviews regarding the parameters directed to non-formal learning, the data indicates that only four individuals participated in learning programs characterized as non-formal, three drivers/guides and one from the group of sailors and captains. In this segment, only first-aid training appears with a positive percentage, which amounted to 100% for the six drivers/guides and 66.7% for the group of sailors and captains. Despite these positive results, we suggest a problem in the latter group since these two workers should have received first-aid training when they obtained their respective qualifications to work with whale watching.

Schwartz (2010) and Perez (2020) stress the role of learning that does not use systematized environments. According to Perez (2020), non-formal knowledge differs from formal knowledge because it does not follow the standards of educational institutions, even when the intention exists. That is, for the author, non-formal learning is more flexible.

Thus, when considering training in other studies (Cotes, et al. 2017a; 2017b; 2018), training is not considered mandatory for whale watching by the Ministry of Labor, ICMBio, and IBAMA. This raises interesting discussions since Junior (2017) cites ICMBio as a facilitator of ecotourism work that should, however, be more active in this type of activity. One possible option mentioned by the author is the publication of a good practices handbook for interaction with marine mammals (Silva-Jr et al., 2019).

Table 4 shows the information for informal learning. The reflections about the appropriation of knowledge based on the social aspect of the respondent reveal the way the group views professional training. In this case, the negative statements about learning with visitors permeate the following idea: "With their knowledge, no. But with interactions, yes. So, I learn from them, but nothing about my activity (C 4 - Master in Tropical Aquatic Systems)".

Following the logic of the results (Table 4) and as a contribution to discussions related to training through experience (Schwartz, 2010; Oliveira, 2016; Perez, 2020), the statement of a driver/guide who acquired specific knowledge about humpback whales after having contact with sailors and captains without a degree should be emphasized. In his statement, driver 3

(Master in Zoology) comments that some situations cannot be explained by science, such as the ability of sailors and captains to find whales simply by analyzing the state of the sea.

In the light of informal learning, Schwartz (2010) discusses the paradigms that permeate the universe of validation of experiences in the training process, and, consequently, in the labor market. Perez (2020), when establishing the definitions of different knowledge, signals that informality comprises personal experiences, acquired as we participate in actions that do not have any predefined rules or teaching strategies.

Next, the professionals were asked about their own performance. The mastery of ecotourism knowledge is essential with regard to the function of the driver/guide (Cotes, et al., 2018; 2017b). That said, self-assessment can promote the search for professional improvement. Among the 12 positions, the statement of a sailor draws attention, as it critically analyzes his role and points out his limitations, thus revealing that he needs to learn more about whales (M 8 – did not finish secondary education). Shon (2008) emphasizes the importance of reflection in action. Therefore, performance evaluation enriches the learning process. Andersen and Miller (2006) believe that when professionals are successful during whale watching, the educational and ecological objectives of the activity tend to be achieved, and improvement in training is paramount.

The impacts of whale watching

Concerning the impact generated by the visit (Table 5), driver 1 (Doctor in Biological Sciences) described the systematized approach to tourists, starting with the waste produced, which remains on the vessel for later disposal in an appropriate place. Cook et al. (2020) signal the need to create a support platform that guides decisions and strategies in marine management to serve communities that depend on the social context, and point out cultural services as the most common one. With regards to Ilhéus and Itacaré, the investigation presented here suggests that a management support platform is a distant reality for both cities. As for the cultural issue, the community of Itacaré generally benefited the most from this factor.

Studies suggest that the growth of ecotourism activities can stimulate discussion on environmental awareness (Junior, 2017; Camargo; Coelho, 2021; Tischer et al., 2020; Cotes; Alvarenga; Nascimento, 2020). Issues of plastic in the oceans and its impact on the environment are addressed by driver 1, in addition to the effects caused by large fishing boats. These strategies adopted in the provision of the whale watching service, which preaches environmental sustainability, have guaranteed good results in the protection of endangered fauna (Tischer et al., 2020; Amrein, 2020). However, a structured activity must be secured to prevent any negative impacts (Campos, 2005; Junior, 2017; Amrein, 2020; Fernández-Llamazares et al., 2020).

Cotes, Alvarenga, and Nascimento (2020) stress the importance of environmental awareness among the drivers/guides of two Brazilian National Parks and highlight the need for training in environmental education. However, regardless of whether the work is carried out on land or in the ocean, training in environmental education is essential.

In the case of the relationship between tours and the community, the respondents highlighted ideas such as: “Positive, because money circulates [...] within our city (M 11- did not finish primary education)”. The economic perspective, already discussed in articles related to the theme (Oliveira, 2011; Freire; Almeida, 2018), is fundamental. Investigations have signaled the importance of marine tourism (Higham et al., 2016) with emphasis on the dividends provided by whale watching (Schwoerer; Knowler; García-Martínez, 2016), which is one of the most developed tourist activities in the world (Hoyt, 2001).

In a broader sense, according to the discourse of the analyzed individuals, ecotourism and society have fruitful ties. Driver 5 (Doctor in Ecology of Biodiversity Conservation) affirms that the social impact of whale watching is positive and creates economic and educational benefits. In this community, lectures are held to explain the biology of whale behavior and enhance environmental awareness. These services contribute to sociocultural issues in the universe of the population of Itacaré, although this was not identified in Ilhéus.

The explanation for the numbers linked to the direction of tours with an adventure or educational characteristic is based on the drivers' speeches (Table 5). Driver 2 (Master in Zoology) stated he develops work aimed at environmental education and awareness, without neglecting research, which produces greater knowledge of the species. For sailor 1, 50% of the whale watching service is educational and the other half is adventure. He claims that for adult tourists, adventure predominates and for the age group under 15, the service is considered educational.

By emphasizing the primordial role of ecological tourism in the construction of environmental education, Campos, Vasconcelos, and Félix (2011) indicate that the stimuli need to be continuous, where the environmental interpretation emerges as a facilitator in the act of appropriation of ethical and moral values and the visitors' direct contact with reality. Evidently, the literature understands that whale watching should promote and encourage the assimilation of important content on the influence of human beings on nature (Tischer et al., 2020; Amrein, 2020; Cotes; Alvarenga; Nascimento, 2020).

Respondent training needs

As for the possibility of professional improvement for the drivers/guides, the skills required by the position must be improved to enhance the tourist experience. For the sailors and captains, the improvement of skills associated with the function performed is related to first aid training.

Among the problems identified by driver 5 (Doctor in Ecology and Biodiversity Conservation) is tourist sea sickness, which can be minimized with some instructions the day before the tour. Sailor 9 (finished secondary education) stresses the need for training to perform the functions of sailor and captain, authorize the boat for tourism, enhance environmental awareness, and increase knowledge of marine life. This last need is supplied by the Humpback Whale Project and Whales in the Mountain Project for these workers in the region.

In the literature, Cotes et al. (2018) point out the infrastructure of programs that promote ecotourist tours as one of the positive points regarding the quality of the activity. In addition to the logistics adopted by the company, all employees, especially those who work with the public, must master the contents related to the universe of activities. Since 1999, research, such as the studies of Ferreira and Coutinho (1999), has signaled the importance of seeking further training to increase the individual's technical baggage.

On the other hand, the training needs of the three professional categories – driver/guide, sailor, and captain – in the whale watching service on the south coast of Bahia were not clear. Following the suggestion of Cotes et al. (2017a; 2018a), action research should be conducted to ascertain the training needs of each category, given the differences between professions. As a suggestion, the Humpback Whale Project could carry out this survey in partnership with the tourism and education departments of both municipalities. Moreover, course proposals should be requested for the categories of sailors and captains from the Captaincy of the Ports in the region and from the project itself. For drivers/guides, research in the area of zoology and ecology is important, in addition to the professional knowledge already developed in a public higher education institution in the region. In this regard, the Whales in the Mountain Project linked to this public university provided technical training for professionals in Ilhéus in 2022, which further reveals the importance of university involvement in the bioeconomy. Thus, research and conservation projects, in partnership with the Humpback Whale Project, the university, the education and tourism secretaries of the municipalities of Ilhéus and Itacaré and the state government should develop courses in ongoing training that meet the identified demands.

Conclusions

The present study exposed promising results of ecotourism promoted on the south coast of Bahia for whale watching. The profile of the specialists who work in the area revealed that most of the drivers/guides, sailors, and captains are men, which may be associated with the cultural issues of the region. In this regard, the predominance of men in the categories of sailor and captain is connected with the historical process of fishing in the region.

The data found in the present study also revealed the low performance of all professionals involved in whale watching in the cities of Itacaré and Ilhéus compared to the profit obtained in other countries. Despite continuing education, the effective participation of the secretaries of development, education, and tourism in the target cities of the research, the university, and the government of the state of Bahia can engender programs that serve this area of tourism and reverse this reality.

Another interesting point is the academic background of the participants. In this case, the level of training of drivers/guides contemplates the objectives directed to practice since all are postgraduates in the area (master's and/or doctorate degrees). Furthermore, the sailors and captains are willing to take ownership of content related to ecotourism. Furthermore, the groups sought to pursue continued and specific training in this area.

The discussions in this study reveal that the debate on the knowledge of the drivers/guides who work in whale watching in Itacaré and Ilhéus on the south coast of Bahia is not exhausted and collaborates with studies published under the logic of ecological tourism.

The observation of cetaceans permeates the opinion of most respondents in the educational field, which is a positive point since one of the main functions of ecological tourism is environmental education. Finally, according to Cook et al. (2020), the ecosystem services provided by whales produce biological and cultural knowledge and can bring well-being to visitors, the population, and those involved in whale watching. This finding suggests the need for further investigation within this scope.

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Acknowledgments

The researchers express their gratitude to the Whale Watching (WW) visitor guides for their attention and willingness to participate in the research by responding to the interviews. They also thank the Research Support Foundation of the State of Bahia (FAPESB) for granting the Scientific Initiation scholarship, and the State University of Santa Cruz (UESC) for the financial support provided to the research project entitled *Professional knowledge in the work of guiding Whale Watching visitors with humpback whales (Megaptera novaeangliae) on the southern coast of Bahia in the municipalities of Ilhéus and Itacaré* (Process SEI No. 073.6769.2019.0010120-57), which resulted in the publication of this article.