ARCHAEOLOGICAL TOURISM AND ITS INCLUSIVE ECONOMIC AND CULTURAL VALUE: APPLICATION OF THIS KNOWLEDGE IN EDUCATION, TEACHING SCIENCES, MATHEMATICS, AND GEOGRAPHY

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ABSTRACT

This article addresses the relationship between archaeological tourism and its application in local development, with a focus on social inclusion and cultural and historical preservation. It seeks to explore the economic, inclusive and cultural value of archaeological tourism, analyzing how this field of knowledge can be applied to education and the teaching of subjects such as Science, Mathematics and Geography. By analyzing projects such as TURARQ and Rede Caiçara, it highlights the importance of the active participation of the local community in the process of structuring and managing tourism, ensuring that development is sustainable and respects the cultural identity of the territories. In addition, the article discusses how the teaching of Science, Mathematics and Geography can be integrated with archaeological tourism, with an emphasis on inclusive teaching, meeting the needs of students with Autism Spectrum Disorder (ASD), Attention Deficit Hyperactivity

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Disorder (ADHD) and High Abilities. The conclusion is that archaeological tourism, combined with inclusive education and appreciation of cultural heritage, can promote fairer, more sustainable and socially responsible development.

INTRODUCTION

In recent years, archaeological tourism has established itself as an important tool for valuing cultural heritage and promoting sustainable economic development. In addition to providing immersive experiences for visitors, this tourism segment raises awareness about the importance of historical preservation and encourages local communities to participate in heritage management. Thus, archaeological tourism not only rescues collective memory but also presents an opportunity for economic growth and social inclusion, promoting sustainable and respectful practices towards the environment and local cultures.

This article aims to explore the economic, inclusive, and cultural value of archaeological tourism, analyzing how this field of knowledge can be applied in education and the teaching of subjects such as Science, Mathematics, and Geography. The relationship between tourism and education allows the construction of innovative methodologies, which integrate practical experience into formal education, contributing to more meaningful learning. Additionally, the importance of inclusive practices in the educational context is highlighted, ensuring that students with different learning profiles have access to knowledge and the appreciation of archaeological heritage.

Among the examples analyzed, initiatives such as the TURARQ project and the Caiçara Network stand out, demonstrating how archaeological tourism can be a vector for local development. The active participation of communities in structuring these practices ensures that economic and cultural benefits are distributed equitably, strengthening the sense of belonging and local identity. In this regard, the connection between tourism, education, and social inclusion becomes essential to promote a sustainable and responsible development model.

According to Barreto (2000), tourism can be understood as an act practiced by tourists, that is, individuals who temporarily move from their place of residence to other destinations, motivated by leisure, culture, or business. The practice of tourism follows diverse motivations, which vary according to the individual's personality, daily life, type of work, level of education, social position, worldview, and culture. Thus, it is a practice that originates on a personal level, driven by desires, wills, and ambitions, and materializes in the collective, manifesting in actions such as buying tickets, booking hotels, and studying the local culture of the planned destination.

In contrast, Widmer (2009, p. 67) says that

> Archaeological tourism can be defined as a segment in which the voluntary and temporary movement of individuals occurs, motivated by the interest or desire to learn about aspects pertinent to past cultures, to places where material remains

representative of the evolutionary process of humans on the planet, left by ancient societies, are found.

This type of tourism is part of cultural tourism, which implies practices that involve valuing, caring for, and respecting the visited sites, such as archaeological sites and listed heritage sites. Such practice is often influenced by archaeologists, who promote the visibility of these sites and seek greater investment in research (Serrão, 2007).

Tresserras (2004) observes that when it comes to archaeological tourism, the most traditional destinations are located in Egypt, Greece, Italy, Tunisia, Turkey, Mexico, Peru, among others. These classic destinations, rich in history, play a fundamental role in understanding the ancient world, which, in turn, contributes to the development of the contemporary world in various areas such as legislation, politics, agriculture, and architecture.

In the contemporary context, characterized by globalization and the fluidity of values and social interactions, as Bauman (2001) points out, a worrying trend is observed: the prevalence of a superficial culture, centered on the incessant search for validation in various spheres of life, especially on social networks. In this scenario, many individuals prioritize the construction of an idealized image, often detached from depth and authenticity. However, when we turn our attention to the field of archaeological tourism, we perceive a distinct dynamic. As López and Moreno (2018, p. 601) highlight, "[...] some tourists who access Archaeological Heritage do so in the context of seeking knowledge and not just visiting a relatively distant unknown place."

Various types of destinations are available; however, these, in particular, are characterized by short stays, as archaeological sites are preserved by government bodies and are fields of ongoing research. In view of this, many tourists visit these places with the intention of learning about the local culture, seeking a deeper understanding of the history of the ancestors, whether in their way of life or the paths that led to their extinction. This is the true value of archaeological tourism: a respectful process of understanding, without haste or judgments.

In this context, tourism can be considered a vehicle for identity, preservation, and inclusion. When implementing tourist routes and itineraries aimed at valuing a place, it is essential that the local community also recognizes the importance of integrating this heritage into its cultural identity (Menéndez, Guerra & Monteiro, 2015). Therefore, the objective of this article is to explore the true value of tourism, especially archaeological tourism, analyzing its impact on the local community, its relationship with heritage

preservation, the promotion of social inclusion, and its potential for teaching Science, Geography, and Mathematics. The methodology adopted for the research includes bibliographic review, analysis of statistical data, such as graphs, and the study of specific cases of archaeological tourism.
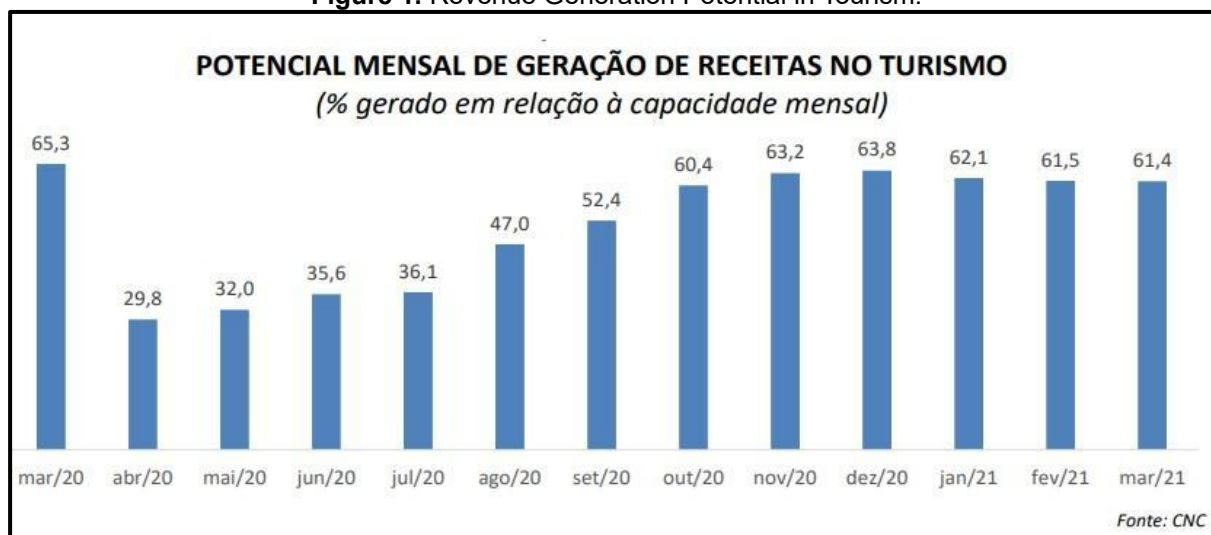
ECONOMIC IMPACT OF ARCHAEOLOGICAL TOURISM

According to Rebollo (1997) and Passanoto Netto (2007), tourism is no longer characterized as an isolated and linear economic factor, but as a specialized and complex one in its multiple relationships and facets. The practice of tourism generates a globalized economy and extends through a network of flows, involving everything from transportation, accommodation, and itineraries to complementary services such as insurance and food. Palomeque (2001) highlights that the economic relevance of tourism is evidenced by its complexity, which encompasses various economic subsectors, such as demand, supply, market operators, and the tourist destination as a geographical space, interacting with different sectors.

This view is corroborated by the World Tourism Organization (WTO, 2022), which points to the continuous growth in tourist flows, reaching record levels annually. In 2007, approximately 898 million visitors were recorded, an increase of 6.2% compared to the previous year. Guimarães and Brandão (2009) explain that the growth is mainly due to emerging markets and developing economies. However, for tourism to effectively contribute to the development of countries, regions, or localities, it is necessary to evaluate more than just supply, demand, and collected taxes. Economic indicators must be used as instruments of sustainable planning to improve the quality of life of local communities, especially those in tourist destinations.

Despite its economic potential, tourism presents challenges such as seasonality, the disarticulation of traditional economic activities, and changes in the structure of work (Dias, 2003). Tourism practice is not continuous, occurring at specific periods such as vacations, holidays, or weekends, and is affected by external variables such as the weather and, more recently, the COVID-19 pandemic. The graph (Figure 1) illustrates that the sector's output fell by 44% in the first three months of 2020, compared to the pre-pandemic period, with a gradual recovery in the subsequent months.

Figure 1. Revenue Generation Potential in Tourism.

POTENCIAL MENSAL DE GERAÇÃO DE RECEITAS NO TURISMO
(% gerado em relação à capacidade mensal)

mar/20	abr/20	mai/20	jun/20	jul/20	ago/20	set/20	out/20	nov/20	dez/20	jan/21	fev/21	mar/21
65,3	29,8	32,0	35,6	36,1	47,0	52,4	60,4	63,2	63,8	62,1	61,5	61,4

Fonte: CNC

Source: Confederação Nacional do Comércio de Bens, Serviços e Turismo (CNC, 2021).

Additionally, festivities such as Carnival represent significant sources of revenue in tourism. Farias (2003) observes that these celebrations are central symbols of Brazilian cultural tradition, promoting the circulation of symbols and the redefinition of urban spaces, stimulating the leisure and entertainment trade.

This year, 2025, around 8 million people visited the state of Rio de Janeiro to enjoy Carnival, with at least 160 countries represented, as highlighted by Nilo Félix, Deputy State Secretary of Tourism. According to O Globo (2025), the economic impact of this event is significant. As evidenced by the Deputy Secretary, the festival generated approximately USD 6.5 billion, with 5 billion reais moved in the capital of Rio de Janeiro alone. The 2025 Rio de Janeiro Carnival created around 50,000 jobs related to both the preparations and the event itself.

> Observing the chain of development promoted in recent decades, it is noticeable that the materiality of tourism has given consistency to travel niches and tourist places. These have increasingly corresponded to spaces of intense circulation and dense functional integration of the global capitalist economy, demarcated as territories with undefined borders, permeated by the signs of modern civilization through the materiality of its utensils and the regulation of its cosmopolitan institutions, nestled in the transnational consumption network (Farias, 2005, p. 665).

Farias (2005) further highlights that, in Brazil, tourism adapts to local geographic and ethno-historical characteristics. Graphs like the one presented in Figure 2 show hotel occupancy rates in Rio de Janeiro between 2019 and 2023. The city reached 90% occupancy in 2019, with a slight decline in 2022 due to the suspension of Carnival, but a significant recovery in 2023, when rates reached 96%.

Figure 2. Hotel occupancy during Rio de Janeiro Carnival in the years 2019, 2020, 2022, and 2023.
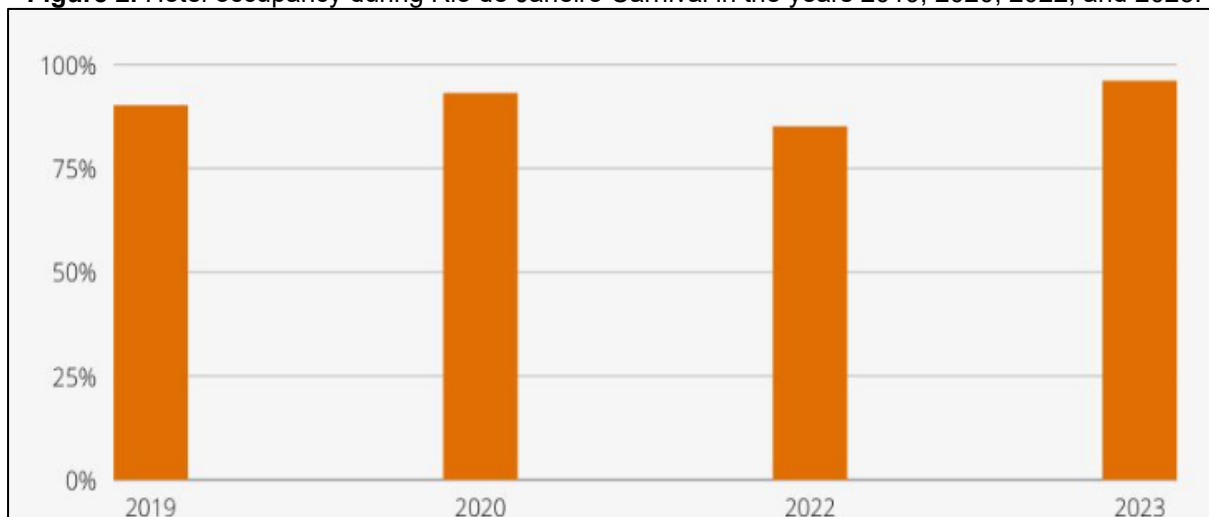
Source: Sindicatos do Meios de Hospedagem do Rio de Janeiro (HotéisRio) (2022); Associação Brasileira da Indústria de Hotéis (AHIB – RJ) (2023) e RioTur (2019).

In archaeological tourism, geoparks stand out. The UNESCO Global Geoparks are territories of scientific, cultural, geological, archaeological, and historical importance. A notable example is the Seridó Geopark (Figure 3) in the state of Rio Grande do Norte, which was included in UNESCO's list as cultural heritage in 2021. With geological ages of up to 640 million years, the region has 21 geosites and attracts tourists interested in geodiversity and unique landscapes.

Figure 3. Geoparque Seridó – Geossitio Xiquexique - Coordinates: 6º33'04"S / 36º33'31"W.

Source: UNESCO (2022).

The growth of tourism in the Seridó Geopark has been remarkable, with special attention to the Xiquexique and Monte do Galo archaeological sites, whose attractions have significantly increased with UNESCO recognition. Ruschmann (2002) observes that today tourism is a collective phenomenon, emerging from an urban and technicist reality. However, the lack of investment in many places prevents them from being recognized, limiting their tourism and economic potential.

Novaes (2016) explains that the identification and delimitation of a geopark must be based on three main pillars: geoconservation, geoeducation, and geotourism. Silva et al. (2021) and Hose (2012) highlight that geotourism goes beyond the simple appreciation of landscapes, promoting the understanding of geological transformations over time, which is especially valuable for school tourism. UNESCO (2024) emphasizes that the creation of businesses focused on geological tourism can generate new sources of income, in addition to promoting awareness about geosite conservation.

The Seridó Geopark, traditionally focused on activities such as livestock farming, agriculture, and mining, has seen a diversification in its economic activities, including dairy production, goat and sheep farming, and tourism. In 2020, the six municipalities that make up the Geopark represented 32.37% of the GDP of the Seridó Potiguar Microregion, moving over 345 billion reais (Idema, 2009).

However, sustainable tourism must be a priority, aligning economic progress with environmental and social awareness. Nascimento (2020) suggests that combining geoconservation with income and employment opportunities can create an effective sustainable development strategy, strengthening the connection between communities and their natural and cultural resources.

Another important example is the Serra da Capivara in Piauí, which encompasses more than 1,300 archaeological sites. In 2020, the region received investments of 200 million reais in the Investe Turismo program, benefiting 56 municipalities. Tourism in Serra da Capivara not only contributes to the local economy but also to cultural conservation and appreciation. The Serra da Capivara National Park is prepared for public use with more than 400 kilometers of roads and trails, as well as accessible walkways in 16 archaeological sites.

Brazil (2019) and Rodrigues (2021) highlight that the interdisciplinary research conducted in Serra da Capivara has driven the creation of conservation and management strategies that have been integrated into the socio-environmental development of the region, aiming to transform it into a tourist hub.

Additionally, Rodrigues (2021) mentions the construction of the Museum of the American Man (MHA) and the Museum of Nature, which have become important tourist attractions. The MHA displays the Zuzu skull, as well as informational panels about the settlement in America and significant archaeological artifacts from the region. The Museum of Nature, with its modern museology, showcases the natural evolution of the area, including fossils of the Pleistocene megafauna, in a 1,700-square-meter snail-shaped structure. In its first year, the museum attracted over 50,000 visitors, strengthening both tourism and the local economy.

As Scherer (2005) observes, the emotions elicited by tourist destinations, when related to material and symbolic elements, create a bond between the place and the visitor, reinforcing the value of the location for the community.

Archaeological tourism has the power to generate economic benefits but also to promote cultural transformation in local communities. The practice of tourism, by attributing new meanings to historically neglected places, can contribute to cultural and economic valorization. As Trigo and Neto (2003) state, tourism is shaped by collective consciousness, through the senses and memories, being capable of redefining identities and generating new sources of income and employment.

In this same line of reflection, measuring the economic value accurately becomes challenging, as it does not involve just the itinerary, food, tickets, and people, but encompasses the whole, reaching people directly and indirectly. According to Molina and Rodríguez (2001), contemporary tourism is essentially a product of culture in its broadest sense. Therefore, economic explanations and definitions, although important, are insufficient to fully understand the importance and complexity of tourism, as they do not encompass or consider the various dimensions of this phenomenon.

ARCHAEOLOGICAL TOURISM: INCLUSION, CULTURAL, AND HISTORICAL PRESERVATION

Reforming local development requires a focus on the human aspect, as highlighted by Martins (2002). This involves not only creating economic opportunities but also the active participation of the local community in the development process. It is not merely a transfer of benefits to the community but a collaborative process that generates a sense of belonging to the territory. Raffestin (1993) argues that this connection with the place, through identity and a sense of belonging, intensifies during the process of occupation and organization of a particular area. By attributing cultural, symbolic, and affective values to the

region, people re-signify the environment they live in as a reflection of their own histories and identities.

Continuous and effective community involvement in the development process of tourist spaces is not limited to formality but is an essential element for the success of tourism. In a postmodern world, tourists seek experiences that reveal what is unique and distinctive. According to Mundet (2016), contemporary tourists value the authenticity and uniqueness of destinations, seeking more than the standardized tourist packages of the past. They are interested in genuine cultural practices, such as local art, musical traditions, or typical cuisine that can only be found in a particular region. The growing demand for unique experiences shows that modern tourism is moving away from the mass model, favoring what is rare and authentic.

According to Laraia (1986), Edward Tylor (1832-1917) was responsible for popularizing the concept of "culture" in the field of ethnography, understanding it as a set of beliefs, values, artistic practices, legal systems, and other forms of behavior and knowledge acquired by individuals within a community. In this context, it is possible to reflect on how tourism can be both a tool for cultural appreciation and an inclusive activity that transcends immediate profit to benefit local communities.

However, Krippendorf (2003) argues that in the contemporary era, tourism is often associated with entertainment, a form of leisure that serves as a "social anesthesia," alleviating social pressures on the working classes, while the elite remains the primary consumer of these experiences. The exclusion of local communities from this process is a negative aspect of tourism. However, data from SEBRAE (2022) show that archaeological tourism has the potential to drive a production chain, encompassing travel companies, accommodations, restaurants, and other sectors, resulting in economic growth for neighboring communities. This type of tourism depends on a joint effort between tourists and the local community to preserve archaeological sites and maintain the region's authenticity and cultural identity.

Woodward (2007) highlights that culture is not only a symbolic construction but also immersed in objects and material aspects, such as social structures that interact with inequality and diversity. Tourism, therefore, arises from the human need to interact with these cultural assets, whether tangible or intangible, and this process can promote a deeper understanding of social structures, power relations, and identity construction.

Tourism stems from the need for interaction with cultural assets, dating back to the 16th century with the so-called Grand Tours. These were organized study journeys lasting two to three years, undertaken by young English nobles and bourgeoisie, aimed at learning about arts, other cultures, and languages. Initially elitist, it developed into a Fordist production model, becoming a mass segment. Gradually, it

was introduced to the global population, being consumed as a purely economic activity. The need to reverse this objective concept became necessary since it was a practice that did not benefit the local community and harmed the environment (Almeida & Ferreira, 2017, p. 141).

Exemplifying an inclusive model of archaeological tourism, we can observe the TURARQ project (Archaeological Tourism for Low-Density Territories of the Médio Tejo), aligned with UNESCO's Bridges program. This project aims to integrate various fields of knowledge, including the humanities and social sciences, with local and traditional knowledge. The research and education proposal, combined with actions aimed at global sustainability, seeks to coordinate resilient strategies that respond to environmental and social changes at the local level, promoting community development and strengthening the identity of the territories.

The formation of cultural identity plays a fundamental role in local development, as highlighted by Kashimoto, Marinho, and Russeff (2002). The authors emphasize that it is essential for the community to strengthen its identity so that it can lead its own development process and choose solutions that meet its needs. Amartya Sen, in his book Development as Freedom (1999), argues that development should not be merely economic, but also a process of expanding people's real freedoms, making it essential to promote cultural identity and active community participation so that they can guide their own development.

Moreno Melgarejo and López (2017) emphasize that sustainable archaeological tourism can be a vehicle to promote public interest in archaeology and the conservation of archaeological heritage, especially in low-population-density regions such as Médio Tejo, where archaeological heritage represents more than 90% of the region's resources. The development of policies aimed at archaeological tourism not only involves the promotion of the practice but also the conservation of the history and identity of territories, ensuring that these heritage sites are preserved for future generations.

Active participation of the local community is a crucial factor in the development process of tourism projects. This not only ensures the strengthening of the sense of belonging but also contributes to authentic and meaningful experiences for tourists. Ferraz, Melo, and Simão (2023) observe that the interpretation of archaeological heritage can be a valuable tool to enhance local tourist appeal, encouraging greater tourist participation through creative narratives that associate tangible and intangible aspects of the heritage.

Another example of inclusive tourism is the Caiçara Network in Paranaguá, on the coast of Paraná. Colleti et al. (2022) describe the Network as an organization involving five local communities that, since 2012, has been structuring itself with the support of universities and municipal secretariats. In 2014, the region began its first tourism activities,

and in 2018, the Paraná Coast Hosts Network consolidated collaboration among community tourism groups. The local organization is growing, with inns, snack bars, and family accommodations, as well as sustainable financial practices. Local cuisine, such as crab fishing, is central to the identity and income generation in the communities, showing how tourism can reinforce and integrate local culture into tourism activities.

> Local development can take various territorial cuts and be implemented in neighborhoods, districts, municipalities, geographical microregions, geographical mesoregions, state planning regions, river basins, states, and others. Therefore, the local is not a matter of scale but of nature, as various authors point out. It does not result only from a demarcation made on the map based on pre-established criteria, although government policies can select priority areas for local action (Kronemberger, 2011, p. 32).

Thus, Kronemberger (2011) highlights a series of crucial concepts for local development, including community protagonism, social participation, citizenship, and entrepreneurship. In particular, social participation is fundamental, with archaeological tourism emerging, when integrated with local development and cultural preservation, as a powerful tool to promote economic growth while respecting and valuing the identity of local communities. The preservation of heritage and the strengthening of local participation are essential to ensure that tourism truly benefits communities and contributes to sustainable and inclusive development.

THE DEVELOPMENT OF ARCHAEOLOGICAL TOURISM AND ITS APPLICATION IN EDUCATION, TEACHING SCIENCE, MATHEMATICS, AND GEOGRAPHY

The development of archaeological tourism over the past decades has proven not only to be a tool for enhancing cultural and historical heritage but also a powerful educational tool. The possibility of integrating archaeological tourism with education allows tourists and local communities to actively engage in the process of preservation, appreciation, and dissemination of knowledge involving archaeological, cultural, and historical practices. Furthermore, archaeological tourism provides a practical context for teaching subjects such as Science, Mathematics, and Geography, offering a rich interaction between theory and practice (Almeida & Ferreira, 2017).

Education, in its broadest sense, involves the process of transmitting and exchanging knowledge. Archaeological tourism, by bringing people closer to historical and cultural remnants, promotes meaningful learning, where knowledge is not only passively received but experienced interactively. Direct contact with archaeological heritage makes the experience more concrete, allowing visitors to understand the historical and cultural realities of the places visited.

When combined with innovative pedagogical methods, archaeological tourism becomes a powerful tool for teaching Science, Mathematics, and Geography, as it allows for the practical contextualization of content. Visits to archaeological sites enable the observation of the environment and the techniques used by ancient peoples, promoting multidisciplinary learning that involves various aspects of knowledge (Campos et al., 2024a, Campos et al., 2024b, Oliveira et al., 2013, Pires & Campos, 2012, Pires et al., 2012).

Science education benefits from archaeological tourism by allowing the integration of scientific concepts with practical experiences. Students have the opportunity to understand how early peoples interacted with the natural environment, how they utilized natural resources, and how these practices influenced the evolution of human societies. According to Laraia (1986), subsistence practices and the technologies employed by ancient peoples are fundamental to understanding the relationships between humans and nature. By visiting an archaeological site, students can learn about the use of ancient technologies, such as shelter construction, agriculture, water control, and the use of utensils, all based on knowledge of nature.

Additionally, archaeological tourism offers a direct experience with local biodiversity, allowing the observation of ecosystems and their interactions, as well as enabling the teaching of topics related to geology and paleontology. Archaeological discoveries, often associated with the analysis of fossils and natural remnants, help illustrate concepts of biological evolution and Earth's history, making learning more dynamic and interesting (Rosenberg & Shreeve, 2006).

Mathematics, although often seen as an abstract discipline, finds fertile ground for its practical application in archaeological tourism. Many archaeological structures, such as temples, pyramids, and ancient cities, were built using advanced geometric and mathematical knowledge for their time. The study of proportions, symmetries, scales, and measurements present in ancient constructions can be used to illustrate mathematical concepts in a tangible way (Burns, 2012).

Classic examples of mathematical application can be found in the construction of the Egyptian pyramids, the Nazca lines, or the Mayan cities, all designed with an impressive level of mathematical sophistication. During visits to archaeological sites, students can study how ancient civilizations used geometry to build structures that have endured for millennia, offering a practical understanding of mathematical concepts (Almeida & Ferreira, 2017).

Geography, as a field of knowledge that studies the interactions between humans and the environment, also benefits from archaeological tourism. Visiting archaeological

sites allows students to understand the relationships between ancient civilizations and the geographical spaces they occupied. Through the study of ancient human settlements, it is possible to understand how the physical characteristics of the territory influenced the choices of locations for building cities, dwellings, and centers of power (Campos et al., 2024a, Campos et al., 2024b, Oliveira et al., 2013, Pires & Campos, 2012, Pires et al., 2012). According to Imparato and Lara (2007), the study of ancient societies reveals how geographical characteristics influenced their social, economic, and political dynamics.

Additionally, archaeological tourism offers an opportunity to observe land use transformations over time, including changes in ecosystems, the impact of human activities on the natural environment, and how ancient societies developed their own solutions to environmental problems such as water and food scarcity (Santos & Almeida, 2006). Field activities related to archaeological tourism also allow students to apply geographical concepts, such as map reading, landscape analysis, and identification of natural and human elements that characterize an archaeological site. In this way, archaeological tourism can provide an immersion in the study of relationships between humans and the environment throughout history (Campos et al., 2024a, Campos et al., 2024b, Oliveira et al., 2013, Pires & Campos, 2012, Pires et al., 2012).

Several projects have sought to integrate archaeological tourism with the teaching of Science, Mathematics, and Geography. An example is the ARQUEOMAP Project [11] (Archaeological Research Project), which aims to create an interactive educational resource for schools and tourists, allowing the exploration of archaeological sites and their relationship with the territory. The project combines technology and education, using interactive maps to illustrate the evolution of different regions over time and how ancient civilizations adapted to the environment (Ferraz, Melo & Simão, 2023).

Another example is the ARCHEOED Project [12], which offers educational workshops at archaeological sites, focusing on the teaching of Geography, Natural Sciences, and History through practical activities such as simulated excavations and artifact analysis. This type of initiative has proven to be effective not only for tourists but also for educators and students, creating a dynamic and immersive learning environment (Woodward, 2007).

Although archaeological tourism has great educational potential, it also faces challenges. Heritage preservation is one of the biggest obstacles, as increased tourism can jeopardize the integrity of archaeological sites. Education on the importance of conservation

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[11] Disponível em: <https://www.arqueomap.com/proyecto-de-investigacion-arqueologica/>
[12] Disponível em: <https://www.archeoed.it/>

and respect for sacred and historical spaces is essential to ensure that tourism does not cause irreversible damage (Krippendorf, 2003).

Additionally, a joint effort between educators, archaeologists, tourism managers, and local communities is necessary to create educational programs that are inclusive and accessible to all audiences. The training of specialized and skilled tour guides to convey knowledge accurately and engagingly is also crucial for the success of archaeological tourism as an educational tool (Laraia, 1986).

By integrating tourism with education, it is possible to transform learning into an experiential process, stimulating students' interest and promoting respect for cultural and historical heritage (Campos et al., 2024a, Campos et al., 2024b, Oliveira et al., 2013, Pires & Campos, 2012, Pires et al., 2012). With proper management and a sustainable approach, archaeological tourism has the potential to significantly contribute to the educational and cultural development of communities and future generations.

ARCHAEOLOGICAL TOURISM AND INCLUSIVE EDUCATION: APPROACHES FOR STUDENTS WITH NEURODIVERSITY

Promoting inclusive education in the context of archaeological tourism is essential to ensure that all students, regardless of their particularities, have access to quality learning. Archaeological tourism offers a unique opportunity to work with different learning styles, using diverse approaches that cater to the needs of students with neurodiversity.

Neurodiversity is a term that refers to various conditions related to diverse brain development, such as Autism Spectrum Disorder (ASD), Attention Deficit Hyperactivity Disorder (ADHD), Giftedness/Talentedness (GT), dyslexia, dyscalculia, dyspraxia, and others. People with neurodiversity are also called neurodivergent (Abreu, 2022). In this article, we will focus specifically on strategies that can be used to include students with ASD, ADHD, and GT in archaeological tourism.

The enrollment of students with ASD, ADHD, and GT is increasingly frequent in universities, highlighting the need to promote inclusive strategies so that these students can actively participate in the academic environment (Oliveira et al., 2024, Oliveira et al., 2025).

Neurodivergent students present sensory issues that impact their educational activities, as they can be hypo- or hypersensitive, which at certain times can lead to sensory overload and contribute to the exclusion of these students from the learning process (Diniz, 2024). In this sense, the controlled environment of an archaeological site can be challenging due to excessive sensory stimuli, such as noises, crowds, and environmental changes. Therefore, it is essential to plan visits and activities with special care to minimize

these stimuli. The use of visual resources, such as detailed maps, videos, and illustrations of artifacts, can help in preparing for the visit, allowing the student to engage more calmly with the presented content.

Additionally, interaction with the physical environment in a tactile manner can be a valuable learning method for students with neurodiversity. Exploring replicas of artifacts, for example, can be a sensory activity that allows students to make tangible connections with historical and cultural content.

Students with ADHD often have difficulty maintaining focus for long periods, which can be a challenge in activities that require continuous attention. Therefore, visits and educational activities should be short, interactive, and dynamic to keep these students engaged. Dividing the visits into smaller parts, each with a specific objective, can help maintain the attention of students with ADHD.

Furthermore, teaching strategies that involve movement, such as outdoor activities that allow for active exploration of the site, can be effective. The use of educational games, interactive quizzes, and challenges that involve critical thinking are also methods that can be applied during visits to stimulate the participation of students with ADHD, promoting learning in a fun and engaging way. According to Barkley (2000), active engagement and the practical application of concepts help improve focus and information retention in students with ADHD.

For students with GT, archaeological tourism offers a wide range of opportunities for in-depth learning. These students can benefit from activities that encourage critical thinking, complex problem-solving, and the exploration of topics in a more advanced manner. During a visit to an archaeological site, activities such as artifact analysis, ancient map reconstruction, or research on archaeological techniques can be particularly stimulating.

Additionally, these students can be encouraged to develop research projects involving archaeological tourism, such as creating educational materials for other students or conducting comparative analyses of different cultures and archaeological practices. According to Reis and Renzulli (2004), offering intellectual challenges appropriate to the needs of gifted students helps to promote the development of their cognitive and creative abilities.

Souza and Fert (2024) analyzed accessibility for conducting tourism activities for people with ASD and concluded that "despite currently having some initiatives in the tourism activity, accessibility for people with ASD is still quite incipient" (Op. cit., p. 1). This difficulty related to accessibility for tourism practice extends to other students with neurodiversity. To ensure that archaeological tourism is truly inclusive, it is necessary to

consider the needs and potential of all students (Oliveira et al., 2024, Oliveira et al., 2025). Some strategies include:

- Pre-Planning: Adapt the content of the visits according to the students' needs, providing support materials in advance, such as videos, simplified texts, or adapted versions of maps and charts.
- Sensory Support: For students with ASD, creating moments of pause or quieter spaces where they can recover from excessive stimuli can be an effective strategy.
- Assistive Technology: The use of technologies such as augmented reality applications or interactive videos can help make the experience more accessible, allowing students to engage with the content in a way that fits their learning style.
- Practical and Interactive Activities: Including field activities, such as artifact hunts or the use of replicas to reconstruct parts of archaeological sites, can be an excellent way to engage all students, especially those with ADHD and giftedness.
- Support Group: For students with specific learning difficulties, it is important to ensure adequate support during the visit, whether it be a companion or a specialized guide, to help explain concepts and facilitate interaction.

Archaeological tourism presents itself as a rich example of active learning methodology in which students explore and reinterpret the content learned in theory. Active learning methodologies are indicated by the literature as crucial strategies to promote the inclusion of neurodivergent students (Brito & Paniago, 2024).

By adopting these inclusive approaches, archaeological tourism can become a powerful means not only for teaching the subjects of Science, Mathematics, and Geography but also for promoting educational inclusion and ensuring that all students, regardless of their needs, have the opportunity to learn in a meaningful and engaging way.

FINAL CONSIDERATIONS

The development of archaeological tourism, especially when combined with inclusive education and the empowerment of local communities, is a relevant strategy to promote cultural and historical preservation while contributing to education and economic development. Through the approach adopted in this work, it was possible to understand that archaeological tourism, when understood not only as an economic practice but also as a means of inclusion and cultural appreciation, has the potential to positively impact the communities involved and the spaces that preserve historical heritage.

Firstly, the concept of local development was highlighted, which should not be seen as a simple process of economic growth, but as a transformation integrated into the well-being and active participation of community members. Genuine local development involves the inclusion of local inhabitants in the decision-making process and in building the future of their own regions, which strengthens the sense of belonging and cultural identity. Through examples of projects like TURARQ and the Caiçara Network, it was observed how collaboration between different social actors can result in more sustainable and inclusive tourism practices that benefit communities by generating employment and promoting cultural and historical knowledge.

Furthermore, the reflection on archaeological tourism broadens the understanding of tourism's role not only as a form of leisure but also as an educational activity capable of raising awareness among tourists and local communities about the importance of preserving cultural heritage. In this context, the promotion of inclusive archaeological tourism becomes an effective tool for raising awareness about the importance of local culture and tangible and intangible heritage, while promoting the development of more ethical and responsible tourism.

Based on the analysis of archaeological tourism in low population density areas, such as the Médio Tejo, it was possible to understand that education and the preservation of archaeological heritage are intrinsically linked to identity and local development. Tourism, in this sense, should be a tool for valuing local memory and culture, not only as an economic activity but also as a way to strengthen the community's sense of belonging. The described initiatives emphasize the importance of collaborative strategies that involve the community at all stages, from the creation to the execution of tourism projects, ensuring sustainability and respect for the cultural identity of the places.

Another central point was the integration of inclusive education in the context of archaeological tourism. Considering the importance of ensuring that all students, regardless of their cognitive or behavioral specificities, have access to knowledge, it was discussed how inclusive practices can be allied to the teaching of Science, Mathematics, and Geography. Inclusive education should be at the core of pedagogical practices, allowing students with Autism Spectrum Disorder (ASD), Attention Deficit Hyperactivity Disorder (ADHD), and giftedness to fully engage with archaeological tourism content. Adapting curricula and teaching methodologies to suit the needs of these students makes archaeological tourism an educational and accessible environment capable of promoting meaningful learning.

In conclusion, the integration of archaeological tourism with inclusive education and cultural and historical preservation proves to be a promising path for building a more just, conscious, and sustainable society. When combined with educational practices that value diversity and inclusion, archaeological tourism can serve as a means of social and environmental transformation, benefiting both local communities and tourists by creating experiences that promote knowledge and respect for history and culture. The role of education, in this context, is essential, as it enables future generations to understand the importance of preserving heritage and building a more equitable and inclusive future.

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