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Article

Teaching Innovation and Teaching–Learning Methods Integrated into Education for Sustainable Tourism Development in a Bachelor of Tourism Program

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Abstract: Sustainable development has become the aspiration of many developing countries, including Ecuador. The introduction of Bachelor of Tourism studies at the Technical University of Manabí aligns with this interest, implying a challenge for teachers regarding the application of integrative and innovative teaching methods that promote the training of professionals with high scientific rigor, both in technical and professional senses. To achieve this, the pedagogical group started from three fundamental principles based on the application of teaching work methods and procedures, as well as the determination of interactions between the various factors that directly and indirectly influence the training process of professionals in the tourism sector. The results of comprehensive evaluation processes considering both the academic performance of the teachers and the level of satisfaction of students taking the course support the application of these teaching–learning methods, as well as highlighting the convenience of extending the experiences and research results of the pedagogical team to other vocational training centers for tourism activities.

Keywords: pedagogical experiences; educational innovation; teaching methods; open pedagogy; sustainable tourism

1. Introduction

Contemporary society demands the application of a new social contract for education that addresses inequalities and guarantees a sustainable future for new generations [1]. Therefore, innovation in pedagogical processes and the sustainability of the educational process must be guaranteed [2]. The new social contract must be based on human rights and the principles of non-discrimination, social justice, respect for life, human dignity, and cultural diversity, instilled through open pedagogy and education that prioritizes soft skills and allows us to embrace an ethic of care, reciprocity, and solidarity among all human beings [3].

The vision referred to in the previous paragraph guides the pedagogical group that works with the Bachelor's Degree in Tourism at the Technical University of Manabí in the Republic of Ecuador, in which 1616 students are currently carrying out their studies.

The transformative dynamics of Ecuador's political and economic development in recent years have influenced the stability of the country's educational process, especially with regard to higher education. The constant reductions and inefficient budget execution of universities starting in 2019 negatively impacted the development of research and connections with society, which has represented a setback in educational innovation in the context of Ecuadorian higher education [4].

In the 2030 Education Agenda, [5] the United Nations Educational, Scientific and Cultural Organization (UNESCO) proposes to guarantee inclusive, equitable, and quality education, as well as the promotion of lifelong learning opportunities for all.

As the document states, "Education for sustainable development can provide the knowledge, awareness and actions that empower people to transform themselves and transform societies" [5].

The content of education is not static and, by definition, includes a cognitive component of skill acquisition and a behavioral objective. Both evolve and are open to the integration of new content according to the needs of society [6–8].

The controversial term environmental education has given way to the concept of education for sustainable development [9–14]. In all cases, it is inferred that pedagogical projects must evaluate the context in which they are developed and adapt to the particular characteristics of each region or country [15,16].

Among the strategies followed to achieve sustainable education, the creation of capacities and training to improve skills and the development of training actions in the interest of communication between sectors, coordinated planning and management of the study programs and evaluation of the results, the design of materials, and the coordination of actions between the intervening actors should be considered [17–19]. Research and innovation are also considered to be key factors, and they involve the development of reference studies to establish progress indicators throughout the entire professional training process, as expressed previously [20–27].

The university, understood as a human group that shares a commitment to higher education, incorporates a human component that is committed to the comprehensive training of students not only in academic subjects but also in the social dimension, with the aspiration of forming citizens who are committed to society [28].

After the Industrial Revolution, education underwent a transformation and ceased to be a mechanism for the transmission of knowledge, instead becoming a system for preparing people to be part of the productive economy. Now, we have moved from a society based on the production of consumer goods to another, where the essential thing is the creation of new knowledge and the transfer of the results to society [21,29,30].

At present, the common denominator of pedagogical models in higher education is committed to the introduction of inductive methodologies, which range from understanding the teaching process as an exercise in the transmission of knowledge to a process of inducing student learning, requiring them to overcome challenges and answer questions asked by the teacher, thus inducing the need to search for information and learning with the aim of producing new knowledge [31–33]. The aim is for the student to acquire knowledge through confrontation with problematic situations that generate experiences through the induction of knowledge, which they must learn and transfer to other circumstances [34,35].

Problem-based learning establishes a break with the traditional education methodology. In this case, the teacher poses a problem to the students such that they must search for information, discuss it, apply new knowledge, and carry out tests and experiments, thus allowing them to reach precise conclusions related to the solution of the posed problem [36,37].

Despite the enrichment that research carried out in regions with different cultural contexts represents for knowledge related to tourism, as is the case in Latin American countries, the analysis and dissemination of studies carried out in other regions remain scarce [38]. The authors of [39–42] recognized that the quantity and quality of published research are decisive for the international recognition of universities and their educational programs.

Innovation becomes an unavoidable process if the aim is to achieve results that are significant in tourism studies [43]. It is important to identify the sources of knowledge utilized in ventures in the tourism sector, as well as their use as a safe platform to generate innovation [23].

According to the criteria of the authors of [24–27], innovation is a process related to tourism. It constitutes the introduction of new and improved products and services, and it is identified as the opportunity to generate creative ideas and take advantage of them, thus being considered a process of change.

The quintuple helix model constitutes a reference through which innovation in educational research processes can be included as a key element to promote innovation in tourist destinations based on the consideration of the educational, economic, natural environment, and political systems to guarantee the sustainability of tourism activities. It provides an opportunity that must be incorporated into the direction of the teaching–learning process, as it allows for interactions between the different nodes contemplated in the model to enhance the re-signification of learning experiences [44–46].

Educational innovation plays a key role in the materialization of changes that are manifested in the process and results derived from the correct inter-relation of the personal (teacher, student, group, family, community, and society) and non-personal components of the teaching and learning processes (objectives, contents, methods, means, procedures, forms of individual, frontal, group organization, and evaluation) [47]. In this context, the teacher becomes a tutor/supervisor and promotes greater student protagonism, achieving a balance between theory and practice of the teacher and student through technological advances in the field of education, including the internet, virtual learning environments, and various technological tools that are useful for study in higher education [48–50].

Social skills constitute an important component in the relationships that occur at any level in the student environment or at the level of personal relationships. In the university context, the treatment of topics that are binding based on professional careers usually occurs [51]. The act of sharing knowledge translates into a daily action, although it may not be channeled appropriately when based on a methodology that generates profitability in knowledge. It is necessary to apply methodologies that enable collective and participatory work that is of common benefit to the student group. The application of cooperative learning provides a way to generate these skills [52–54].

The objective of this article is to re-define the experiences of the pedagogical group that works to professionally train students studying the Bachelor's Degree in Tourism at the Technical University of Manabí in terms of the application of innovative teaching work methods and procedures, with the aim of achieving comprehensive education enabling the sustainable development of the profession in which they will work in the future.

2. Materials and Methods

2.1. Contextualization of the Research

The research was developed in the context of the Tourism Career of the Faculty of Administrative and Economic Sciences of the Technical University of Manabí, with a graduation profile aimed at graduating professionals trained with knowledge, skills, abilities, and values for successful performance in activities related to the tourism system, hospitality, leisure, and travel, being responsible for the creation and management of tourism services and products with emphasis on supportive and sustainable tourism. In this way, less-favored host communities may be benefited through community-based and inclusive tourism with various modalities in tourist destinations, both in the public and private sectors and in the popular and solidarity economy. The graduates will be characterized by their professionalism, warmth, and quality, which contribute to the transformation of the productive matrix, in accordance with projections for the sustainable development of the territory [55].

The mission is to train graduates in the field of Tourism who are integral leaders, entrepreneurs, and innovators that are capable of promoting the country's tourism development in an ethical and socially responsible manner, being hospitable, service-oriented, and customer-oriented, as well as

committed to local development, endogenous tourism, and the 2030 Agenda for sustainable development [55].

The vision of the faculty consists of being leaders in the comprehensive training of professional and competent tourism graduates, who respond to territorial demands and the challenges that tourism imposes in the 21st century and who are capable of promoting the endogenous local development of tourism in community contexts according to the paradigm of sustainable development and the objectives declared in the 2030 Agenda for sustainable development [55].

2.2. Experiences Achieved in the Materialization of Teaching Innovation Methods

When considering previous analyses, it is essential that teachers develop practical organizational skills for the use of new technologies and the assertive management of their relationships with students, which implies consideration of the pedagogical process from an innovative perspective and the development of soft skills that occupy a prominent position [56–58]. To achieve success in this endeavor, the commitment to collaborative learning is essential, which implies achieving greater interaction between the teacher and students through new and varied ways of teaching and learning [59–61].

The main task of the pedagogues who carry out the Bachelor's degree in Tourism at the Technical University of Manabí, highlighting the importance of this procedure, can be synthesized as a group of actions that are developed in three main directions towards a specific goal, as shown in Figure 1.

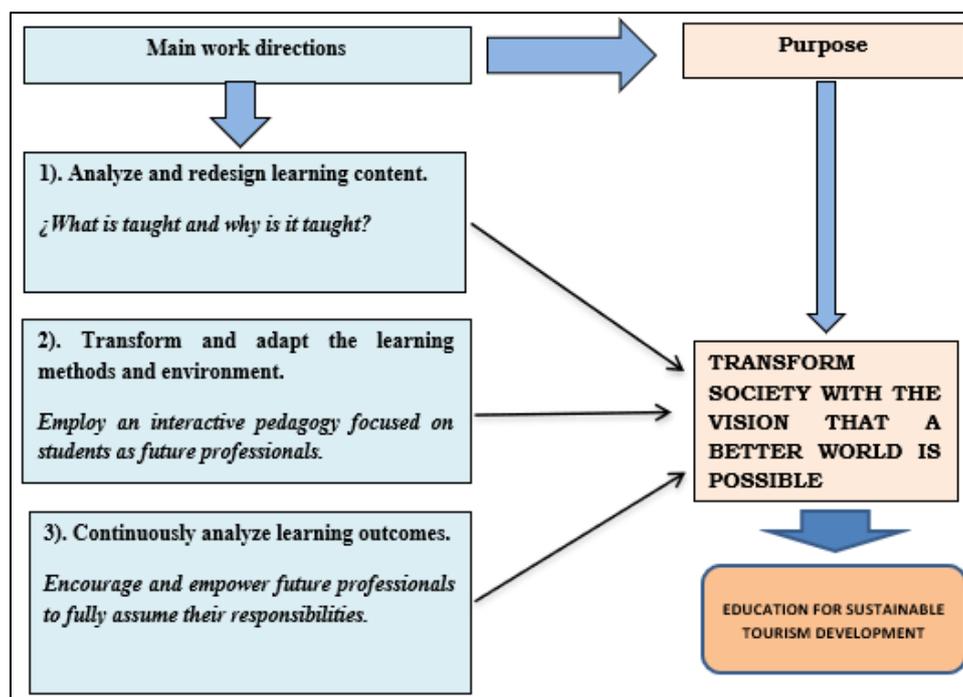


Figure 1. Main directions to follow in the actions of the pedagogical group. Source: self-made.

In [62], it was pointed out that, for materialization of the main work directions, the teachers of the Bachelor of Tourism put into practice permanent collaboration between all the teachers who make up the pedagogical group as a fundamental principle. This is achieved through consideration of the subject groups that were developed under the direction of the teachers who have authored the integrative subjects at each of the levels, as shown in Table 1.

Table 1. Integrative subjects at each level in the study plan.

| Level | Integrative subject | Significant elements resulting from the research |
|-------|------------------------------------|---|
| 1st | Introduction to the Tourism System | Argue, from theoretical, methodological, and epistemological assumptions, the relationship that exists between the components that are part of the tourism system |

| | | |
|-----|---|--|
| | | for the establishment of cause–effect relationships. |
| 2nd | Tourist Geography of Ecuador | Compare differences and similarities of the regions and tourist destinations of Ecuador, emphasizing geographical location, resources, and attractions. |
| 3rd | Tourist Modalities I | Diagnose the processes and sub-processes of tourism exploitation related to accommodation, apartments, and restaurants based on case studies linked to the community in the tourism modalities studied. |
| 4th | Regional and Ecuadorian Cuisine | Apply basic food techniques and preparations associated with regional and Ecuadorian cuisine. |
| 5th | Tourist Modalities II | Diagnose, from case studies linked to the community, the tourism modalities that are studied, along with the processes and sub-processes of tourist operations related to recreation, tourist entertainment, and bar services. |
| 6th | Quality Management in Tourism | Apply the standards, tools, and techniques used for quality management in tourism companies and their statistical foundations. |
| 7th | Integrated Management of Tourist Destinations | Apply the main tools and good practices for the integrated strategic planning and management of sustainable tourist destinations. |
| 8th | Sustainable Tourism Ventures | Design and execute sustainable tourism ventures in the areas of social and community tourism. |

Source: self-made.

In the subject groups, integration of the objectives, contents, and skills in the evaluation instruments of the subjects and between related subjects is considered, essentially at the interdisciplinary, disciplinary, multidisciplinary, and transdisciplinary levels. The integrative evaluation of the system of knowledge, skills, abilities, and values is analyzed, as well as the problems that will be investigated in each of the organizational units of curricular learning.

The close and permanent link between the teaching staff and the students under the principles of promoting soft skills, which constitutes a first-order requirement during the preparation of each subject and is promoted through social interaction with the components of the development zones of the territory, allow for updating of the state of students' knowledge and skills continuously, thus enhancing the potential for professional development, in accordance with [63,64]

This interaction between teachers and students facilitates heteroevaluation [65], which consists of evaluation carried out by the students regarding the learning process utilized by the academic staff in each of the school periods, together with the self-evaluation (evaluations that the staff periodically carry out regarding their work and academic performance) and the co-evaluation (evaluations carried out by academic peers and directors) results, constituting the components for comprehensive evaluation of the academic performance of the teachers in the pedagogical group.

The establishment of collaborative agreements between the academy and various economic actors related to tourism activities in both the public and private sectors plays a determining role in achieving the desired quality of the educational teaching process [66,67]. These actors include those in the fields of accommodation, food and beverage services, tourist transportation (including air, sea, river, and land transportation and vehicle rental for this purpose), travel agencies, intermediation agencies (tourist services and organizers), events, congresses and conventions, casinos, game rooms (mechanical bingo), racetracks, and stable amusement parks.

In accordance with the criteria of [68], the curriculum of the Bachelor's Degree in Tourism is methodologically based on the fulfillment of a broad field of study related to the provision of tourist services. It is impossible to form and develop knowledge, abilities, skills, values (competences), and attitudes based on the deployment of creative initiative, innovation, entrepreneurship, commitment, dynamism, respect, and solidarity necessary for the exercise of the good practices in tourism without there being a close link between the professional training center and the various companies and actors in both the public and private sectors.

The link between training centers and companies in the tourism sector is key to the proper development of academic material, which leads the pedagogical group to continuously search for teaching work methods and procedures that would contribute to the materialization of active

methods for reflective and participatory teaching–learning that encourage participation, debate, searching for solutions, problem-solving, and decision-making by students [69–71].

The methodologies that are most useful include carrying out exploratory, descriptive, and correlational studies; explanatory or causal studies; participatory action research and case studies; the assessment of tourism data and statistical series as part of documentary research, market research, process modeling, methodologies, business strategies, and management systems; and exhibitions, discussion forums, seminars, and practical classes [72].

The most appropriate learning methodologies to guarantee the capabilities of exploration, construction, connectivity of knowledge and the development of critical and creative thinking in students are as follows [72]:

- Expository master classes that allow for the internalization of information and common teaching processes, which guarantee students' knowledge of the necessary training, methodologies, and processes to know, apply, intervene, propose, and conclude direct interventions in their professional actions [73,74].
- The introduction of content (instructive teaching model) where, in addition to what is explained by the teacher, it is possible for the student to participate in the construction of knowledge through the use of texts and bibliographic media [75,76].
- Active didactic models to encourage the students to inter-relate learning with teaching, in the interest of the student not only being a recipient of knowledge but, also, being able to apply it in a structured way [77,78].
- Open, collaborative, and integrated teaching (collaborative teaching model) that, at professional and degree levels, allows the student and teacher to integrate with the knowledge society, with respect to not only the traditional methodologies that are applied but also those practiced in the various contexts of action through the use of the various media associated with the information society and globalization [79,80].

Open and collaborative teaching, as an essential element of education based on the development of soft and inclusive skills at the professional and degree levels, allows for the insertion of innovation processes into sustainable endogenous local development of tourism and the generation of entrepreneurship through practical applications in the various contexts of action, in the use of the various media from the information society, as well as knowledge management, innovation, and globalization. Teachers change and reduce their roles as transmitters of information to a minimum, which is achieved through the presentation and contextualization of topics, as well as the formulation of professional problems emphasizing important aspects or those that are difficult to understand, allowing students to more easily access all kinds of information [81].

In the training of professionals, the teacher becomes a counselor and facilitator of learning, a provider and advisor of the most appropriate educational resources, and a mediator of learning in the different scenarios of future professional performance. This is achieved through enhancement of the creativity, initiative, independence, and ability to solve of professional problems of students through various scenarios in which they interact with companies and ventures dedicated to tourism activities, as well as the integration of all components of the development process of teaching and learning [82]. Some teaching work procedures that are applicable to the collaborative teaching model are detailed in Table 2 [79,83].

Table 2. Teaching work procedures as alternatives for application of the collaborative teaching model.

| Types of procedure | Teaching work procedures | |
|--------------------|--------------------------|---|
| | Activities | Instruments |
| Panels. | Network meetings. | Study of tourist communities. |
| Round tables. | Problem-based learning. | Presentation and evaluation of tourist services and products. |

| | | |
|---|--|--|
| Debates. | Interinstitutional scientific meetings. | Checklists and process audits. |
| Forums. | Pre-professional guided scientific visits. | Verification of standards and procedure manuals. |
| Seminars. | Link with the community. | Inventories of resources and tourist attractions. |
| Discussion groups. | Video filming. | Degree projects. |
| Conversations. | Competencies and display of skills of various operational processes. | Visits to museums and work centers, tourist routes, and guided tours of cultural and natural heritage. |
| Conferences. | Practical classes to develop skills. | Process monitoring. |
| Virtual tutorials. | Experimentation projects. | Presentation of papers. |
| Case studies. | Community linkage projects. | Participatory diagnoses. |
| Meetings with clients, familiarization groups, FAM, and travel agents. | Evaluation of satisfaction rates. | Monitoring and feedback in destinations, hotels and restaurants in tourist sites. |
| Application of survey systems and feedback systems. | Website design and monitoring. | Study of tourist image in social networks. |
| Market study and research. | Application of integrated project management tools. | Presentation of tourism projects. |
| Creation of ventures. | Application of SWOT matrix and other hotel management tools. | Evaluation of tourism sustainability indicators. |
| Practical application in different tourism modalities with emphasis on sustainable tourism. | Study of good international practices in sustainable tourism. | Poster presentation. |

Source: self-made.

2.3. Research Method, Techniques, and Tools

For research, interdisciplinarity implies the elements of contact between disciplines, in an environment where each contributes its research methods and concepts. Meanwhile, transdisciplinarity refers to the correspondences between disciplines from a simultaneous point of view, where the same research method is adopted [84,85].

The research presents an interdisciplinary and transdisciplinary approach related to teaching innovation and teaching-learning methods for sustainable tourism development in the Bachelor of Tourism degree, as well as its theoretical and methodological foundation that allows the experience of the pedagogical group that works in training to be redefined, thus enabling the professionalism of students pursuing a Bachelor's degree in Tourism at the Technical University of Manabí. Innovative teaching work methods and procedures are applied with the aim of providing a comprehensive education to students for sustainable development of the profession in which they will work in the future.

The use of a deductive method allowed for examination of the research problem from a general standpoint, accompanied by analyses of the theories related to educational innovation and teaching-learning methods that guarantee professional training in the Bachelor's degree in Tourism to ensure sustainable tourism development. The identification and development of the premises and objectives

of the work to reach conclusions related the studied topic are also enabled [86,87]. Figure 2 shows a diagram of the methodology applied for the research.

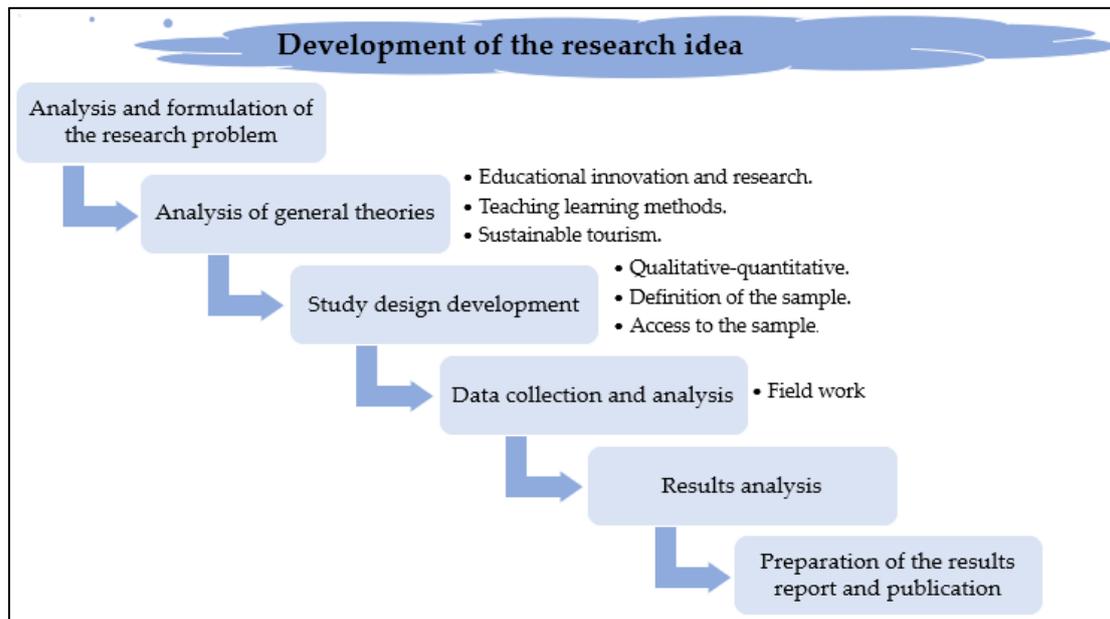


Figure 2. Diagram of the applied methodology. Source: self-made.

The research is descriptive, analytical, and explanatory and uses a mixed approach, allowing for integration of the contributions of the analysis related to the treatment and processing of the survey results obtained from students of the Bachelor of Tourism degree at the Technical University of Manabí. This made it possible to explore the phenomena linked to educational innovation, new teaching-learning methods, and the requirements of professional education linked to sustainable tourism in the 21st century [88,89].

This approach made it possible to understand the importance of the academic contributions made by the teaching group of the Bachelor of Tourism degree at the Technical University of Manabí, related to the application of innovative teaching models aimed at the professional skills linked to the degree, in the interest of promoting sustainable tourism in accordance with the demands of the 21st century.

Direct and indirect observations [90] allowed for a contextual approach to the different methods and models of educational innovation applied in the Bachelor of Tourism degree at the Technical University of Manabí, focusing on the training of professionals who are capable of developing and managing tourism models that respond to demands associated with environmental respect, sustainability, and improvement of the living conditions of the host communities.

The techniques of historical-logical analysis [91], analysis-synthesis, systematic review of literature and documents from primary sources [86], transition from concrete to abstract [92], and the systemic approach [93] were applied. Furthermore, statistical analysis was conducted for the processing of survey results [94]. As research instruments, the observation guide and a structured survey questionnaire were applied in the student group.

The structured questionnaire of the survey was prepared with 15 items distributed in 3 groups with 5 questions each: the first (items 1 to 5) and is related to learning in contact with the teacher; the second (items 6 to 10) is related to autonomous learning; and the third (items 11 to 15) is related to experimental practical learning.

The survey was applied based on methodological requirements including anonymity of the participants, demand for collaboration, and ethical commitment when processing the information [95]. Taking advantage of new technologies, the questionnaires were sent to the students electronically.

The bibliographic review made an analysis of scientific articles, theses, books, and documents from primary sources related to the topic of study from its different conceptual denominations possible [96]. The selection of documents included a rigorous review of the related literature, with special attention to publications between the years 2019 and 2024.

The theoretical result consists of the contribution made by the academic group that teaches the Bachelor's degree in Tourism at the Technical University of Manabí, which allows the professional training of the students to be re-defined through the application of innovative teaching methods and procedures, with a focus on comprehensive education for sustainable tourism development. This includes experiences that, due to their versatility, can be applied by other higher education centers in Latin American countries that have socioeconomic and environmental characteristics similar to those of Ecuador.

The study population was made up of 1616 students and 40 professors of the Bachelor's Degree in Tourism at the Technical University of Manabí. Based on the characteristics and context of the population, sample selection was conducted using the intentional non-probabilistic method, comprising 102 students and 10 teachers.

The 102 students were distributed as follows: Four at first-level and 15 in each of the remaining levels (from 2nd to 8th) of the Bachelor of Tourism degree. This was based on the guideline established in the Academic Regime Regulations of the Technical University of Manabí [97] on learning activities that seek to achieve the objectives of the degree.

The sample of 10 professors was made up of those linked to the training of tourism professionals, who voluntarily agreed to consultation of the record of academic performance evaluations for the last five academic periods. For this purpose, an analysis of the results of the application of the Comprehensive Evaluation Regulation with respect to the performance of the academic staff of the Technical University of Manabí was carried out [98].

For evaluation of the structured survey, a Likert-type scale was applied to measure the students' attitude towards their own learning during the process of their training as professionals.

The Likert scale is easy to construct and apply, and is used to measure or record complex information about respondents from the accumulation of responses on a topic. It is necessary to offer multiple-choice answers that are graded from positive to negative (or vice versa), but consistently in all questions. It is an ideal instrument to measure a person's reactions, attitudes, and behaviors [99].

The used scale had four values: Agree (4 points); I have no opinion (3 points); disagree (2 points); and strongly disagree (1 point). With the objective of rating the reliability of the designed instrument, an alpha coefficient of 0.86 was obtained.

The Likert scale was validated by ten professionals selected as experts in research methodology, who gave positive valuations regarding the validity and reliability of both instruments.

In the analysis of the teacher evaluations, the results obtained in each of five competencies that were most significant for the purpose of the research were compared: the first is related to the mastery of the contents of the subject; the second is related to the teaching methodologies used; the third addresses the use of new information and communication techniques (NICT); the fourth deals with the exercise of tutoring and evaluation of learning; and, finally, the fifth analyzes their ethical attitudes and interpersonal relationships. As stated in the Academic Regime Regulations of the Technical University of Manabí, each of the competencies was rated on a scale of 0 to 5 points.

3. Results

Table 3 shows the results derived from the application of the Likert scale in groups of actors by each item.

Table 3. Results of the Likert scale for groups of actors in each of the items.

| Items | Sample | La | I have no | | | | Total points | Arithmetic average |
|-------|--------|----|---------------|--------------------|----------------------------|-----------------------------|--------------|--------------------|
| | | | OK (4 points) | opinion (3 points) | In disagreement (2 points) | Strongly disagree (1 point) | | |
| 1 | 102 | 85 | 15 | 0 | 2 | 0 | 489 | 4.79 |
| 2 | 102 | 78 | 10 | 2 | 8 | 4 | 454 | 4.45 |
| 3 | 102 | 4 | 13 | 7 | 20 | 58 | 191 | 1.87 |
| 4 | 102 | 84 | 10 | 2 | 4 | 2 | 476 | 4.66 |
| 5 | 102 | 79 | 15 | 1 | 4 | 3 | 469 | 4.59 |
| 6 | 102 | 80 | 12 | 2 | 5 | 3 | 467 | 4.57 |
| 7 | 102 | 75 | 16 | 2 | 5 | 4 | 459 | 4.50 |
| 8 | 102 | 0 | 3 | 3 | 8 | 88 | 125 | 1.22 |
| 9 | 102 | 86 | 10 | 2 | 3 | 1 | 483 | 4.73 |
| 10 | 102 | 83 | 15 | 0 | 3 | 1 | 482 | 4.72 |
| 11 | 102 | 84 | 14 | 0 | 2 | 2 | 482 | 4.72 |
| 12 | 102 | 3 | 1 | 0 | 15 | 83 | 132 | 1.29 |
| 13 | 102 | 81 | 10 | 3 | 4 | 4 | 466 | 4.56 |
| 14 | 102 | 88 | 10 | 0 | 2 | 2 | 486 | 4.76 |
| 15 | 102 | 80 | 11 | 3 | 5 | 3 | 466 | 4.56 |

Source: self-made.

The synthesis of the results for each group of items is shown in Table 4.

Table 4. Average values of the scores for each group of items.

| Items | Upper Score | Lower Score | Average of the scores of the five items |
|---|-------------|-------------|---|
| Items 1 to 5 (Learning in contact with the teacher) | 4.79 | 1.87 | 4.07 |
| Items 6 to 10 (Autonomous learning) | 4.73 | 1.22 | 3.94 |
| Items 11 to 15 (Experimental practical learning) | 4.76 | 1.29 | 3.97 |

Source: self-made.

It was found that the majority of students showed an adequate attitude towards the learning process and positively valued the importance of the innovative processes and teaching work procedures developed for this purpose. Notably, seven students preferred not to give their opinion regarding the statement raised in item no. 3.

In general, students gave the lowest scores to items 3, 8, and 12, which were considered to state negative or incorrect aspects about the teaching–learning process.

The majority of respondents gave higher values to the items that affirmed aspects related to innovation in the teaching–learning process based on small planned improvements, the result of adaptation to improvements introduced from the external environment, and the use of new information and communication technologies. The lowest average scores corresponded to the statements about autonomous learning, which can be interpreted as an under-valuation of the students' internal potential.

As limiting aspects of the research, it can be noted that the transversality in obtaining information disallows analysis to be carried out on the variation of the evaluations obtained over time; furthermore, the voluntary and non-probabilistic nature of the sample limits the ability to make inferences from the rest of the actors not involved in the study.

Table 5 shows the results of the evaluations of ten professors linked to teaching in the Bachelor of Tourism during the last five evaluation periods. It reflects the average of the points achieved by the teachers in each of the five competencies taken into consideration for the study and in each of the evaluated periods.

Table 5. Average of the grades obtained by ten teachers in the evaluated competencies for each of the periods.

| Evaluated competencies | Evaluated periods | | | | |
|--|-------------------------------|----------------------------|-------------------------------|----------------------------|------------------------------|
| | October 2021 to February 2022 | May 2022 to September 2022 | October 2022 to February 2023 | May 2023 to September 2023 | October 2023 to January 2024 |
| Mastery of the contents of the subject. | 4.0 | 4.1 | 4.1 | 4.3 | 4.5 |
| Teaching methodologies used. | 4.2 | 4.2 | 4.3 | 4.5 | 4.8 |
| Use of new information and communication technologies. | 4.2 | 4.2 | 4.3 | 4.3 | 4.4 |
| Exercise of tutoring and evaluation of learning. | 3.9 | 4.3 | 4.7 | 4.8 | 5.0 |
| Ethical attitudes and interpersonal relationships. | 4.3 | 4.6 | 4.8 | 4.8 | 5.0 |

Source: self-made.

4. Discussion

The research results revealed that all teachers showed significant progress in the exercise of their teaching skills, which corroborates the importance of the work and control procedures carried out in the pedagogical group, as well as the joint search for new methods and procedures that stimulate the teaching and learning process through innovation, which enables the training of professionals for the sake of sustainability, in accordance with [1,2].

It was possible to demonstrate the importance of the new social contract in accordance with human rights, based on an open pedagogy and the prioritization of soft skills founded on an ethic of solidarity and reciprocity between teachers and students, in correspondence with the criteria addressed in [3].

The impact of the transformative dynamics of the policies outlined by the state in recent years was analyzed, including the limitations imposed by the reduction in higher education budgets. These affected the pace of research work and the connection with society, as well as the guarantee of inclusive, equitable, and quality education proposed in the 2030 Education Agenda, in accordance with the statements in [5] and the analysis results reported in [4].

In accordance with the criteria of [6,7], this research allowed us to verify that the content of education is not static, as it includes a cognitive component that is dynamic with respect to the acquisition of knowledge and skills focused on behavioral objectives, as well as the judgments expressed in the concept of sustainable development according to the characteristics of the territory, coinciding with the statements in [9–16].

The importance of the creation of new capabilities and the improvement of skills in the development of training actions that favor coordinated work between sectors in the interest of the management of vocational training was evident, in accordance with the analyses in [17–19].

In accordance with the criteria of the authors [20,21,43], it was possible to verify that research and innovation are key elements for the development of studies and the establishment of progress indicators in the training of professionals; where the identification of different sources of knowledge related to tourism ventures is in the same line as indicated in [23–27].

The eminently human character of the university and higher education was analyzed according to the comprehensive training function of the students, including the social dimension for the training of professionals with high social commitment, which maintains similarity to the analysis in [28].

The evolutionary character of the university as a training mechanism in the interest of the productive economy since the Industrial Revolution, as well as its current transformation based on the need for the creation of new knowledge through educational innovation and its transfer in the interest of social development, corresponds to the statements in [21,29,30].

At present, university pedagogical models focus on the articulation of methodological performance based on an inductive method promoting the induction of learning, overcoming research challenges, and the search for information aimed at the production of new knowledge, in line with the analyses in [31–35].

In the innovative process of the current university training system, where educational innovation is promoted, problem-based learning must prevail to encourage students to be able to search for information, discuss it, apply new knowledge, and develop experimental work that makes it possible to reach precise conclusions linked with solutions to the problems raised for the benefit of society, in accordance with [36,37].

According to the results of the research carried out by [38], it was possible to verify that in-depth studies on educational innovation in the Bachelor of Tourism degree are scarce. The relevance of the studies and research that allow us to re-define the importance of educational innovation in the context of the considered Bachelor's degree in Tourism is recognized, allowing for the introduction and improvement of new teaching methods, in the same direction as proposed in [39–42].

The re-signification of the methods linked to educational innovation and their consequent application for the professional training of Graduates in Tourism constitutes an essential process to achieve significant results in education, allowing for the identification of new sources of knowledge and the use of reliable platforms to promote and generate innovation, coherent with the criteria expressed in [23,43].

It is well-known that innovation is a process that is inherent to tourism for the generation of new and improved products and services. It constitutes an opportunity to generate ideas that are creative and promote their use as part of a transformative process, in a manner analogous to the indications in [24–27].

It was confirmed that educational innovation plays a significant role in enabling the materialization of changes for continuous improvement, favoring the inter-relationships between teachers, students, family, community, and society during the materialization of the teaching process. In learning, the teacher reconfigures their role as a tutor to enhance the student's performance in the use and exploitation of new technological advances, in correspondence with [47–50].

In accordance with what was pointed out in [44–46], considering the quintuple helix model provides an important opportunity to enhance teaching and research processes, being a key element of innovation that integrates the educational system with the economic system, the Natural environment, and the political system in the interest of guaranteeing the sustainability of tourism.

Similar to what was expressed in [52–54], the importance of the application of methodologies that promote participatory work in the interest of the group was proven as a way to promote the generation of professional skills.

It was found that the Bachelor's Degree in Tourism at the Technical University of Manabí emphasizes the mission and vision focused on the training of innovative and ethical tourism professionals who are societally responsible. These individuals are endowed with a vocation for customer-oriented services as well as a notable commitment to the endogenous development of tourism and the stipulations of the 2030 Agenda for sustainable development, in accordance with the Academic Regime Regulations of the Technical University of Manabí [97,98].

The experiences derived from the materialization of innovative methods in the training of Tourism Graduates from the Technical University of Manabí demonstrated the relevance of the development of organizational skills based on the use of technologies, as well as the relationships

between teachers, students, family, and society, as inseparable parts of the innovative process in education. This is in agreement with the analyses in [56–61].

Similarly to [62], collaboration between teachers through the development of subject groups under the guidance of teachers who are authors of integrative subjects plays a determining role in the materialization of the main directions of the proposed work.

As analyzed in [63,64], the promotion of soft skills constitutes a first-order permanent objective during the preparation of subjects and prioritization of social connection with the actors playing roles in the development of tourism activities in the territory, which allows for continuous updating of students' knowledge and development of their professional potential.

One of the experiences that deserves to be highlighted is related to the formal relationships established through collaboration agreements between the university, actors, and tourism entities in the territory, which allows for the enhancement of the quality of the educational teaching process and the professional training of students, in line with the analyses in [66,67].

According to the criteria of [69–71], the relationships between the university and tourism companies are key for promoting the adequate development of academic material and educational innovation. The utilization of active, reflective, and participatory methods during the teaching–learning process promotes a participatory nature, debates to find solutions, problem-solving, and decision-making by students.

According to the criteria of [72], there are different methodologies that facilitate the innovative process in teaching. Among them, we can mention exploratory, descriptive, and correlational studies; explanatory or causal studies; participatory action research and case studies; the evaluation of tourism data and statistical series; market research; process modeling; business strategies; the exhibitions; discussion forums; seminars; and practical classes.

The most important learning methodologies include expository master classes, the introduction of content (via an instructive teaching model), the active didactic model, and open teaching [73–81].

According to the criteria of [82], it can be noted out that creativity, initiative, independence, and the ability of teachers to solve students' professional problems play a key role in the training of professionals. The teacher appears as a mediator of learning, a counselor, a facilitator, a provider, and an advisor regarding educational resources that are appropriate for the various scenarios faced by future professionals.

In the collaborative teaching model, some procedures can be used, such as panels; round tables; debates; forums; seminars; discussion groups; conversations; conferences; virtual tutoring; case studies; meetings with clients, familiarization groups, FAM, and travel agents; application of surveys and feedback systems; market studies and research; creation of businesses; and practical application of different tourism modalities, especially sustainable tourism, according to [79,83].

The theoretical and practical contributions and good practices of sustainable tourism must be transversal to all types and modalities of tourism. The theoretical contributions derived from this research, its results, and the discussion offer arguments that allow for re-signification of the experiences of the pedagogical group of the Bachelor of Tourism degree at the Technical University of Manabí, in the interest of the application of innovative teaching methods and procedures enabling the achievement of comprehensive professional education, thus responding to objectives for sustainable development of the tourism sector and allowing for the goals of the 2030 Agenda to be achieved.

The main limitations of this study include insufficient existing knowledge on teaching innovation methodologies and integrative teaching–learning methods in the training of tourism professionals, which encourages a tendency to maintain traditional teaching methods aimed at the application of a banking education model, in which the teacher transmits and 'deposits' information into the student, which can limit their cognitive potential, in terms of the development of independent thinking and creativity.

The little inter-relation that exists between teachers, students, families, and society makes the introduction of new teaching–learning methods difficult. Meanwhile, poor coordination and

collaboration between universities and entities in the tourism sector leads to weak professional training for tourism graduates.

It is recommended that future research continues to delve deeper into the study of teaching innovation methodologies and teaching–learning methods integrated into the Bachelor’s Degree in Tourism, especially those related to the development of sustainable tourism and its socioeconomic, environmental, and social impacts in connection with the governance of tourist destinations.

The development of the research objectives allowed for contributions to be made regarding the importance of re-signifying the experiences of the pedagogical group of the Bachelor of Tourism degree at the Technical University of Manabí in terms of the application of innovative teaching work methods and procedures aimed at achieving the comprehensive education of students to ultimately promote the sustainable development of tourism.

The contextualization, deepening, and articulation of argued theories on the sustainability of the tourism sector in different modalities and destinations can contribute to the development of sustainable tourism by highlighting the endogenous wealth of less favored areas and achieving an equitable distribution of the obtained benefits, which will allow for a reduction in marginality and poverty in other places in the South American region with characteristics similar to those observed in Ecuador.

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