

# International Journal of Human Sciences Research

## **PEDAGOGICAL AND DIDACTIC FOUNDATIONS OF THE GEOGRAPHICAL AND ENVIRONMENTAL HERITAGE MODULE IN MEXICO IN THE DIPLOMA IN MEXICAN CULTURE CILC/UAEM**

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**Abstract:** This document presents the pedagogical and didactic foundations as an argumentative base of the teaching practice as instructors of the diploma course in Mexican culture with the module of Geographical and Environmental Heritage in Mexico carried out at the International Center for Language and Culture (CILC) of the Autonomous University of Mexico. State of Mexico (UAEM). As a research method, we generate an explanatory theoretical model through a two-input diagram: horizontally, the CIPP method (Context, Input, Process and Product) is described. Vertically, the four phases of didactic planning (Design, Instrumentation, Implementation and Evaluation). The main result is that the foundations on which the design and instrumentation of the course were based allowed its implementation and evaluation with significant relevance in the social appropriation of knowledge of the geographic and environmental heritage of Mexico in the students of the diploma course, as reflected in the opinion poll applied.

**Keywords:** Foundations/geographical heritage/Mexican Culture.

## INTRODUCTION

This writing gives an account of the pedagogical and didactic foundations developed during the management, instrumentation, implementation and evaluation and/or accreditation of the module on Geographic and Environmental Heritage in Mexico, within the framework of the Diploma in Mexican Culture, taught since 2013, in the International Center for Language and Culture (CILC) of the Autonomous University of the State of Mexico (UAEM), designed to update and train participants who have decided to study, analyze and debate the most relevant aspects of Geographic and Environmental Heritage in Mexico.

In pedagogical terms, its foundations have

made it possible to manage and implement the Geographic and Environmental Heritage in Mexico. In didactic terms, it refers to the implementation and evaluation and/or accreditation of the module. During the development of the writing, each of the phases through which it passed from the management, instrumentation, implementation and evaluation of the module is described.

The article is structured in three sections, the first outlines the diploma course and the module. In the second, its pedagogical-didactic foundations are presented and in the third, its evaluation and/or accreditation system.

## PART I STRUCTURE OF THE COURSE AND MODULE

The Diploma in Mexican Culture is offered at the International Center for Language and Culture (CILC) of the Autonomous University of the State of Mexico (UAEM). Its objective refers to "Providing theoretical and practical knowledge through a modular system that allows the study and analysis of Mexican Culture." The Diploma is aimed at UAEM students and the general public interested in knowing, analyzing and debating the most relevant aspects of Mexican Culture. The Diploma is structured in four series, five modules per series and their corresponding topics, attractive due to their content and the professionals who teach it.

	Series I	Series II	Series III	Series IV
<b>Module I</b>	Prehispanic art	Mexico's independence	The flea market and crafts in Mexico	<b>Geographical and Environmental Heritage of Mexico</b> <i>For a responsible conscience in sustainability</i>
<b>Module II</b>	viceregal art	literature of the revolution	Museums of the city of Toluca	<i>20th century Mexican cinema Testimony of the transformation of Mexico</i>
<b>Module III</b>	contemporary literature	Musical tradition in Mexico	Mexican oenology	<i>Musical tradition in Mexico Legacy of the Mexican bolero for the world</i>
<b>Module IV</b>	Muralism in Mexico	Mexican folk dances and dances	Family Anthropology in Mexico	<i>The flea market and crafts in Mexico Tangible treasure of the Mexicans</i>
<b>Module V</b>	Mexican festive tradition	Mexican culinary art	Mexican political system	<i>Festive tradition in Mexico Recognition of popular culture</i>

Table 1 Program of the Diploma in Mexican Culture

Source: self made. Carreto, F. y González, R. (2018).

In its structure, topics have been included that help to understand the different ways of assuming the Mexican Culture. It does not refer to the traditional concept of Culture as the set of customs and traditions that describe a society. It is suggested that the concept be constructed by the participants, according to their ideological reflection.

## **MODULE GEOGRAPHICAL AND ENVIRONMENTAL HERITAGE OF MEXICO**

### ***MODULE STUDY PROGRAM***

The program of the module on Geographical and Environmental Heritage of Mexico was designed and structured with the intention of responding to the need, as Mexicans, to rescue and strengthen the sense of identity and national belonging. The program complies with the certification standards necessary for its implementation, moreover, it serves as a didactic guide for both the teacher and the students who wish to delve into the subject.

In its structure, the purpose of the program on Geographical and Environmental Heritage of Mexico alludes to cultural manifestations as a product of the relationship that exists

between physical-natural phenomena and socioeconomic events, strictly speaking, the understanding of this relationship collaborates in the acquisition of identity and national belonging.

The elements of competence (knowledge, skills, values and attitudes) certify the differentiated and valued performance that those attending the module acquire during its development. The didactic strategies emphasize the responsibility of both the instructor and the students to carry out the activities corresponding to each one. The didactic resources necessary for the implementation of the program and the time allocated for its fulfillment are considered. In short, the program considers two units and their moods for its execution: unit I Geographic Heritage (Geography / Environment / Society); Unit II Environmental Heritage (Biodiversity / Vulnerability / Sustainability).

Its content is structured in two sections, each one of them suggests the fulfillment of a purpose: Geographic Heritage (Geography / Environment / Society), "Promote among the participants, the values that geographical science grants in the understanding of their identity and meaning of national belonging". Environmental Heritage (Biodiversity /

Vulnerability / Sustainability), “Recognize the natural heritage of Mexico, as a means to distinguish, the individual and collective commitment in the care and conservation of the environment.”

This way each of the subjects fulfills its mission. With the intention of achieving this principle, the planning of the diploma course must, from our point of view, be organized in such a way that the subjects, due to their content, allow outlining the individual thinking of the participants. As can be seen, the geographical content has been one of the last issues to be considered. Its inclusion obeys the premise —Every cultural event takes place on a Geographical Space—. In the future, it is intended that the subject “Geographical and Environmental Heritage of Mexico” be the one with which the Diploma in Mexican Culture begins.

Outlining module I on Geographical and Environmental Heritage of Mexico, for series IV, of the Diploma in Mexican Culture, required an approach with the directors of the International Center for Language and Culture (CILC) of the Autonomous University of the State of Mexico (UAEM).

The values that geographical science grants in the identity and sense of national belonging, as well as individual and social awareness and

responsibility, were the substantiated reasons, during the plenary session with the director of the CILC, to include the geographical aspect in a diploma that deals with about Mexican culture.

The justification was a success, the need and importance of including the module to the Diploma in Mexican Culture was agreed upon. Contiguously, we proceeded to its design, taking into consideration the following aspects: stage and participants to the diploma course; input profile of the participants (various disciplines and work experiences); instructional design and content systematization.

## PART II THE THEORETICAL MODEL OF THE PEDAGOGICAL AND DIDACTIC FOUNDATIONS

For the pedagogical and didactic foundation of the module, it was necessary to specify and design an explanatory theoretical model that must give sequence to the purpose addressed during its management. Its structure suggests a diagram with two inputs: the CIPP method (Context, Input, Process and Product) is described horizontally. Vertically, the four phases of didactic planning (Design, Instrumentation, Implementation and Evaluation).

Phases/CIPP	Context	Input	Process	Product
<b>Project</b>	Take into account the economic, political, social and cultural conditions of the scenario, and participants to the diploma	Profile of the student of different disciplines and work experiences	Instructional design	Systematization
<b>Instrumentation</b>	Upload to the Google Drive server, the materials designed for the purpose	Module Program	<b>Pedagogical-didactic planning</b>	Workplan
<b>Implementation</b>	Scheduling of activities by work session	Didactic materials	Execution in time and form	Development
<b>Evaluation</b>	Academic activities within the classroom and field trips	Control of readings and field diary	Tracing	Participant observation and questionnaire card (Likert-type scale)

Table 2 Explanatory theoretical model of the pedagogical and didactic foundations

Source: self made. Carreto, F. y González, R. (2018)

## **DESIGN (CONTEXT/INPUT/ PROCESS/OUTPUT)**

Once the explanatory theoretical model was elaborated, we proceeded to choose the didactic materials and the method to give certainty to the academic process and its implementation. The didactic materials suggest the fulfillment of the purposes established in the module: Program, Didactic Planning, Work Plan, Google Drive server, Videoconferences and YouTube Documentaries, Field trips to the Cartography Museum in Mexico, Insurgent Miguel Hidalgo y Costilla National Park Popularly known as La Marquesa, Nevado de Toluca National Park, Valle de Bravo Magical Town and Ex Hacienda La Gavia, The Field Diary and Bibliographic References complement the teaching materials used at each stage of educational practice.

Once the didactic materials were selected to carry out the academic process, we decided that the qualitative method, through educational practice, would complement the implementation of the module launched. According to García, B., Loredó, J. and Carranza, G. 2008:

The educational practice of teachers is a reflective dynamic activity that includes the events that occur between the teacher-student interaction. It is not limited to the concept of teaching, that is, to the educational processes that take place in the classroom, it includes the pedagogical intervention that occurs before and after the interactive processes in the classroom. (García, B., Loredó, J. and Carranza, G., 2008, p. 2)

The follow-up of the educational practice was the most worked activity during the teacher-student interaction. The master class, accompanied by the PowerPoint presentation, very successfully attracted the attention of their participants; different points of view were present given the variety of professional training that the participants have, in the same

sense, they worked with the tasks including the field diary, presentations in PowerPoint and field work. Next, an outline of the explanatory theoretical model based on the phases that structure it and the transit of its academic process through each of the stages that comprise it.

## **INSTRUMENTATION (CONTEXT/ INPUT/PROCESS/OUTPUT)**

To work on the instrumentation, we rely on the Google Drive server, as a technological tool, the intention, upload and share with those attending the course, the learning aids consulted and designed for the module I Geographical and Environmental Heritage of Mexico. According to Gonzalez, R. (2017), learning aids are classified as; projectable and/or audible, non-projectable, experimental, activities and teaching aids. (Gonzalez, R. 2017, p. 159). Then, students were informed that they had to create an account on the Google Drive server to access, review and consult the classes, materials and activities of the module in parallel.

Among the reference materials, we upload to the server: module program, didactic planning, work plan, videoconferences and YouTube documentaries, field practice projects (Museum of Cartography, La Marquesa National Park, Nevado de Toluca National Park, Magical Town Valle de Bravo, Ex-Hacienda la Gavia). The field diary, texts, dictionaries and scientific articles complete the list.

According to the explanatory theoretical model used for the instrumentation of module I of series IV of the Diploma in Mexican Culture, its didactic planning and work plan were included for its development. Initially, the purpose of the Labor Competence Standard ECO084 of the National Council for Normalization and Certification of Labor Competencies (CONOCER) was considered,

as an institution of the Mexican State that proposes the didactic use of information and communication technologies in learning processes, basic level, whose criteria are:

- Obtain information for the development of the course through information and communication technologies.
- Prepare material for the development of the course through information and communication technologies.
- Facilitate course activities with the support of information and communication technologies.

The exercise of pedagogical-didactic planning and the work plan allowed the use of the phases of the teaching-learning process, according to the educational model by competencies: Opening, Development and Closing. We integrate, on the one hand, the purposes of the Diploma in Mexican Culture, and on the other, the criteria requested by the labor competence standard ECO084 TO KNOW. With this, and in accordance with our teaching experience and Geography as a scientific discipline, it gives us the opportunity to contribute to the formation of a geographical culture for identity and a sense of belonging to the national territory.

## **IMPLEMENTATION (CONTEXT/ INPUT/PROCESS/OUTPUT)**

For the implementation of the module, it was necessary to divide the program into eight sessions (Friday and Saturday, with four hours respectively). Each session notifies the content and activities that must be carried out by the instructor and the participants to the graduate in the classroom. It includes the development of the field trips, closing activities and their registration in the field diary, as well as the conclusions for each of the learning units proposed in the program.

### **1. Opening (Frame / Welcome)**

1.1 Framing session for the introduction of the course, the participants and the instructors, integration technique (presentation in pairs: name, educational background, hobbies and expectations).

1.2 Didactic instrumentation of the course through the Google Drive server with the learning aids.

1.3 Enable participants to register and manage the Google Drive server.

1.4 Work methodology and accreditation criteria.

### *2. Development*

2.1 Prior review of the operation and connection of the electronic equipment (computer and projector) for the PowerPoint presentation and access to the internet and the Google Drive server.

2.2 Development of the course through pedagogical-didactic planning, by session and activities (PowerPoint presentations).

### **3. Closing**

As part of the closure, and in accordance with the educational model by competencies, the products produced before and after the instrumentation of the program are listed below:

- Design of the program of module I, series IV, of the Diploma in Mexican Culture, which is entitled: Geographical and Environmental Heritage of Mexico, based on the requirements of the diploma and under the instrumentation of criteria requested by the labor competence standard ECO084 TO KNOW.
- Creation of a Gmail account and registration to the Google Drive server
- PowerPoint presentations, videos purchased from YouTube and links to topics related to the content of the module.

- Evaluation and accreditation system in accordance with the established criteria.
- Report on the evaluation and accreditation of the module.
- Conclusions

### **EVALUATION (CONTEXT/ INPUT/PROCESS/OUTPUT)**

Every educational process is capable of being evaluated, the bibliography consulted for the present investigation legitimizes such an assertion. The proposal revolves around the evaluation guide: qualitative and quantitative. The accreditation system is another way of measuring the learning of the attendees, given the characteristics of the course. Under the announced premise, we took on the task of working and proposing an evaluation guide and accreditation system, taking into account the characteristics of the module in question, Geographical and Environmental Heritage of Mexico.

With the intention of evaluating the learning of those attending the module under study, we refer to the explanatory model of the pedagogical and didactic foundations, we take into account the academic activities inside and outside the classroom, the control of readings and field diary, the follow-up to the organized process, to conclude with the product, reflected in the participant observation and questionnaire form, as useful tools in the qualitative interpretation of the results.

For the proposal, we specify that the evaluation must be considered as a continuous systematic process: before, during and after the educational practice. The intention, to check whether or not the objectives previously determined in the study program were achieved. The Diploma in Mexican Culture does not belong to a school program, this means that students, and at their own convenience, can take one series, two, three

or all four series, or if they choose, only one module or some of them. The certificate is separate.

### **PART III EVALUATION GUIDE / ACCREDITATION SYSTEM**

In this last part, the evaluation guide has been included as the normative document that contains the criteria, instruments and procedures to be used in the evaluation processes of the studies carried out by the students. An accreditation system is also included, according to the characteristics of the Diploma in Mexican Culture and the needs that emanate from each module and its particularities.

Unit 1 Geographic heritage: Geography / Environment / Society		
Objective: Promote among the participants, the values that geographical science grants in the understanding of their identity and sense of national belonging.		
* Contents: * Introduction to the course * Presentation of the module, the participants and the instructors * Topic 1.1 Conceptual categories in Geography ** Concepts of geographical space * Subject 1.2 The geographical conformation of our country. * The historical geology of Mexico ** Tectonism, volcanism and seismicity in Mexico ** Topic 1.3 Territorial limits of Mexico: orientation, location and territorial location ** Topic 1.4 The territorial history of Mexico and its cartographic record ** Prehispanic production * colonial production ** 19th and 20th century production		
Learning Assessment		
Activity	Evidence	Instrument
Exploration quiz on basic knowledge of geography	Quizz	Estimated scale
Control of specialized readings and analysis of YouTube videos related to the subject	Readings and videos	Rubric
Field trip: Cartography Museum and Miguel Hidalgo y Costilla Insurgent National Park "La Marquesa".	Field diary	Interrogation
Use and handling of analog cartography and GPS (Global Positioning System)	Topographic profile	Checklist
Unit 2 Environmental Heritage: Biodiversity / Vulnerability / Sustainability		
Objective: Recognize the natural heritage of Mexico, as a means to distinguish, the individual and collective commitment in the care and conservation of the environment.		
Contents: * Topic 2.1 Territorial and cultural heritage in the Geography of Mexico * Natural heritage (Ecotourism) * Socioeconomic and cultural heritage (former hacienda and magical town) Topic 2.2 Biodiversity Topic 2.3 Vulnerability * Physical-natural risks: hurricanes, floods, droughts, forest fires, earthquakes and eruptions. Topic 2.4 Sustainability * Ecosystems and protected natural areas		
Learning Assessment		
Activity	Evidence	Instrument
Readings, videos and documentaries specialized in environmental issues (Biodiversity / Vulnerability / Sustainability).	Reporte	Rubric
Exhibition of topics by team using ICT	Exposition	Interrogation
Field tour: Xinantecatl Volcano, "Nevado de Toluca", Valle de Bravo "Magic Town" and Ex hacienda la Gavia	Field diary	Guiding questions

Table 3 Learning evaluation guide

Source: Carreto, F. González, R. (2018).

## ACCREDITATION SYSTEM

The commitment of the students suggests the responsibility of their attendance to classes and their participation inside and outside the classroom, in accordance with the planning of the module. Accreditation is the automatic pass to the course. The instructors of each module and according to the planning are the ones who determine the activities to be carried out by those attending the course.

The proposal is concentrated in the following table, divided into four columns: in the first column the two learning units that structure the study program are announced; in the second, the three phases of the evaluation: diagnostic, intermediate and terminal; in the third, the evidence, activities involved with the students; finally, the percentage of evaluation assigned for each one of the activities.

Sessions	Evaluation phases	Evidence	Evaluation percentage
	Diagnostic	Questionnaire of prior knowledge about the geographical heritage of Mexico. Google Drive server management	10% 10%
Unit I Geographic heritage: Geography / Environment / Society.	Intermediate	Register your evidence on the Google Drive server: reading and presentations by team in PowerPoint.	20%
Unit II Environmental Heritage: Biodiversity / Vulnerability / Sustainability		Individual participation related to the video conference and documentary retrieved from YouTube.	10%
	Terminal	Report in the field diary of the visit to the Museum of Cartography; National Park, the Marquesa; National Park, Nevado de Toluca; Magical town, Valle de Bravo and former hacienda la Gavia. Adding to the Google Drive server	50%
Total			100%

Table 4. Accreditation system

Source: own elaboration Carreto, F. y González, R. (2018).

## RESULTS AND CONCLUSIONS

The purpose designed for module I, series IV, of the Diploma in Mexican Culture, taught by the International Center for Mexican Language and Culture (CILC), of the Autonomous University of the State of Mexico (UAEM), was fulfilled satisfactorily: to recognize the importance of the Geographic and Environmental Heritage of Mexico in cultural manifestations, as a product of the relationship that exists between physical-natural phenomena and socio-economic events, determining factors in the sustainability of our country.

The experience of having collaborated in the inclusion of module I Geographical and environmental heritage of Mexico; for a responsible conscience in sustainability, of the Diploma in Mexican Culture, has been satisfactory for us. Geographical knowledge is a central theme in the understanding of Mexican culture.

As specialists in Geography, we accompany and promote in those attending the course, the values that geography science grants in identity and sense of national belonging. The final evaluations regarding the module argue, for the most part, that the students have been

satisfied with the geographic content and its implementation.

The results shown so far have allowed us to spread the knowledge of cultural geography. We are promoters of the Geographic and Environmental Heritage of Mexico, inside and outside the country. The commitment is considerable, but we get it right as a new facet of our professional life. We try to make known part of what is being done in Mexico, towards other latitudes; Cuba and Ecuador have been the countries where part of the Mexican culture has been promoted, through their participation as speakers at the Meetings of Geographers of Latin America (EGAL).

We have collaborated in the preparation and publication of the report in reports, an article in the educational research magazine and a book chapter, in the Network of Academic Bodies in Educational Research (REDCAIE), of the Autonomous University of the State of Mexico (UAEM). ), within the framework of the Second International Congress on Educational Research, 2018, Toluca, Mexico.

It remains for the participants and instructors to spread the acquired knowledge, it is not possible to think in the same way before and after having completed the Diploma in Mexican Culture and, especially, module I Geographical and Environmental Heritage of Mexico. The notion that is now held about the Mexican territory through the analysis and interpretation of physical-natural phenomena and socioeconomic events, must be different.

The invitation is open for those who think that “The greatest wealth that a country has is culture, that makes it freer. A country will be freer as soon as it is more cultured. It is difficult for a cultured country to exist that has submitted to a tyranny. I think it is the great wealth of the human collective, culture, because it is what differentiates it from the beasts. It is the desire for knowledge” (Luis Eduardo Aute).

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