Tourist Urban Routes Designed Using GIS Story Maps

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ABSTRACT

This poster provides the design of a teaching activity for students of tourism degree. With it, it is intended that students, through collaborative work methodology and through the use of geospatial technologies, especially the GIS Story Map, acquire essential competencies in their training and are capable of creating a tourist product according to the characteristics of the destination.

The didactic experience consists of creating an original and innovative tourist route in Madrid. This way, a collaborative map and a series of individually presented routes are obtained that are co-evaluated by the students themselves. The results of a satisfaction survey about the activity answered by the participants are also presented. The activity has been considered positive, since the students claim to have acquired skills of great interest in their training as future professionals, while feeling motivated.

Keywords: Story mapping; collaborative work methodology; geospatial technologies; urban routes; Madrid.

1. INTRODUCTION

Tourism training must include different pedagogical approaches that train its students and promote the development of skills and aptitudes, while reinforcing their training in values. This is the only way of allowing current students to become the type of professionals who will be capable of adapting to a very dynamic, fragile and extremely vulnerable sector in the future, as has been recently shown by the COVID-19 crisis.

This poster has the **objective** of designing a collaborative work methodology with the student centred learning which consists of:

1.- the creation of a tourist product,

2.- its presentation through a Story Map,

3.- the generation of information through feedback among students and

4.- the co-evaluation of the final tourist product.

To do this project, students are asked to design tourist routes for the city of Madrid covering all phases of the development process: **1. planning, 2. development, 3. promoting and 4. evaluation**.

This way, students become active subjects of their own work and learning becomes experiential, with the advantages that it entails. Therefore, the students should be able to acquire certain skills such as: creativity, teamwork, capacity for planning and organising, narrative y spatial and digital competencies, through different strategies such as self-learning and co-evaluation; as well as a range of tools, among which the geospatial technologies are especially worth noting.

2. METHODOLOGY

The process and resources used: The geographic tools used for this project: GPS, geovisors and GIS Cloud, allow the gathering of data and the visualisation of the results, and permits also the acquiring of spatial skills and knowledge about basic geographic and tourist concepts (Table 1).

Organisation of the Story Maps routes and the collaborative map: Groups of between three or four people have been created to carry out all the necessary steps to design a route according to: the characteristics of the city; the existing routes offered in Madrid; the needs and problems of the city; the available resources and the current interests of the tourist demand. (Fig. 1).

The designed activity is part of the work methodology based on the students' collaboration. Part of the project is developed in the classroom under the tutelage of the teacher and another part is done individually, which has been especially useful since the students have had to finish their work at home during the confinement of the spring of 2020 due to the COVID-19 pandemic.

After this work is done, the teacher will create a collaborative map with the eight routes prepared by the students and design a Story Map to present their projects (Fig. 2). To do this, each group is asked to present, using Google Forms, the following aspects: (1) presentation of the route (topic, space ...); (2) justification of the chosen topic, space and resources; (3) objectives; (4) what does your route bring to the city and (5) basic aspects of the route: what will you see? What will be done during your tour? Who is the audience you are targeting? How many people per group? Who offers the service? How is it offered (guided, free ...)? How long does it last? How are the trips made? How much does it cost?

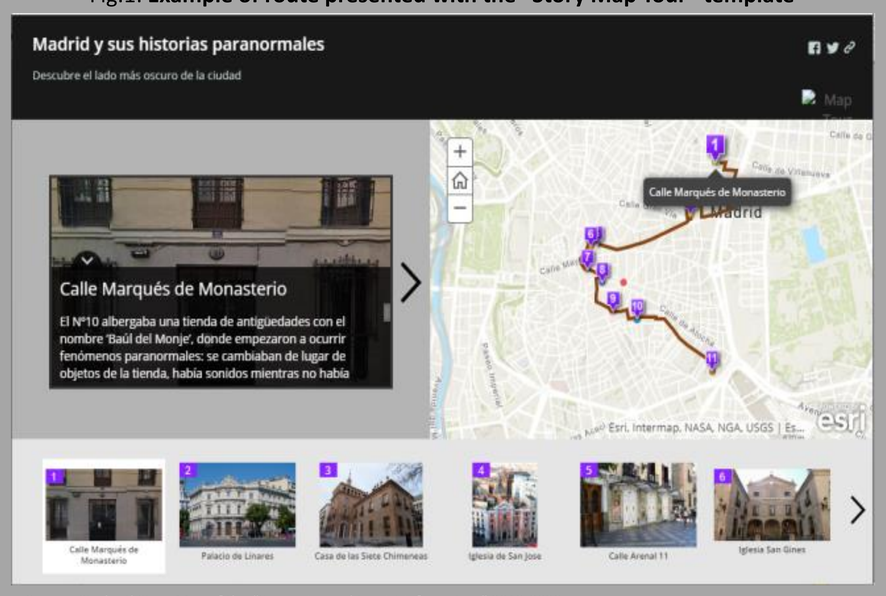
Table 1. **Didactic utility of the resources used**

Resource	Organism	Use	Competencies/skills
App "Mapas de España" (Spain maps)	Instituto Geográfico Nacional (IGN)	Collecting points of the route	Spatial competencies Digital competencies
Iberpix 4	Instituto Geográfico Nacional (IGN)	Collecting coordinates of the different resources	Spatial competencies Digital competencies Teamwork
ArcMap 10.8	Esri	Converting coordinates taken into SHP	Spatial competencies
Field work		Recognising the territory Collecting points of the route (tracking) Taking photographs	Spatial competencies Capacity for planning and organising Teamwork
ArcGIS Online	Esri	Visualisation of resources and routes	Spatial competencies
Flickr		Storing photographs	Creativity Teamwork
ArcGIS Story Map	Esri	Presentation of the collaborative map Individual presentation of each route	Spatial competencies Creativity Digital competencies Capacity for planning and organising Teamwork Narrative

Own elaboration

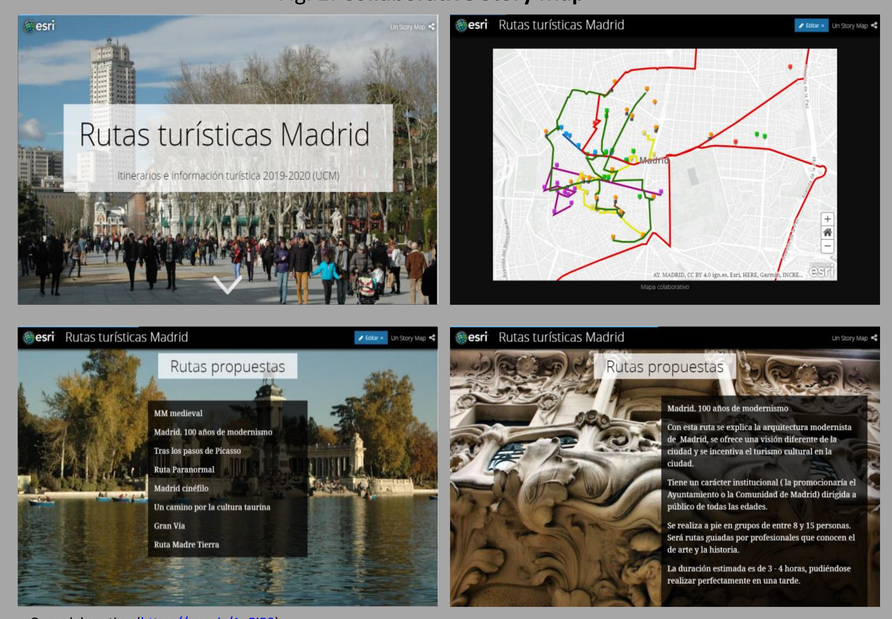
Evaluating: Once the students have presented their routes, the addresses of all of them are shared among the classmates who are going to co-evaluate them (Figure 3). To do this, an evaluation model based on a check list and rubrics have been previously developed.

Fig.1: **Example of route presented with the "Story Map Tour" template**



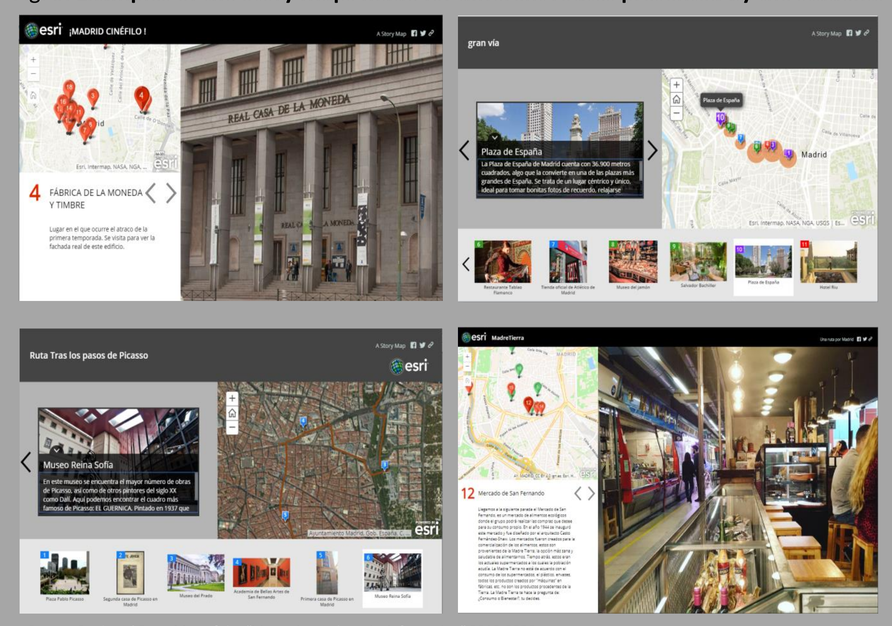
Source: Student' Story Map of the "Itineraries and tourist information" 2019-2020

Fig. 2: **Collaborative Story Map**



Own elaboration (https://arcg.is/1u5i59).

Fig. 3: **Examples of the Story Maps made for different routes presented by the students**



Source: Students' Story Map of the "Itineraries and tourist information" 2019-2020

3. RESULTS & DISCUSSION

Preliminary assessment of design of the technical part of the preparation of the GSM: The purpose of the preliminary evaluation of the Atlas History Map design is to identify which technical and didactic errors might have occurred that have impeded the fluid development of the activity or have altered its initial design. During the sessions held in the classroom, there have been numerous technical problems that have arisen and that have been consequentially resolved.

Assessing Student Engagement with the GSM in a Learning Environment: Are GSM a suitable tool? What kind of skills do they provide and what role do they play in their training as future professionals? And what is its usefulness as a teaching resource?

- All the students recognise that the work has allowed them to identify and individualise the stages involved in creating the route, its contents, and even putting it into operation, which would be the final presentation.
- The most complicated phase for all students has been the planning and, within it, choosing the main theme. All of them highlighted the importance of the selection of resources in line with the chosen theme and among each other, since it has been a challenge to give coherence to the discourse and find the relationship between the selected elements.
- All students agree that they have acquired skills such as: development of creativity, spatial skills and knowledge of digital tools.
- Surprisingly, slightly more than half of the students consider that it has favored teamwork and the ability to organize and plan, both being important competencies for the realization of the project.
- Half of the students considered that the activity developed their motivation for quality, a skill that had not been considered.
- Only a very small number of students considered that the activity improved their oral and written communication (narrative). In relation to this, a space has been left open for them to add some more competency and almost all students have indicated that they have acquired geographical knowledge.
- Three quarters of the students (75%) considered that the tools used were innovative.

The geospatial technologies add extra value to the project that given by understanding the space through cartography, which trains the student to think spatially (spatial concepts, spatial representation and spatial reasoning) and to see the spatial conditions of the route (traveling path, length...), by the development of the different phases of the work and also by the quality of the presentation. Its quality is not only due to its visual power but also to the homogenisation of the product in terms of the structure, an aspect that makes it easier for the teacher to compare the different works and for the students to be able to easily co-evaluate them. Also, the motivation and involvement of the students has been greater than with other types of projects.

Another advantage produced by this methodology has been the fact that the students have carried out, almost in an unconscious manner, the important chore of selecting the information that they will finally communicate.

They have also been asked to write a paper, of about 30 pages of extension, explaining the development of the work. This has been considered an important task since traditional work is essential when reflecting on the design and marketing of the routes and on the space and theme chosen. The use of geospatial technologies reinforces the acquisition of competencies such as creativity or teamwork and especially adds the development of spatial competencies (spatial perception, that is: location and orientation; ability to make and interpret maps, etc.), which is otherwise very difficult for students of the tourism degree to obtain. In addition to this, it creates a model that reduces the intangibility of the product and that favours the identification of design errors before being commercialised.

4. CONCLUSIONS

The objective of this study was to demonstrate that the use of a teaching methodology based on the use of GSM improves student performance and enables them to acquire skills that will be key in their professional future. In addition to this, it allows to preview the tourist product and be able to recognise its errors and risks before making it public. After the test it has been observed that the students have improved their performance when compared to previous years and this methodology allows the acquisition of important skills in their training. Likewise, from the results of the survey and from the experience in the classroom it can be affirmed that the students are aware of this change and feel more involved in their own learning process (What do they do? Why? And, for what?).

This methodology presents an interactive work opportunity that is more attractive to the participants. This does not mean that this methodology should replace the previous ones, but both should be combined since it has been observed that both the theoretical classes and the elaboration, in conjunction, of a more detailed project are essential. This reduces the risk of students getting caught up on the more technical, aesthetic and visual aspects.

MORE INFORMATION

Mínguez, C. (2021). "Teaching tourism: urban routes design using GIS Story Map", *Investigaciones Geográficas*, 75. https://doi.org/10.14198/INGEO2020.M.

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