PARTICIPATION AND LEARNING: PLANNING STUDENT SERVICES IN A UNIVERSITY CAMPUS

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Abstract. Participation is increasingly considered an effective way of problem solving. The present work, based on a case study developed in an Italian university campus, investigates the potentialities deriving from combining methods such as mental maps and concept maps, pertaining respectively to cultural geography and cognitive psychology, with a participative attitude towards decision making. Starting from a territorial and environmental analysis and subsequently turning to the representation of conceptual structures, the study examines issues related to student services planning. The paper considers both aspects linked to social and cultural topics (such as place identity and connotation, sense of community and social cohesion) and intrinsic factors, more relevant from a "technical" perspective (such as the peculiarities of the individual services). The outcome is a complex architecture, made of theoretical and practical features, marked by internal and external interconnections, resulting in different kinds of networking.

1 Introduction

The aim of this paper is to show how cognitive mapping, such as mental mapping and concept mapping, can be valuable aids in planning student services in a university campus through the "integration of teaching, research and community service" (Subotzky, 1999).

From a theoretical point of view, there are two main assumptions in the present work:
- that cognitive mapping is a process made of psychological transformations by which an individual works out information about his everyday spatial environment (Downs & Stea, 1973);
- that mapping, from a geographical perspective, is concerned with "ontological and epistemological questions about the nature, fabrication, communication and authentication of knowledge of the external world." (Cosgrove, 1999).

Mapping, in general, is based on graphical representation through a visual architecture of signs (Cosgrove, 1999); what distinguishes mental from concept mapping, are the objects of this representation and their organization: more free that of mental mapping (Tuan, 1975), grounded basically on perception, imagery and memory; mainly hierarchical that of concept mapping, concerning knowledge structures (Novak & Gowin, 1984).

This work wants to prove that better results, in this specific field, can be obtained from a combination of the two methods, that starting from an evaluation of the subjective experience of a circumscribed environment, subsequently develops a conceptual analysis of the needs expressed.
From a practical viewpoint such methods prove noteworthy mainly because they:
- enhance the participation process (Škerlavaj, M. & Dimovski, 2007);
- allow improvement in the decision making process (Kane, M., & McMahon, P. Q., 2002);

This article is based on a case study involving 25 students of the Faculty of Letters and Philosophy of Arezzo (Italy). The students attended a first year course of Geography and were therefore familiar with topics related to mental maps and space perception and analysis. The location of the Faculty itself, is somehow ideal for the work proposed, as it is sited in a restricted and well delimited area, inside a park, very near to the railway station and the city centre. Starting from their perception of the campus, the students were asked to draw a mental map of their usual routes, halting-places and of the services (both those already supplied and those they would like to be). To accomplish this part of the work they were given a topographic map on which they marked with different colours the requested information. The second step was that of discussing with the students the main features of their maps, in order to highlight problems, expectations and positive aspects related to the campus. From this discussion I derived all the information needed to work out concept maps useful to develop hypothesis concerning student services planning (that is a fundamental part of my present work at the University).. The last step concerns the final discussion of these maps with the students involved in the whole process, in order to obtain two different results:
- to gather their last comments on the proposal, thus accomplishing the feedback process;
- to show them the concept mapping method, in order to give them an important interdisciplinary learning tool.

2 Case study description

2.1 Step 1. The mental maps

What seems more relevant to stress in this context, is that mental maps are used for describing places or routes and that they focus on spatial connections, taking into consideration elements pertaining to the concept of space, elaborated from an individual point of view. They therefore convey a subjective experience of the environment grounded in memories and determined by conceptual systems, normative conditioning and socialization processes (Soini, 2001).

Moreover, the participating value is strengthened by the fact that students are participants involved in the environment they are required to analyze, in the sense meant by Cosgrove (1999) and O' Keefe (1978).

The maps worked out by students were analyzed starting from these basic assumptions and as they were asked to concentrate on a specific topic, the result was a synthesis between the topographic and the thematic map (O' Keefe & Nadel, 1978).

Five main features were pointed out, with reference to their usual routes:
- extension;
- direction indicators;
- access points;
- peripheral zones;
- area outside the campus.

Given to the fact that students were expressly asked to indicate their routes on the map, a good deal of intentionality comes out of their spatial behaviour (O'Keefe & Nadel, 1978). Combining all this information with that deriving from halting-places, both crowded and deserted spaces were identified. This mapping represents the starting point for the subsequent location of services. Among others, four main significant topics came out, concerning: study, recreational and cultural activities, mobility and place connotation.

2.2 Step 2. The concept maps

While mental mapping displayed a wide scenery of topics through a graphical spatial location, concept mapping allowed to pick out each single topic and develop its conceptual structure.

The advantages of this method were essentially three:
- the possibility to accomplish an analytical exam of each issue, expressing appropriate relationships between concepts, according to the principle of inclusivity (Valente da Costa, J., Lopes da Rocha, F. E., Favero, E.L., 2004);
- the possibility to show interrelations between different issues, rendering the complex architecture both of thinking and of problem solving;
- the possibility to show the structure of argument and conclusion (Huff, 1990).

One of the main features of the four concept maps resulting from the analysis of mental maps and the discussion is their interconnection. Figure 1, for example, which focuses on recreational and cultural activities, is interlinked with that on connotation (Figure 2), while that on studying (Figure 3) is interlinked with the one concerning mobility (Figure 4).

Moreover, the analytical structure and organization of concepts allows the description of both their intrinsic nature and their external reflections (see Fig. 1 and 3), so in each map it is possible to analyze the characteristics of starting concepts, but also their consequences in a wider context. For example, in Fig. 1, we find that recreational and cultural activities can be either sports or cultural, but we also find that they produce socialization, dialogue and involvement.

Another important feature, emerging from the maps, is the manifold idea of network they convey: on one side the community network, linking the different bodies of the academic world (students, professors and employees); on the other that interconnecting the several sectors of the university structure.

As for their content, the maps highlight different kinds of concept related to values such as: socialization, dialogue, involvement and sense of community (Fig. 1) or place identity and social cohesion (Fig. 2); concrete (nearly technical) aspects of the planning process, for instance the different kinds of rooms for recreational and cultural activities (in Fig. 1) and for studying (in Fig. 3), or the very many aspects developed in the map on

mobility (Fig. 4). Where possible, examples suggested by students are given, such as those concerning a basketball court, an auditorium and an arena (Fig. 1) or those pertaining to connotation (museum and monument) in Fig. 2, so stressing (and therefore strengthening) the participation process.
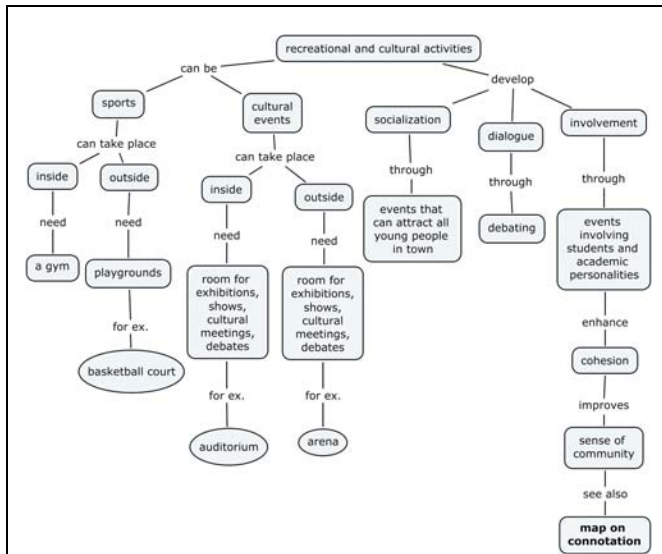

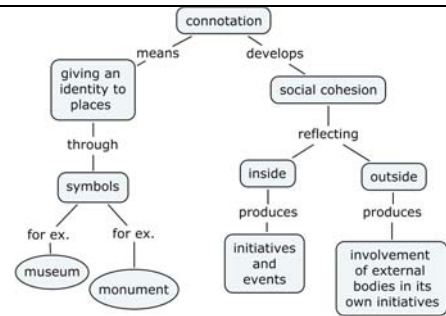Figure 1. Concept map for recreational and cultural activities.

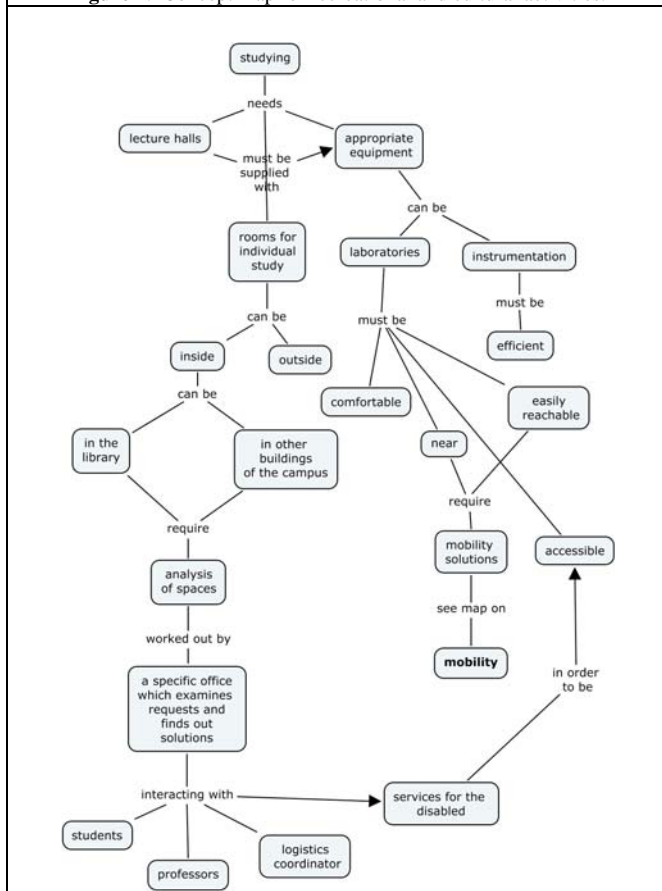Figure 2. Concept map for connotation.

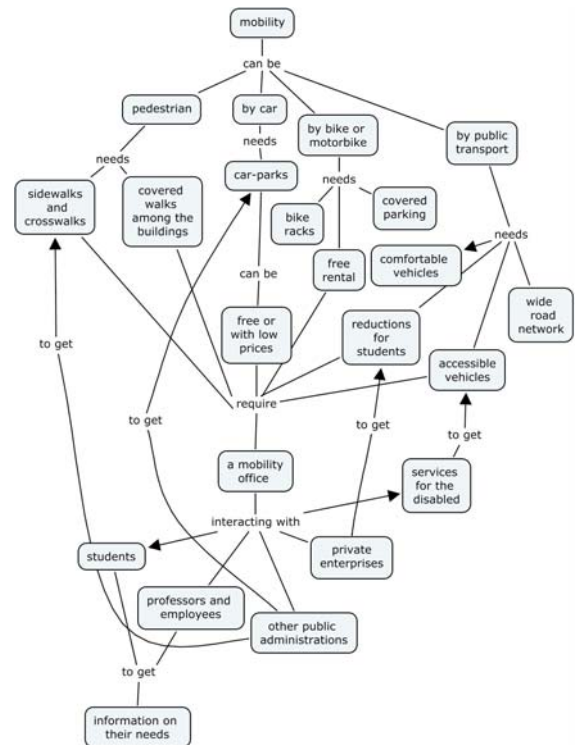Figure 3. Concept map for studying

Figure 4. Concept map for mobility

From a theoretical viewpoint one significant achievement is that some conceptually developed topics, such as mobility and place connotation, have deep implications from the point of view of geography as well

(especially cultural geography). This was, somehow, the starting point of the present work, as these topics are rooted in concepts such as territoriality, sustainability and place identity (Vallega, 2003; Uzzell, Pol & Badenas, 2002). So another important result of the study was its coherence, as it not only shifted the focus of the analysis to the field of knowledge structures, but it also added new information from the perspective of the discipline which originated it, in a sort of circular movement which made conclusions strengthen initial assumptions. From the perspective assumed by Kaplan (1973), it is relevant to mark that the students' work strongly reflected at least two of the four points pertaining to psychological processes, that is: "evaluation of what is good or bad" and "action relative to the environment".

3 Summary

Mental maps and concept maps prove to be powerful tools for expressing and analyzing the needs of university stakeholders, such as students, through their participation in the process. While mental mapping turns out to be a more suitable method for describing needs in territorial and environmental contexts, with reference to the underlying cultural and social identity; concept mapping allows to deepen each single aspect of a problem or phenomenon, showing its inner and outer interconnections, due to its complex and broadening architecture. Best results appear to derive from a combination of the two methods which allow to exploit participating techniques so enhancing social cohesion, through the development of a deeper sense of community, and to improve decision making, planning and evaluation, through intra-organizational learning.

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