

# ENCOURAGING GRADE 6 STUDENTS FROM SATELLITE TOWNS ON THEIR LEARNING EXPERIENCE ABOUT SOME INTERESTING SITES IN THE NEIGHBORING CENTRAL CITY

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## Introduction

During the last meeting of CCWG in Stockholm, 1997, arose the idea to study the efficiency of using urban maps in order to change the negative attitudes of the children towards maps.

This pilot work was carried out during the last schoolyear in Beer-Sheva, Israel. It was aimed at evaluating the effect of using maps in an urban navigating tour, on 12-13 years old student's attitudes towards maps and their environmental knowledge.

## Previous studies

Anderson (1996) assessed Canadian children's feelings about maps and found that about 2/3 of them had negative attitudes toward maps. Anderson supposed that this approach was an outcome of the students' frustration in map use "because maps are confusing and hard to understand" (Anderson, 1996:79). Gould (1974) studied the perceived elements of the urban knowledge. The students' attitudes and their environmental consciousness were measured by using the semantic-differential ranking instrument of Osgood (1957). Saarinen (1995) found that the motivation to use maps is connected to the level of the mastery the users in the cartographic literacy. Saarinen assessed the cartographic literacy of children by studying their sketch-maps (a graphic expression of their perceived environment, L. and B.). According to Saarinen's opinion, there is an obvious linkage between these sketch-maps and the environmental knowledge of the tested population. Matthew (1994) analyzed the cognitive development of the spatial concepts as it was expressed by the subjects' sketches, and pointed out the progress that appeared in the Pictorial Maps of young children and the Orthogonal Maps of the adolescents. Morita (1996) evaluated the cartographic language as it was decoded from the subjects' drawings and Livni (1985) identified the "natural network", according to its elements that were determined by Shemyakin (1962), and appeared in the sketch maps of Grade 4 students. Wakabayashi (1996) described statistically the spatial distortions that appeared in the children's cognitive maps. Berg (1968) studied the cognitive abilities of Jewish and Bedouin young students and didn't find any significant differences between the sequential development of these two populations, concerning their mastery in cartographic knowledge.

## Aims, assumptions and hypotheses

The aims of this pilot study are as follows:

- To evaluate Grade 6 Jewish and Bedouin students concerning their attitudes towards maps and their environmental knowledge.
- To assess the effect of using maps in an urban navigating tour on the attitudes and the knowledge of the tested population.

We assumed that:

- The attitudes towards maps (Anderson, 1996) and the urban consciousness (Gould, 1974) could be ranked on the semantic-differential measuring instrument of Osgood (1957).
- Sketch maps of the sample should be analyzed by Morita (1996), Wakabayashi (1996), and Livni (1985) methods.

We hypothesized that:

- Significant differences between the attitudes and the environmental knowledge of the ethnic groups will be observed.

- Significant differences between the depended variables (attitudes towards maps, environmental consciousness and mastery of mapping skills) of the pilot experimental groups and those of control groups will be obvious.

## Method

### Population and sample:

Students aged 12 to13 in Jewish an Bedouin Israeli elementary schools were the target population of the pilot study. The sample was composed of four Grade 6 classes, an experimental and a control class from each of the Jewish and the Bedouin school, 30 students in each class.

## Procedure

According to the above mentioned research methods, standardized questionnaires constructed and employed. The students were interviewed before the urban navigating tour, than were divided into experimental and control classes. The experimental classes use an urban map (1:15.000) in the tour. The control classes didn't use maps in their experience. After the urban tour, both the experimental and the control classes were interviewed again employing the standardized questionnaires.

## Findings

- The differences between the reported attitudes of all the groups, before and after the urban navigating tour, were insignificant.
- The differences between the measured environmental knowledge of all the groups, before and after the urban navigating tour, were significant.
- The Bedouin map users enhanced their environmental consciousness more than the Jewish map users did.
- Studying the sketch maps of the participants showed that the Jewish students' have mastered cartographic skills previously. While the Bedouin students' employed better the map using in order to reproduce efficiently the "natural network" as it was perceived in the navigating tour.

## Conclusions

Using maps in an urban navigating tour can raise the environmental awareness immediately, as it was expressed verbally and graphically by the participants of all the groups.

Attitudes towards maps change more slowly. It is necessary to use maps in a set of successful experiences in order to delete previous frustrations and enhance the mastery in cartographic literacy.

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