On Learning and Learners
In Science and Nature Centers

Yael Bamberger
Under supervision of Dr. Tali Tal, Prof. Judi Dori
The Department of Education in Technology and Science, Technion

We usually connect the term "learning" with formal learning that occurs in schools and in higher education, although we spend very little time in such settings. Much of our scientific knowledge is informally acquired through the Internet, TV, books, etc., and in nonformal settings such as museums, nature centers and so forth.

My study examined the nature learning science in nonformal environments and focused on students' learning in school visits to science and natural history museums. Learning science out of interest and choice – such as allowed by museums – is tremendously important nowadays, so students can acquire skills that enable challenging the huge amount of information they are exposed to beyond school.

The museum learning experience encompasses sensual, social and intellectual components, and therefore, is individual and idiosyncratic. Prior knowledge, previous experiences, attitudes, beliefs, and the ability to choose and control one's learning are all elements that influence the personal context of learning. The social context influences the individual learning as well, and consequently, a student's learning is different while on a class visit than during a family visit.

Each year, millions of students around the world, and thousands of students in Israel have class visits to science and natural history museums. Despite the great amount of resources invested in these visits, so far, the research on how the educational activities in the museums are in accordance with the characteristics of learning in the museums is limited.

Five museums with different size, location and foci, participated the study, in which class visit were observed, and students and teachers were interviewed.

The lecture will focus on the opportunities students have to choose elements of the educational activities they were exposed to, and on the influences of these opportunities on their learning. In addition, I will present and discuss the idea of multiple learning outcomes and the long term impacts of the visit. A comparison between the students' learning outcomes and the teachers' perceptions will be presented as well.