

Bridging Formal and Informal Learning

Intergenerational Perspective on Informal and Formal learning A case in South TuscanyThe UniSI Local Case Study Report (PDF) (30 pages)

The University of Siena Case Study is composed of three strands. All of them are concerned with the exploration of the relationships between intergenerational learning and informal learning and the connections between informal and formal educational settings enabled by intergenerational learning. Contrada's Intergenerational Learning - an observation of traditional intergenerational learning activities carried out within the "Nobil Contrada del Bruco" a neighborhood community founded in the 13th century by Siena citizens.

The geography of the city Siena is divided in 17 neighborhoods called contrade. The contrade are cultural and geographical entities. All of them have an individual history, which dates back to the 13th century and well-defined borders which separate them. Two times a year the contrade compete in an ancient horse race called the Palio of Siena. The contrade's venues are aggregation points and the cores of an active community-centered network that is interwoven with the city social life. Each contrada promotes recreational and cultural activities regarding the contrada's culture. The initiatives are mostly dedicated to the community members. The informal education of the children participating to the contrada's social life is one of these activities. The Siena Puente team was allowed by one contrada to observe the setting up of an intergenerational art contest. Astronomy for All - astronomical observation sessions co-designed by the Astronomy Group of the Physics Dept. of University of Siena and the "San Miniato" Seniors Association.

Among practitioners of scientific divulgation, astronomical observation is widely considered the main entrance of non-specialist and new comers to the passion for science and discovery. The mystery of the infinite space and the mystery of human origin converge in the endeavor of understanding the universe: this endows astronomical observation with an exceptional attractive power. We collaborated with the Astronomy Group of the Physics Dept. of University of Siena and volunteers of the Siena Astronomical Association in designing intergenerational stars observation.

The scientific divulgators share the main concern of increasing, among all the different strata of the population in the Siena area, the scientific culture. That is, constructing models describing astronomical phenomena and collaboratively verifying them. The strategy of the scientific divulgator is focused on learning by doing activities in outdoor astronomical observation.

Under the Same Sky – an informal learning project on intergenerational scientific divulgation carried out by the students of the high school "Licei Poliziani" in Montepulciano, Siena The project "Under the Same Sky" was part of the scientific divulgation initiative "Week of Scientific Culture". The project "Under the Same Sky" was co-designed by the students of the high school Licei Poliziani, the Siena Puente team and the teachers who organize the scientific week. Within the frame of scientific divulgation the project intended to provide the students with the conditions for being at the centre of scientific divulgation activities. The students were the scientific divulgators who presented their experience of intergenerational learning. The Puente team introduced the theme of intergenerational learning as a privileged perspective on informal learning. The students taking part in the project explored how different generations experience the stars observation and what kind of narratives they connect to stars observation. RESULTS The main conclusions from this study were:

The critical points encountered in the fieldwork activities concern three aspects:

- a) maintaining a stable network that connects the different actors interested in intergenerational learning: school teachers, educational practitioner and seniors.
- b) constructing a frame in which all the actors play an explicit role within the learning process.
- c) supporting engagement with ICT technology in intergenerational groups

Under this light the contrada's strand is a peculiar example of how the social system carrying on intergenerational activities and the social context offering the resources for such educational endeavor are almost overlapping. The social context is the system that enables intergenerational transmission of values.

The "Astronomy for All" experiences consolidated the initial hypothesis that Astronomy has the potential for triggering mutual learning among people of different ages. Astronomy is attractive both for kids and seniors. It is endowed with multiple levels of interpretation and sense making, such as narrative and science. While using software for astronomical observation, we noticed that the interaction modalities of desktop devices, such as keyboard and mouse, mainly support single user interaction hindering off-line group collaboration. The use of Nintendo © WII MOTE to control software for astronomic observation (www.stellarium.org) proved to support more extensively user collaboration and interpersonal exchanges.

The third strand "Under the Same Sky" considers intergenerational learning from a different angle. In the first two strands the intergenerational activity focuses on the replication of habits, approaches and transmission of knowledge that the seniors who are promoting the activities consider a value. In the project "Under the Same Sky" the teen-agers' motivation in constructing the values out of their interaction with the seniors is in focus. The success of the co-designed activity is not considered with respect to the re-instantiation of activity patterns previously experienced by seniors and considered a collective value. It is the teen-agers identity formation that is on focus and consequently what they see as valuable in interacting with seniors within the astronomy and scientific

divulcation activities becomes the educational objective at stake.