

RESEARCH FIELD:

Earth science education/sustainability education

RESEARCH TOPIC:

The intradisciplinary approach to earth science teaching as a strategy for sustainability education.

PARTICIPANTS:

Tonon Marco Davide, Perazzone Anna, Alessandra Magagna, Andrea Caretto

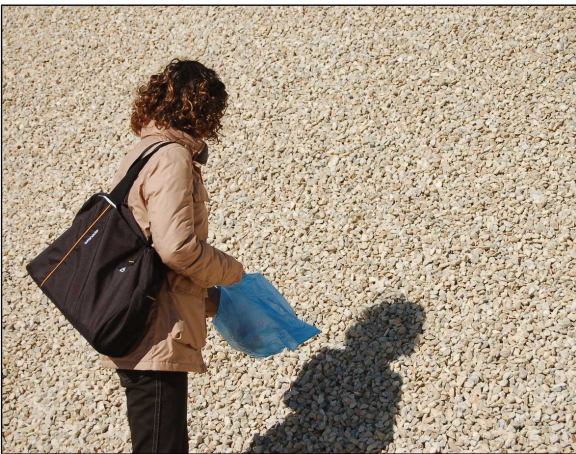
RESEARCH DESCRIPTION:

The sustainability education for is one of the most effective tools to address the future citizens and communities to reorganize lifestyles, social and economic structures, and re-orient the scientific and technological research in the perspective of ecology and equity. This cultural project involves the development of theoretical and experimental courses both on social and environmental issues, and the role of science education to a sustainable society. The research investigates various aspects, including the epistemological, the teaching and the educational psychology. From the point of view of teaching, aims to create an integrated aware of the different approaches (structural, functional, historical and systemic) to the study of the Geosciences, the identification of structuring concepts and schemes of interpretation to be applied to the teaching of Science Earth and the development of indicators to evaluate the improvement of the learning process. It is planned to develop innovative teaching strategies to encourage a transdisciplinary approach to the Earth sciences. With regard to methodological issues, we want to develop strategies that activate the process of teaching/learning involving mainly the emotional sphere of students, enhancing sensory perceptions (aesthetic) and includes training in forms of creative expression which art of the territory (Land art). We intend to study the effectiveness of teaching and training of the relationship Arts/Earth Sciences, inspired by experiments on the relationship with the mineral matter carried out by artists from Turin. The collection of raw materials (gypsum, salt, etc.). Physical relationship with them and the subsequent transformation actions made by the artists, offer interesting perspectives and insights especially regarding the issue of the relationship Humanity/Nature and the exploitation of resources.

RESEARCH PRODUCTS:

- ALLASIA D., BAZZINI L., CERRATO G., FERRERO E., TONON M.D., COGGI C. & RICCHIARDI P., 2009, The FENIX project: empowerment strategies and cognitive development for children living in depressed contexts. In Proceedings 3rd International Conference on Science and Mathematics Education (CoSMEd 2009): Improving Science and Mathematics Literacy: Theory, Innovation and Practice, SEAMEO RECSAM, Penang, Malaysia, 62-69.
- ANGELOTTI M., PERAZZONE A., TONON M.D. & BERTOLINO F., 2009, Educating the educators – primary teacher education. In Gray D., Colucci-Gray L. & Camino E. (a cura di), Science, Society and Sustainability. Education and Empowerment for an Uncertain World, Routledge, New York, 154-187, ISBN 978-0-415-99595-5.
- FERRERO E., MAGAGNA A., MORANDO M., RANZENIGO A.C., RUGGIERO A. & MORTARA G., 2009, Developing intercultural consciousness in school children: interaction between schools and Museums, in: Proceedings of 4th International Congress on Science and Technology for the Safeguard of Cultural Heritage in the Mediterranean Basin, 1: 447-452.

- MAGAGNA A. & VIALE M., 2010, Strategie di insegnamento transdisciplinare: aspetti di genere in corsi di Scienze Naturali all'Università di Torino, Atti del VI Convegno dell'Associazione Donne e Scienza. La creatività delle donne come elemento di innovazione in ricerca e impresa: 27-32.
- MAGAGNA A., FERRERO E. & GIANNATEMPO C., in press, Interactive activities to stimulate debate and critical thinking about issues related to Earth Sciences and Sustainable Development, *Annals of Geophysics*, 55, 3.
- PERAZZONE A. & TONON M.D., 2009, Il gioco e il “mettersi in gioco” nell'educazione ambientale. In Quaglia R., Prino L.E. & Sclavo E. (a cura di), *Il gioco nella didattica. Un approccio ludico per la scuola dell'infanzia e primaria*, Erickson, Trento, 159-180, ISBN 978-88-6137-439-3.
- TONON M.D. & PERAZZONE A., 2011, Education à l'environnement et éducation à la durabilité: importance des méthodes expérimentales et des activités de terrain pour améliorer les processus d'enseignement/apprentissage. In Buisset G. et al., *Éduquer au développement durable et à la solidarité internationale*, Lione, France, 31-34.



GROUP CONTACT: Tonon Marco Davide