Geophysical Research Abstracts
Vol. 17, EGU2015-6230-1, 2015
EGU General Assembly 2015

Inspiring the undergraduate soil students for a future effective public outreach role: Success strategies and approaches.

Said Al-Ismaily, Ali Al-Maktoumi, and Anvar Kacimov
Sultan Qaboos University, Muscat, Oman (saidsalimalismaily@gmail.com)

Undergraduates, majoring in soil sciences (SS), have a broad holistic role because SS integrates several intertwined geo-environmental/ecological and socio-economical aspects. Consequently, students have to learn how the information, advice, practices and expertise, pertinent to food security, water shortage, hydropedology, among others amalgamate through SS . Hence, university SS-programs should incorporate public outreach activities. We present experience at Sultan Qaboos University (SQU) in Oman on how to develop an effective public outreach program that can be implemented by undergraduate students. Our strategy has three components : (i) offering a course Soil and Water Tour (SWAE 4110) of hydropedology nature that integrates field, laboratory-work, and presentation-extension activities; the course is research-oriented and designed to provide opportunities for students to practice their metacognitive abilities and critical thinking; the course is offered by the Department of Soils, Water & Agricultural Engineering (SWAE), (ii) Training and involving the undergraduates in planning and conducting enjoyable, interactive, and effective workshops for school pupils; a training workshop on "Soils" was conducted for pupils (a total 300 participants, grades 7-9) and teachers aiming to unveil the secrets and the role of soil in ecosystems; workshop was organized by the SWAE Students Society (iii) Guiding the undergraduates on the best practice for raising funds for their outreach activities (e.g. the undergraduates secured funds for the workshop on "Soils", which was sponsored by Muscat Municipality, a governmental agency, and several private companies such as HMR Consultants, Metal Engineering L.L.C and Bauer Nimr LLC); SS students were mentored in submission of research proposals to the national research agency (e.g. FURAP program of The Research Council, TRC, WWW.trc.gov.om). The three components were evaluated quantitatively and qualitatively using fixed-response and open-ended questions, interviews, and course evaluation. The analyzed results indicate that the outreach strategies are effective. For component (i) and based on students evaluation for SWAE 4110 collected in 2009-2013 (2 semesters/year) the course had an average rating of 3.6/4.0 while the College average for all sections (about 150/semester) during the same period was 3.3. The majority of the SS-students expressed their appreciation of the type of communication skills and team-work ethics gained, increased confidence, and enjoyment. For component (ii), school pupils feedback (based on 33 questionnaires) showed that more than 90% "agreed" or "strongly agreed" that they have learned new information/secrets about soils and the topics of the workshop enhanced their knowledge and ability to think critically about the role of soils in life. Undersecretary who participated in the Workshop, addressed the Vice Chancellor of SQU seeking the university assistance in adopting the materials of the workshop into school curriculum and encouraging a continuous pedagogical interactive experiments at school scale. For component (iii), a FURAP proposal on urban soils, submitted by students (classmates in SWAE 4110), was ranked N3 among 15 proposals submitted by SQU. The proposal was funded by TRC and received a National Award. Although this paper is oriented towards soil issues, the components, ideas and methodology of our public outreach endeavour can be modified to suit other topics in geosciences.

Key words: Public outreach strategies; School pupils; Undergraduates in geosciences; Soil education.