THE REAL SOCIEDAD GEOGRÁFICA, A EUROPEAN DIGITAL-EARTH EXCELLENCE CENTRE: A NETWORK FOR INFORMAL LEARNING PROCESSES

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Background

• Some centenary scientific societies such as the Real Sociedad Geográfica are capable of adapting their aims to 21st century educational requirements.
• This has been brought about by setting up the Real Sociedad Geográfica-Digital Earth Excellence Centre (RSG-DE-CoE) to provide new opportunities for lifelong learning (informal & formal learning in secondary and higher education) and research.
• The challenge of integrating emerging technologies and open science in smart learning for society itself should raise awareness in geospatially responsible citizen science.
Objectives

- Explain the aims of the Centres of Excellence (CoE)
- Demonstrate the centre’s contribution to citizen open science as an example of informal learning with emerging technologies
- Give the example of the Real Sociedad Geográfica-Digital-Earth Excellence Centre (RSG-DE-CoE) within the Centres of Excellence
Centres of Excellence (CoE)

- Centres of Excellence are seen as experts in disseminating information. They offer large-scale multipliers which encourage change to happen in the use of digital earth tools and geo-media*. The network was established to help these experts share what they are doing together in order to form a ‘Community of Practice’ (after Lave and Wenger) and generate new ideas and activities.
- Digital-earth.eu Centres can be involved in any area of ‘school’ education – formal and informal, Primary or Secondary, special needs, STEM or Geography. The most important criteria is that they share their expertise in their own context, country, system etc.
- There are five criteria associated with Excellence, decided by the digital-earth project working group 2 in conjunction with the European Centre in Salzburg. These criteria are: i) Capacity for excellence; ii) Organisation for excellence; iii) Links to professional contexts; iv) Goals and v) Planned Outcomes.

Centres will normally be seen as experts in their own context and situation. They are expected to advocate the use of digital earth tools and geo-media – tell decision makers, Ministries etc.

(Karl Donert, 2014)

Geo-media, an abbreviation for geographic media, any form of media that incorporates or portrays geographical (location-based) information. This includes for example news, multimedia, telecommunications and social networks* 

(digital-earth interim report)

Real Sociedad Geográfica-Digital Earth Centre of Excellence (RSG-DE CoE)

- Was set up in order to create an accredited Excellence Centre in Spain in 2012.
- Under the leadership of the Real Sociedad Geográfica the centre joined up with the Complutense University of Madrid, León University and will be Zaragoza University.
- The group of the CoE has its own organizational structure, consisting of all these members. The majority of activities take place in Madrid, but also in León, Badajoz and Zaragoza, etc. and materials are shared among the team. Their members are experts in geo-media and they are all very actively involved in activities related to informal learning and Education.

* Karl Donert, 2014
Real Sociedad Geográfica-Digital Earth Centre of Excellence: Main objectives

• Support and train teachers and teacher educators with good practices, examples and innovative materials.
• Promote the use of geo-media and open data.
• Organize fieldwork and virtual fieldtrips (orientation with coordinates, geo-referencing, maps, images, etc.) as it is a way to promote the improvement of spatial thinking and a better learning of Geography.
• Provide advice on new uses of emerging technologies for spatial problem solving and geospatial purposes such as Geographic Information Systems (GIS), remote sensing, Global Navigation Satellite Systems (GNSS) (e.g. American Global Positioning System, GPS), the new spatial enabled mobile devices, new Web 2.0 tools...
• Participate and cooperate with other Centres of Excellence to learn and research Geography.

Real Sociedad Geográfica-Digital Earth Centre of Excellence: Main activities

• GIS Day for university students, teachers and high school students as well as the general society using new tools for geolocation on their own devices.
• Science Week for university students, teachers and high school students. New ideas for informal lessons such as geocaching and learning on the cloud.
• Seminars for teachers in service to promote fieldwork, improve the use of emerging technologies among teachers focused on the cloud (open data, ArcGIS Online, WebGIS, etc). Members of the CoE collaborated traditionally in these annual seminars. The outcomes were skills achievement and positive evaluation of the seminar.
• Workshops on geodata and data visualization on the cloud for college: teachers in service, students and researches. We contributed to digital literacy according to the 2020 Digital Agenda and The United Nations initiative on Global Geospatial Information Management (UN-GGIM).
• Fieldwork along Madrid Walls for students and schools using GPS from spatial enabled mobile devices (OruxMaps, LocusMap, TwoNavGPS, PathAway, MotionX GPS, etc) and other interesting Apps for learning (NoiseWatch, Layar, QR Codes, High Altitude, etc) created by different enterprises. Virtual trips with ArcGIS Online such as Spanish itineraries in Ávila, Badajoz, León, Zaragoza, etc. from real fieldwork raw tracks.
Results and conclusions

- After two years of work, this experience has encouraged teamwork and it is attracting new people and new ideas. Strengthened group work dynamics, including the debate, creation, selection and implementation of materials developed and their projection in university lectures by encouraging good teaching practices.
- The RSG-DE-CoE enhances the use of fieldwork in Geography taking on a new dimension with the use of mobile devices as they add precision and improve the chances of feedback.
- Work on the cloud enables collaborative work and easily integrates the information collected in the field together with existing information.
- Together with these tools the 21st century citizen, if desires, can be e-competent and implement their spatial skills, leading to improved spatial thinking which can translate into positive actions on the territory.
- Establishing centres of excellence enriches and implements geospatial education possibilities through forums for sharing ideas, debate and coordination activities in order to integrate Digital Earth education and technologies into society with new ways of learning, working and researching.

Any suggestions?
Thank you very much for your kind attention and...

Suggestions make projects grow
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