

DESIRE



Report - *DESIRE for Communication* - Discussion event for teachers at the inGenious academy in Madrid on 10 March 2013

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Introduction

A workshop *DESIRE for Communication* was organised in the context of the teacher academy of the inGenious project, the European Coordinating Body in Science, Technology, Engineering and Mathematics (STEM) Education. inGenious is a joint initiative launched by European Schoolnet and the European Roundtable of Industrialists (ERT) aiming to reinforce young European's interest in science education and careers and thus address anticipated future skills gaps within the European Union.

DESIRE and inGenious projects have common interests and organising the discussion event of DESIRE at the inGenious academy was of common benefits for the two initiatives. The DESIRE team had the occasion to work with the teachers gathered in Madrid for the academy and ensured the enrichment of the catalogue of key results with the inputs of these experienced teachers. inGenious project had the opportunity to learn from the research carried out in the DESIRE project and give the chance to its network of teachers to participate to the debate on strategies to better communicate science education project results to teachers.

The four challenges used during this workshop were selected on the basis on the review of the preliminary catalogue of key results. The DESIRE partners have analyse these key results and identified key areas were the study needs clarification and further discussion with stakeholders. This areas are reflected in the four questions and four tables of discussion below.

1. Methodology

The 90 minutes workshop was run by Maïté Debry with the support of Gina Minhai from European Schoolnet. The objective was to share experiences regarding the access to the results of science education projects using the World Café Method with the 27 teachers participating to the workshop.

1.1. World Café Method

Drawing on seven integrated design principles, the World Café methodology is a simple, effective, and flexible format for hosting large group dialogue.

World Café can be modified to meet a wide variety of needs. Specifics of context, numbers, purpose, location, and other circumstances are factored into each event's unique invitation, design, and question choice, but the following five components comprise the basic model:

1) Setting: a "special" environment was created, with some material: block paper and colored pens. There was around five chairs at each of the four tables of discussion.

2) Welcome and Introduction: The host (Maïté Debry) began with a warm welcome and an introduction to the World Café process, setting the context, and putting participants at ease.

3) Small Group Rounds:

- The process began with the first of three twenty minute rounds of conversation for the small group seated around a table.
- At the end of the twenty minutes, each member of the group moved to a different new table.

- One person remained at the table as the "table host" for the next round, who welcomes the next group and briefly filled them in on what happened in the previous round.

4) **Questions:** each round was prefaced with a **question** designed for the specific context and desired purpose of the session. The same questions were used for the three rounds, and were built upon each other to focus the conversation and guide its direction.

5) **Harvest:** After the small groups (and/or in between rounds, as desired) individuals were invited to share insights or other results from their conversations with the rest of the large group. These results were reflected on large A3 sheet of papers done by the table host with contribution of all participants.

1.2. Challenges used

A. Involvement of teachers in the process

Is it a good idea to involve teachers as communicators of science teaching tools and materials to other teachers? Have you any experience doing this? What are the positive and negative sides?

B. Social Media

What social media is the most appropriate for teachers to receive info from science projects (you can invent, imagine the perfect tool)?

What kind of results/outcomes and information would like to receive through social media?

C. Constraints linked to resource and time

What strategy do you recommend to communicate teaching tools and methods to teachers that don't have time and lack resources to investigate about new science education resources?

D. Dissemination should make the incentives evident

Can you come with ideas on how to motivate teachers to look for new teaching tools? (Think of incentives teachers could receive?)

1.3. Timing

- 10 minutes presentation of objectives, questions, grouping participants
- 3 times 20 minutes discussions
- 20 minutes debrief and presentation of results of discussion at each table (5 minutes per group)

2. Summary of the content of the discussion

Table A - Involvement of teachers in the process

At this table, teachers were discussing the advantages and inconvenient of involving teachers in the dissemination process, having them participating as active actors of the communication of projects.

Positive aspects for ambassador teachers disseminating inside their school:

- ✓ Ambassador teachers disseminating innovative results of science projects inside the school can create a school team (not easy but important) and gather colleagues teaching different subjects, or even from the same background so they can work with the same classes on a specific project

Positive aspects for ambassador teachers disseminating outside their school:

- ✓ The positive points for ambassador teachers dissemination outside their school is the recognition they get and the exchange of good practices.

Negative aspects:

- ✓ Teachers acting as ambassadors for European project can feel overworked (motivation could be: extra money, less lessons,)
- ✓ Time management between compulsory programme and role of ambassadors or National Coordinators of European science education projects.

Suggestions:

- ✓ Headmasters should be involved to have a coordination at school level as it is very difficult to motivate teachers to take part and use science resources from European projects. Headmasters should collaborate with ambassadors or even taking this role themselves.
- ✓ The pedagogical benefits should be clearly explained by ambassadors and project managers to engage more teachers and make them use the outcomes of science education projects.
- ✓ Teachers acting as ambassadors should train their colleagues and show that it is easy to use this type of resources.
- ✓ Important to have criteria to select ambassadors or national multipliers.

Table B – Use of Social Media

Teachers enumerated the social media and tools they were using classifying them between the most and less appropriate to use for accessing science education resources and information on project outcomes.

The most appropriate appeared to be the National platform for teachers, school websites having social media functionalities, school online journals, educational blogs, the eTwinning platform¹, Skype, the Cloud of Google and Dropbox. Learning Management Systems like Moodle or edumodo² were mentioned as ideal social media by the teachers as they are controlled, secured and closed online areas.

Other social media having some positive aspects for use for teaching purposes were Twitter, LinkedIn, Facebook and TUENTI³.

YouTube was mentioned but teachers see some inconvenient using it in class as it caused a flipped class.

This table of discussion also led to the creation of a profile of the perfect social media for teachers. The characteristics of this tool were defined as follow:

- ✓ Proposes individual forum for each teacher and his/her class in every subjects
- ✓ Including subject forum as well as inter-disciplinary forums (e.g. STEM) to exchange and discuss
- ✓ Should be easy to access (e.g. Mobile app)

¹ See: www.etwinning.eu for more information on the European project eTwinning.

² See: <http://www.edmodo.com/about> for more information on edumodo.

³ See: <https://www.tuenti.com> for more information on this real time messaging system for Smart phones

- ✓ Proposes alternate forums (e.g. inGenious)
- ✓ Includes a staff room
- ✓ Offers interactive tests e.g. yacapaca⁴, Socrative⁵
- ✓ Contains an inbox, profile, blogs, pictures, websites, chats, search
- ✓ Has a public and a private space for members
- ✓ Always works, nothing is lost
- ✓ Offers the option to choose alerts to be informed of latest activities in the desired domains
- ✓ Links alerts to email/texts like WhatsApp⁶ does

Table C – Constraints linked to resources and time

The table discussing the constraints linked to resources and time came-up with some practical solutions to overcome these obstacles:

- ✓ To organise as much face-to-face meetings as possible
- ✓ To create groups in social media and science teachers communities (e.g. Scientix, The National Centre for excellence in the teaching of Mathematics in UK).
- ✓ To avoid having too many different National Channels so teachers gain time when searching for resources.
- ✓ To foster national multipliers: individuals, groups, networks, Ministry of Education that communicate to schools itself passing the information to teachers.
National Multiplier → Schools → Teachers → Students
- ✓ To organise more Communities of Practices, share more practices and handle discussions about new resources open to all.
- ✓ Using systems like Pearltrees⁷ or Diigo⁸ to help teachers sharing new investigation, connecting and sharing resources and saving addressees and explanations like bookmarks.
- ✓ Use of Learning Resource Exchange (LRE)⁹ or the eTwinning platform (project galleries and resources project kits).

Table D – Dissemination should make the incentives evident

In this table participants discussed the incentives that should be given to teachers to motivate them participating to Science Education Projects and use innovative results from these initiatives:

- ✓ To provide social and institutional recognition.

⁴ See: <http://yacapaca.com/teacher/assignment/new/> for more information on **yacapaca** assignments and quizzes for teachers

⁵ See: <http://www.socrative.com/> for more information on this smart student response system that empowers teachers to engage their classrooms through a series of educational exercises and games via smartphones, laptops, and tablets

⁶ See: <http://www.whatsapp.com> for more information on this real time messaging system for Smart phones

⁷ See: <http://www.pearltrees.com> for more information on this tool acting as an extension of the internet browser to reference the favourite webpages

⁸ See: <https://www.diigo.com/> for more information about this research tool and knowledge-sharing community

⁹ See: <http://lreforschools.eun.org> for more information on Learning Resources Exchange for schools, a service that enables schools to find educational content from many different countries and providers.

- ✓ To organise presentations for the school teachers and organise collaborative projects like Comenius projects.
- ✓ To provide material equipment (e.g. electronic devices), to offer teachers to participate to workshops.
- ✓ To make sure headmasters are involved in the process which facilitate the life of teachers as they get official support and benefit from a coordination of the project at school level.
- ✓ Providing financial support (to cover teacher's lessons).
- ✓ To organise reward systems for active teachers, showing success stories on online portals.
- ✓ To show to teachers the interest to use new tools: facilitate their work, are interesting, foster the involvement of teachers, enable success of students in the learning process, and create international partnerships.

3. Conclusion

The workshop *DESIRE for Communication* was organised in the context of the teacher academy of the inGenious project.

The four challenges used during this workshop were first presented by the moderator in plenary session and then discussed in 4 different tables of discussion having each a table host. Each challenge was discussed 3 times 20 minutes by three groups of teachers. This rounds of discussions enables the results of the debate to be broadened and expanded with different group dynamic and insights. The outcome of each table was presented in plenary session at the end of the workshop.

The discussion on the involvement of teachers in the dissemination process of innovative science products and methods highlighted some positive and negative sides. Teachers that communicate to their peers are called Ambassador, National Coordinator, Multipliers, etc... Teachers identified a main advantage for ambassador teachers disseminating inside their school. They can create school team and gather colleagues teaching different subjects, or even from the same background and work with the same classes on a specific project. The positive points for ambassador teachers dissemination outside their school is the recognition they get and the exchange of good practices. The negative sides are the workload and the lack of time.

Some suggestions were given to overcome the difficulties teachers meet when disseminating science projects. The role of headmasters was raise by various participants highlighting the lack of coordination at school level and the need to motivate their colleagues. According to teachers, the main points to motivate their peers to participate to innovative science projects are to reassure and train them, showing that the tools are easy to use and demonstrate the pedagogical benefits for their students.

The discussions on the use of social media to communicate results of science projects resulted in the enumeration of tools seen as most appropriate (National platform for teachers, school websites having social media functionalities, school online journals, educational blogs, the eTwinning platform, Skype, the Cloud of Google and Dropbox, Learning Management Systems like Moodle and

edumodo). Teachers raised some concerns with the use of YouTube seen as potential source of lapse of concentration in the class. They also created the profile of the perfect social media for communicating science education project results. They proposed that it should include forums, easy access, staff rooms, interactive tests, inbox, profiles, blogs, pictures, chats, search tools. They suggest a public and a private space for members, a system of alerts and link with mobile applications.

The table discussing the constraints linked to resources and time came-up with some practical solutions to overcome these obstacles like the organisation of face-to-face meetings, groups in social media, federation of national channels, communities of practice and use of research tool and knowledge-sharing community acting as extension of the internet browser.

Finally, the table discussing the challenge for dissemination strategies to make the incentives evident proposed a number of encouragements for teachers such as the social and institutional recognition and the participation in collaborative projects. They also proposed that teachers should be motivated with material equipment, involvement of headmasters, financial support, reward systems and demonstrated interest to use new tools.