European Science Education Academy

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European Physical Society

- home
- programme
- registration
- participants
- location and practical information
- side events
- organizers committees
- contact
- european science education academy rationale

European science education academy rationale

by Jorge Rivero — last modified 2013-05-28 15:28

In recent times, Europe faces both a remarkable decrease in the interest of young people in Science, Technology, Engineering and Mathematics [STEM] subjects and a decline in the uptake of STEM careers. This general disinterest amongst young Europeans, is more evident in the natural sciences. These shortages could not only affect the future of tertiary education systems but also jeopardize the pillars for a knowledge based society and economy in Europe.

During the past decade, this issue has been the focus of considerable attention and several documents have been published on this matter. For instance, the first of these reports - Europe needs more scientists (European Commission [EC], 2004) - stated that the spotlight should not be only focused on promoting more students to STEM careers but on improving the educational system itself. Another of these reports - Science Education in Europe: Critical Reflections (Osborne and Dillon, 2008) - states that even though there are several known shortcomings (curriculum, pedagogic, assessment), the real challenge is to re-imagine science education and try to both make it appealing and fit the needs of all students, whether they will go on to work in scientific and technical subjects, and those who will not. Following this work, the EC commissioned a report - Science Education NOW: A Renewed Pedagogy for the Future of Europe (EC, 2007) - that focused at successful projects that worked with the way science is

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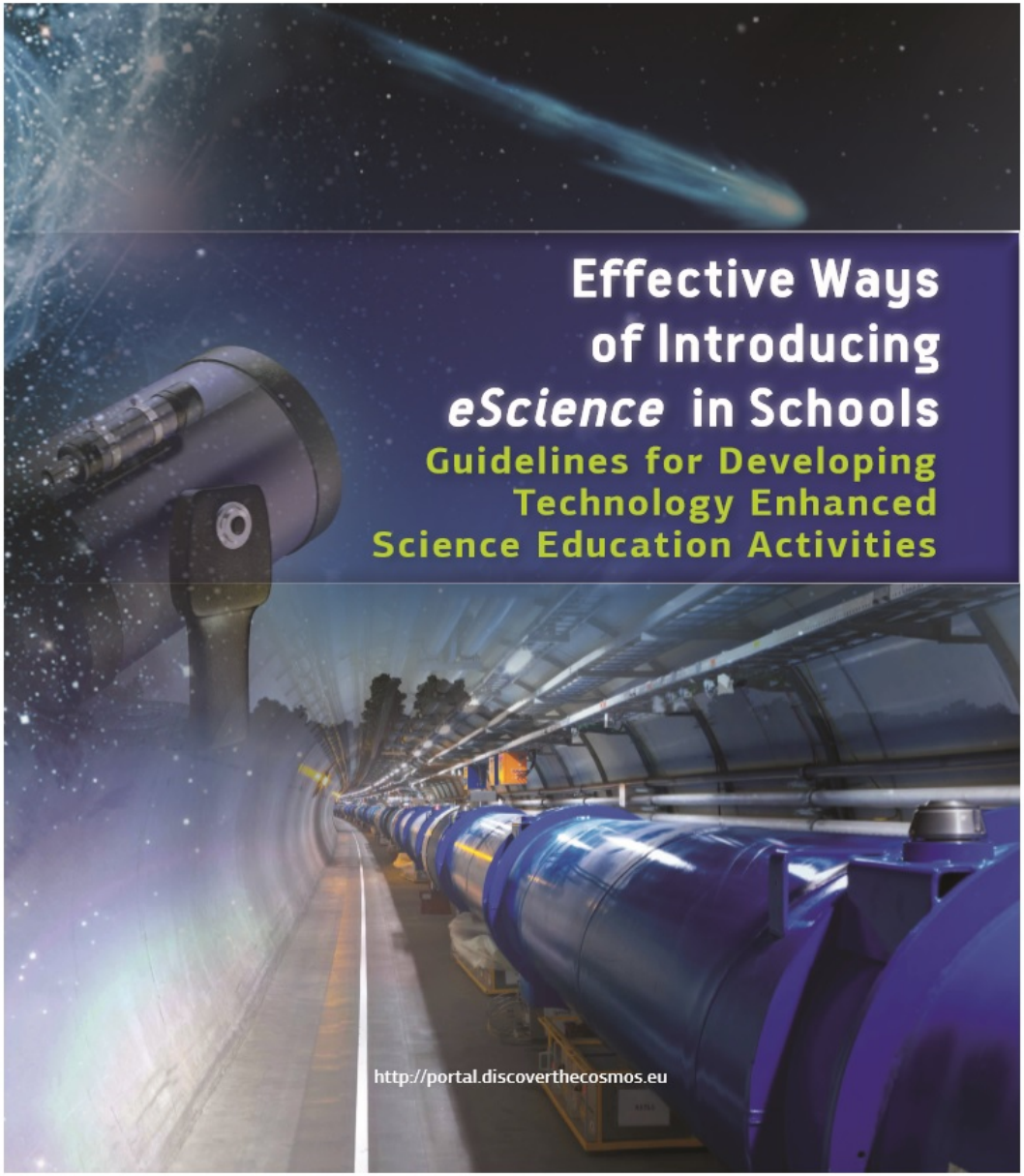

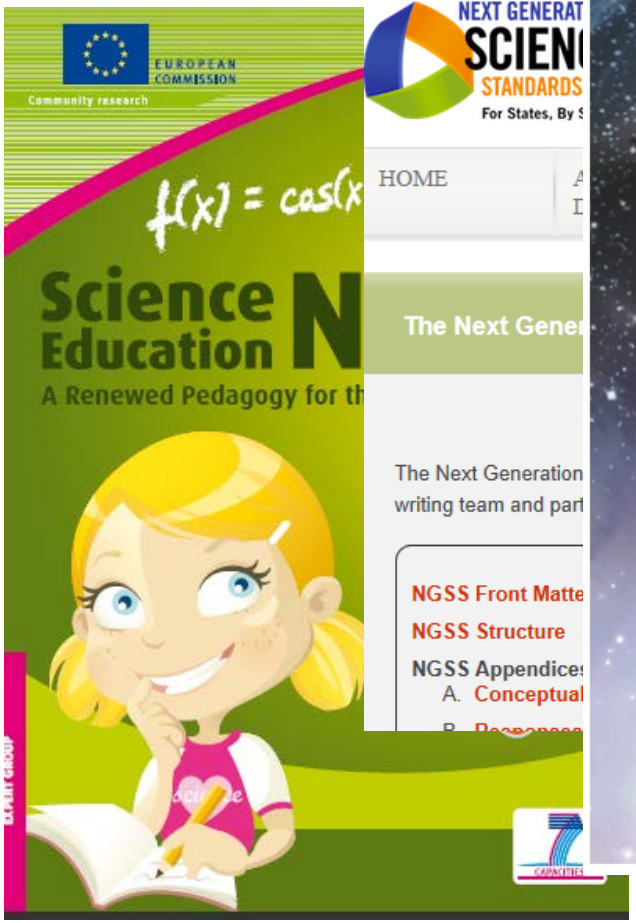

Recommendations

Documentation Center for the Modernization of Science Education

Publications, Research Work, Conferences and Workshops

Developing Effective Training Programmes

- Guidelines, Resources, Best Practices

Supporting Communities of Practice

- Organising Resources, Motivating Practitioners

Dissemination and Networking

- Supporting National Physical Societies, Collaboration with EC, ESERA, GIREP

Development of the ESEA Repository

- For policy makers
- For science education experts
- For teachers
- For museum educators and outreach groups

Support of the development of a distributed repository for Science Education in Europe

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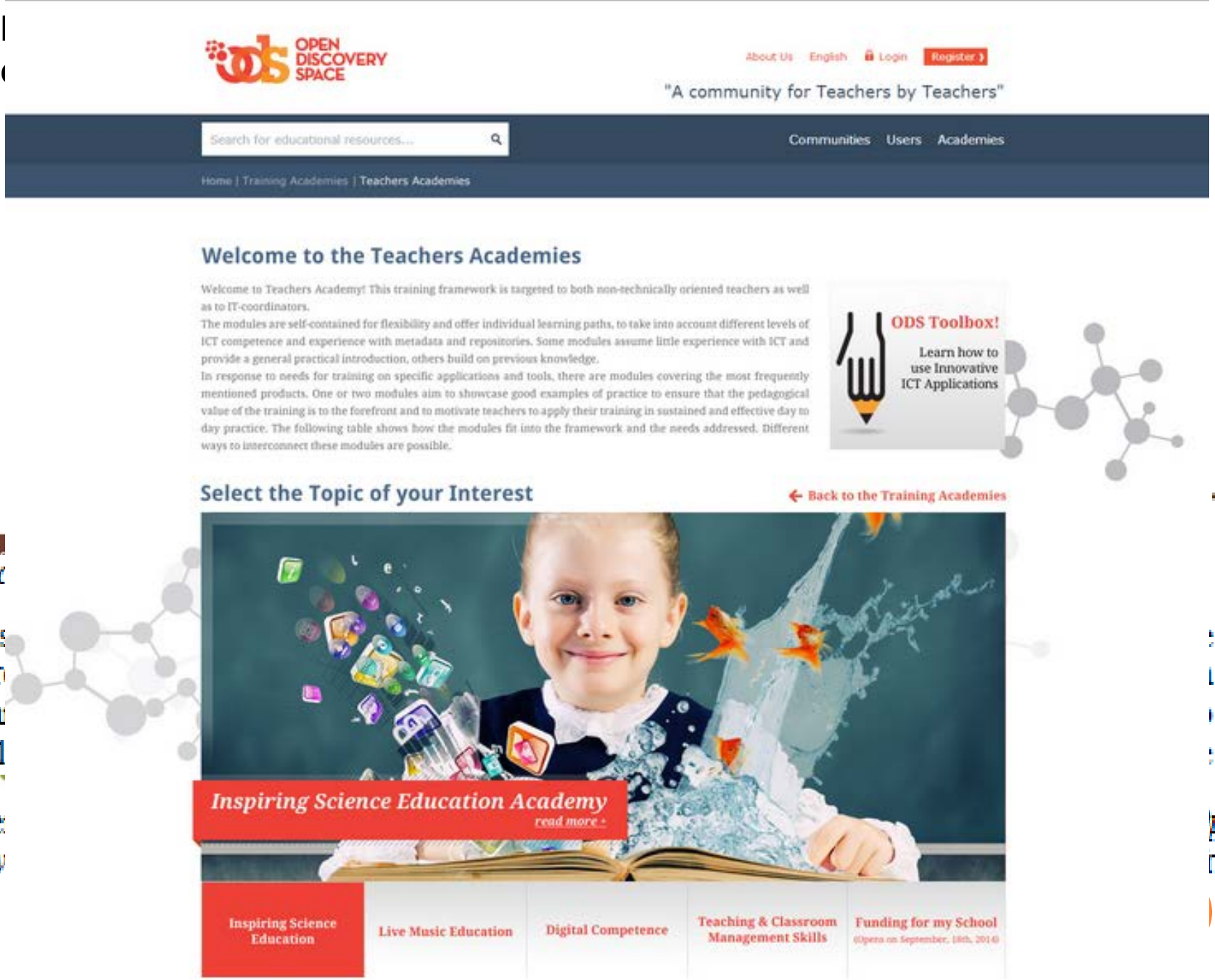

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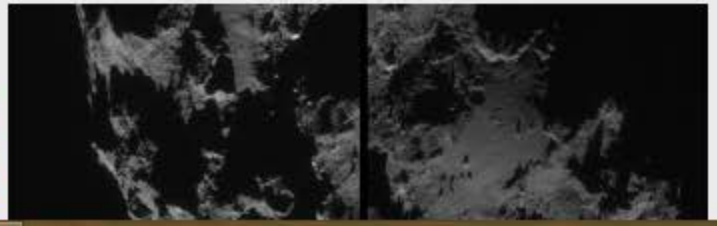
→ LANDING SITE SEARCH NARROWS

Using detailed information collected by Rosetta during its first two weeks at Comet 67P/Churyumov-Gerasimenko, five locations have been identified as candidate sites to set down the Philae lander in November. The Landing Site Selecti...



Search

REPLAY ESAHANGOUT: 2 SEP

2013-2015

- 8,000 schools
- 20,000 teachers
- 1,000,000 science education resources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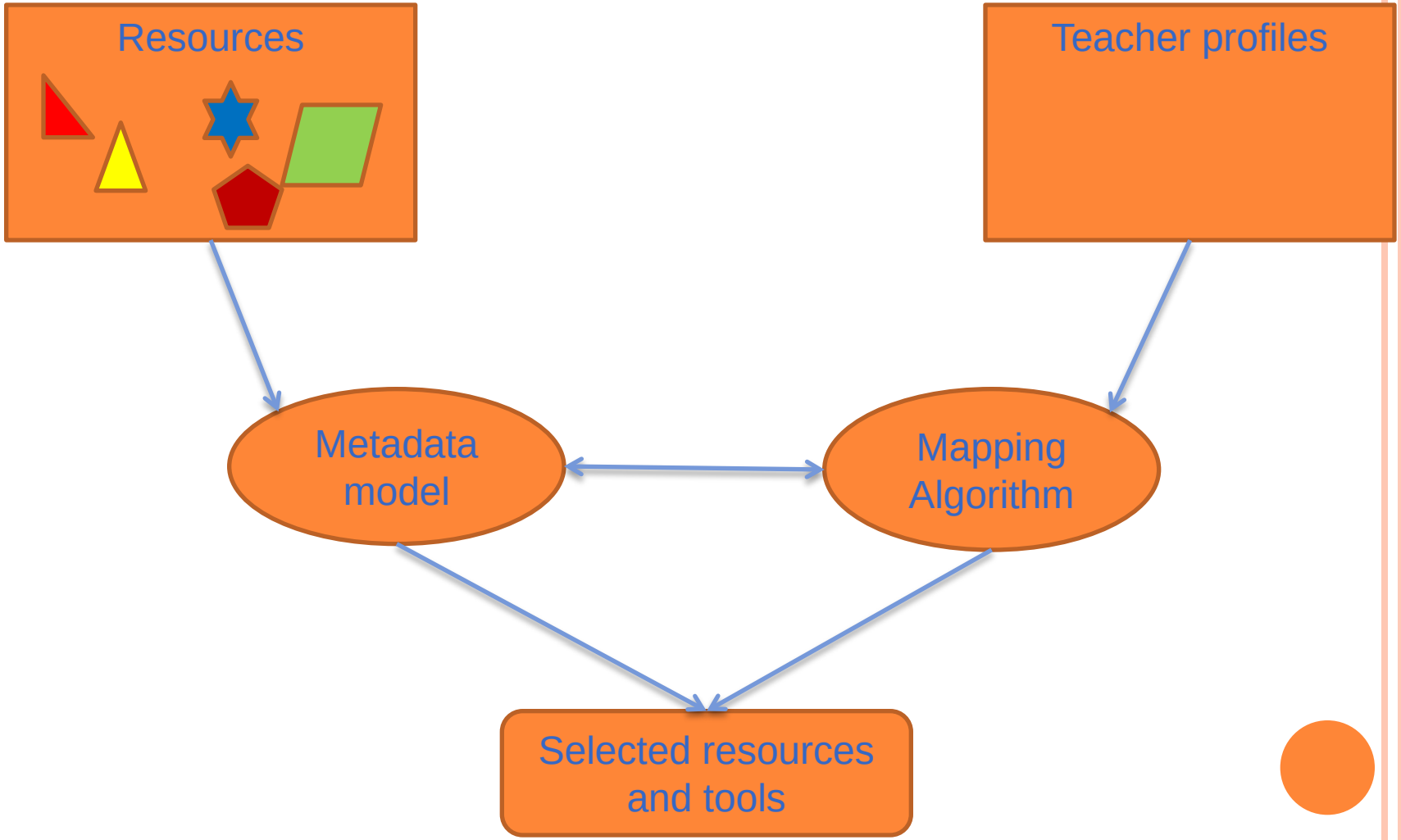
Educational Design



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inspiring SCIENCE education

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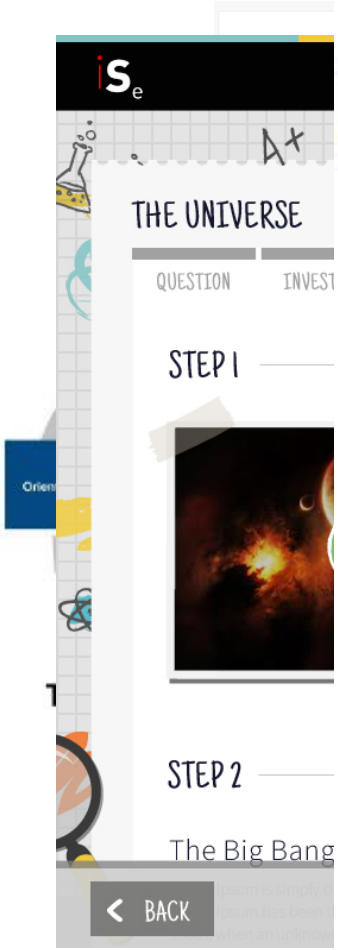
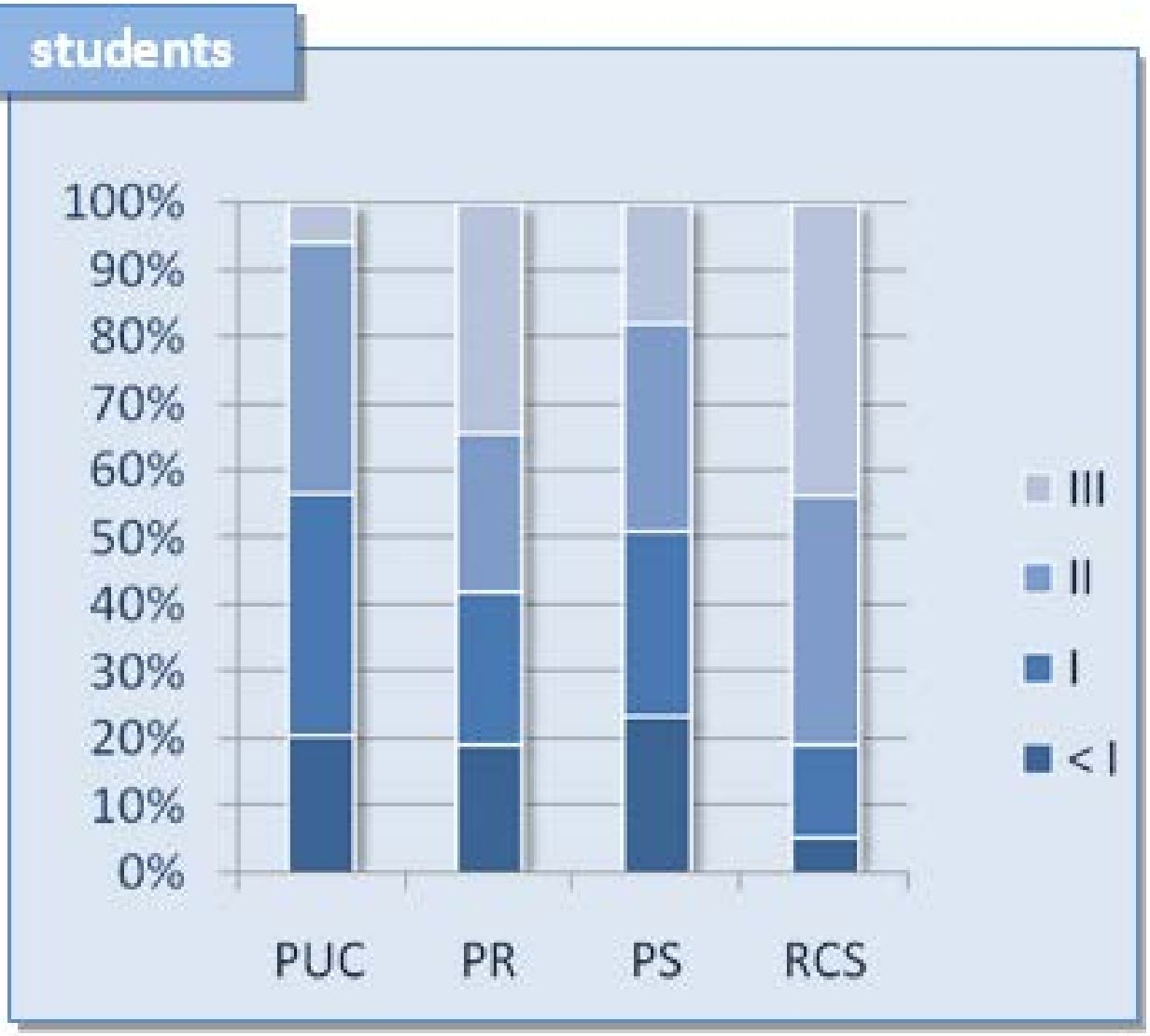
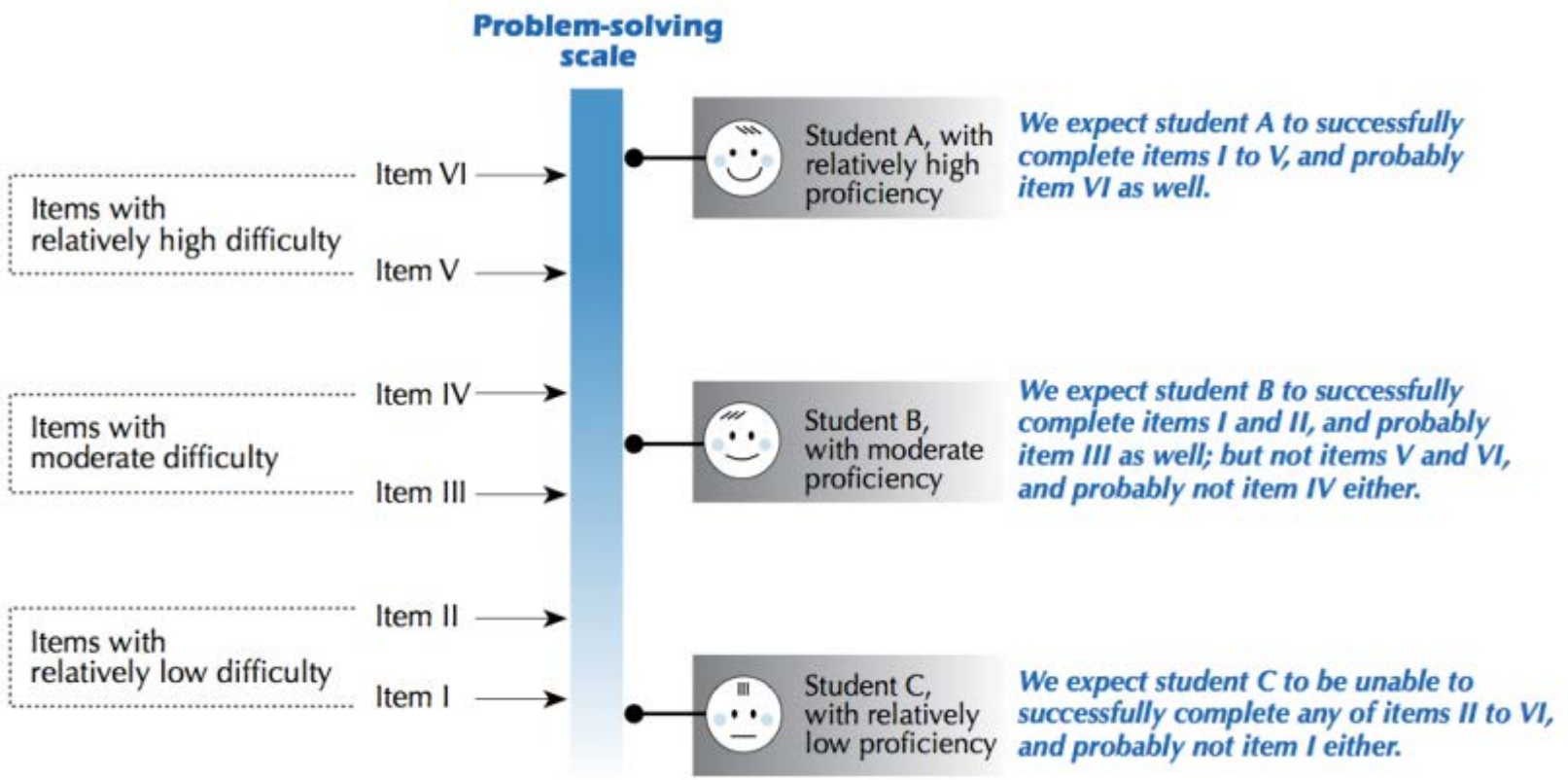




PISA 2012: Problem-solving

- **Relationship between questions and student performance:**



(OECD 2014, p. 49)

Financial Support

- Conceptual Framework (Funded by PATHWAY)
- Initial Selection of Best Practices (Funded by PATHWAY)
- Initial Version of the Repository (Funded by PATHWAY)
- Development of advanced users interface (To be supported by INSPIRING SCIENCE EDUCATION – 2013-2016)
- Continuous support of teachers communities (To be supported by Open Discovery Space – 2012-2015)
- Coordination and support actions (meetings workshops) (To be supported by INSPIRING SCIENCE EDUCATION – 2013-2016)

To promote the IY of Light to the educational communities across Europe

Action Plan

- **Setting up the ESEA working group**
- Actions in 2014-2015 (Website, Communication Strategy, Portal population, workshops, hangouts, virtual visits, contests)
- To coordinate the implementation of the Action Plan
- To safeguard funding for the realization of the Action Plan
- To organise three ESEA workshops (2014, 2015, 2016)

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