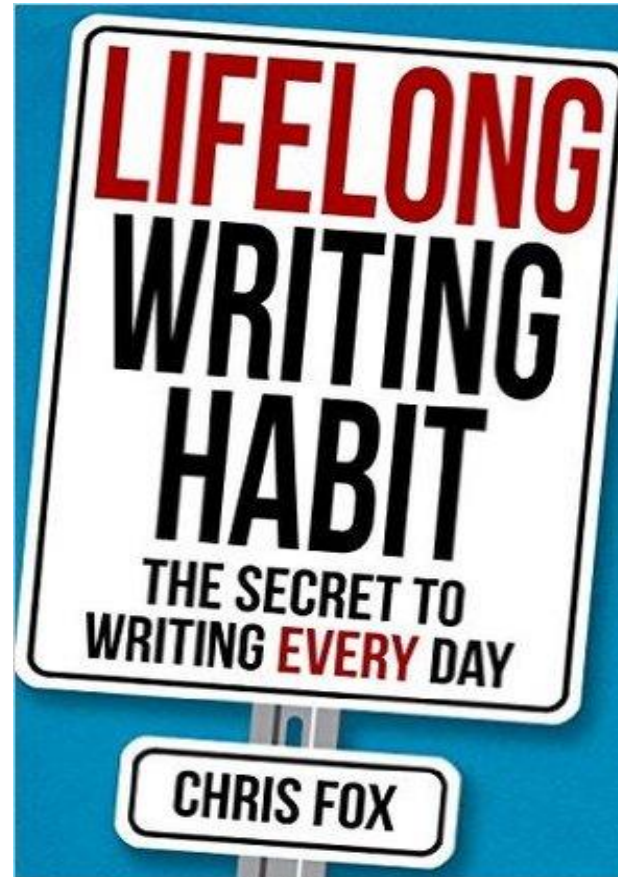


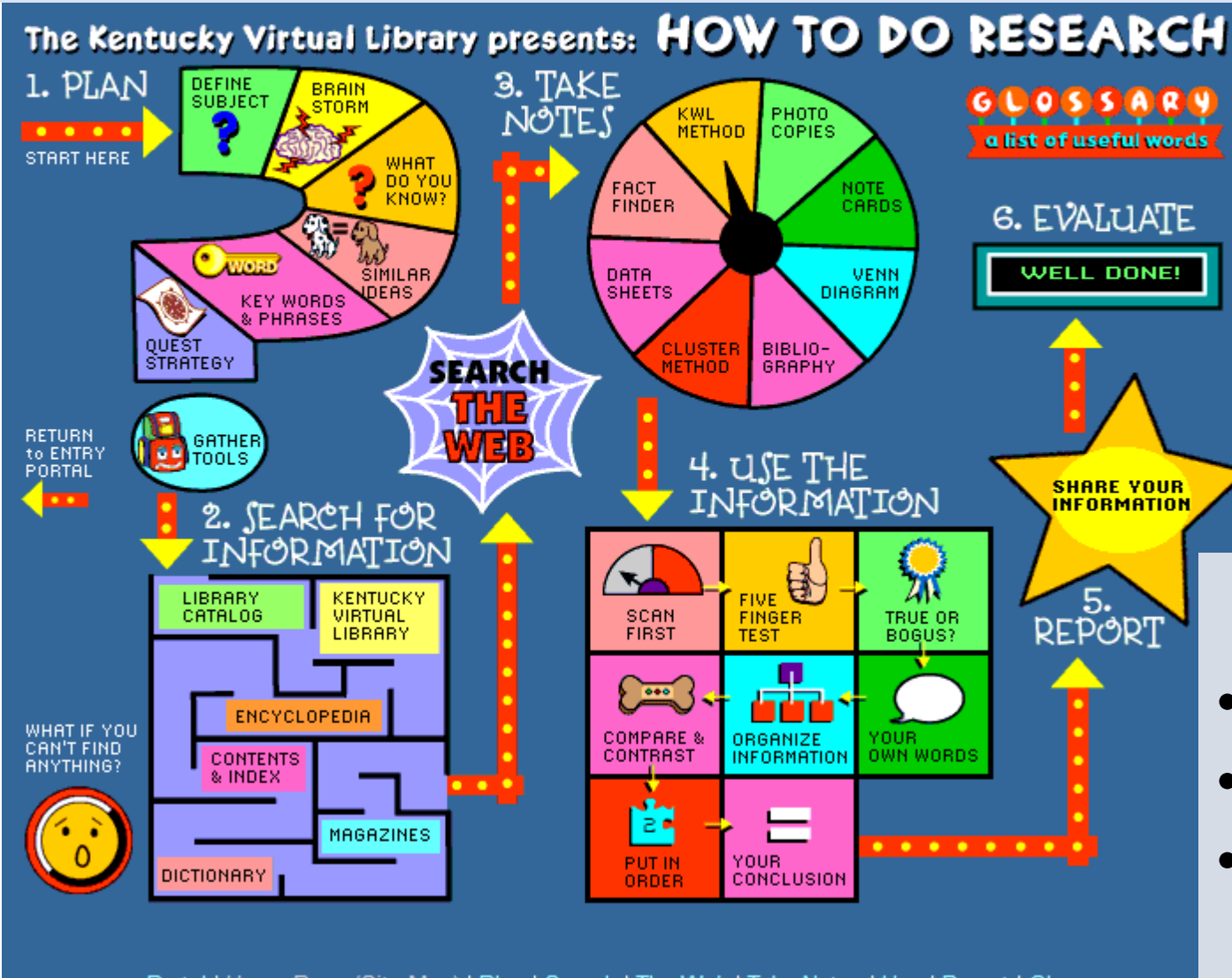
Lifelong research – practical and vital aspects of a visionary concept

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ECIL 2017



Kids & Science/Scientific/Academic literacy



NOT only ...

- Your own funny research
- Children prodigy scholars
- Discovery-based learning
- Critical thinking as a subject

BUT first and foremost

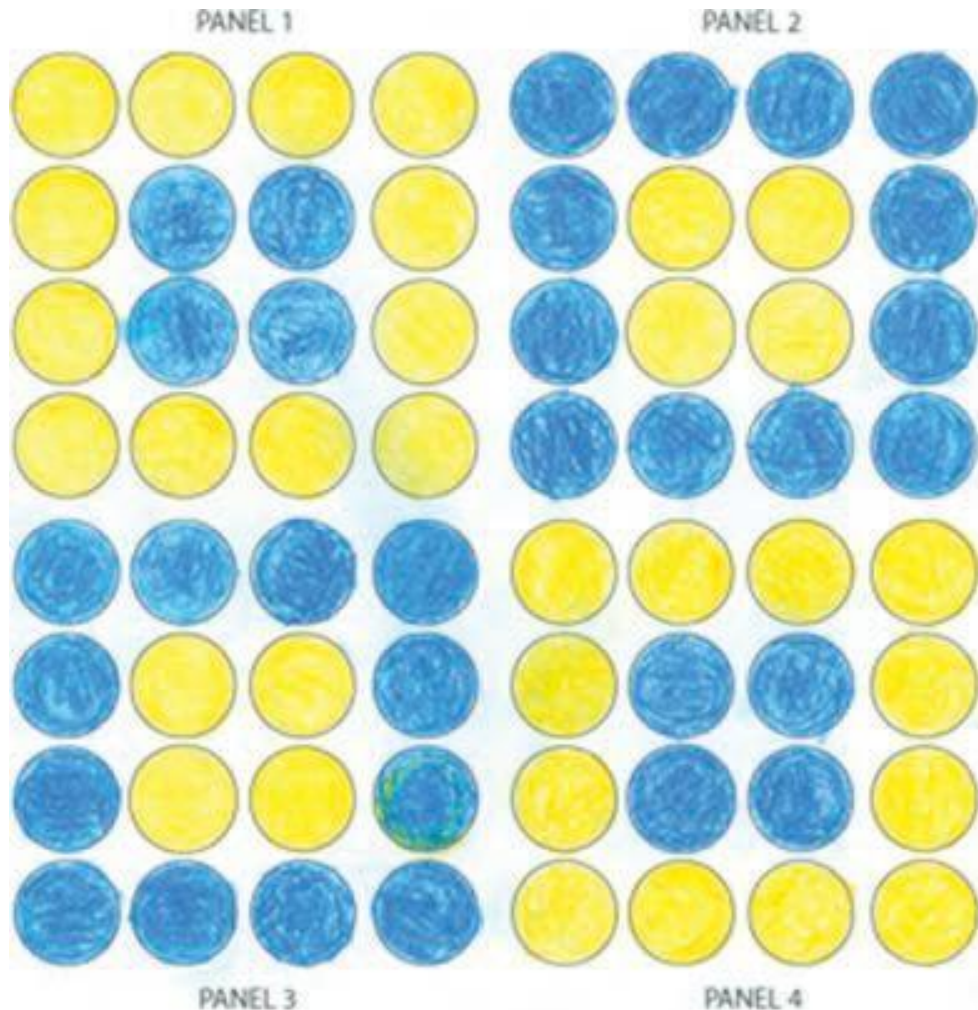
- Making science
- Generating new scientific value
- Learning FOR being able to involved in participatory research

Junior Citizen Science 4 All

Making science between 12-18 (Palaestria)

- Microtasking, megamachine
- Scholar-teacher-student assemblages
 - Publication at the end of the tube
- Gamification and Reward engine behind
- Topics have local/civilizational relevance
- Students have choice, *ergo* personal motivations
 - Researchers get brain-power
- Teachers also make science and not only „teach“

Ten years old British students, their teacher and a neuroscientist – pattern and color-perception of honeybees



- Plastic cans
- Other colors
- Sugar in the water
- Accidentally: navigation preferences

THE ROYAL SOCIETY PUBLISHING

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✓ **Blackawton bees**

P. S. Blackawton, S. Airzee, A. Allen, S. Baker, A. Berrow, C. Blair, M. Churchill, J. Coles, R. F.-J. Cumming, L. Fraquelli, C. Hackford, A. Hinton Mellor, M. Hutchcroft, B. Ireland, D. Jewsbury, A. Littlejohns, G. M. Littlejohns, M. Lotto, J. McKeown, A. O'Toole, H. Richards, L. Robbins-Davey, S. Roblyn, H. Rodwell-Lynn, D. Schenck, J. Springer, A. Wishy, T. Rodwell-Lynn, D. Strudwick, R. B. Lotto

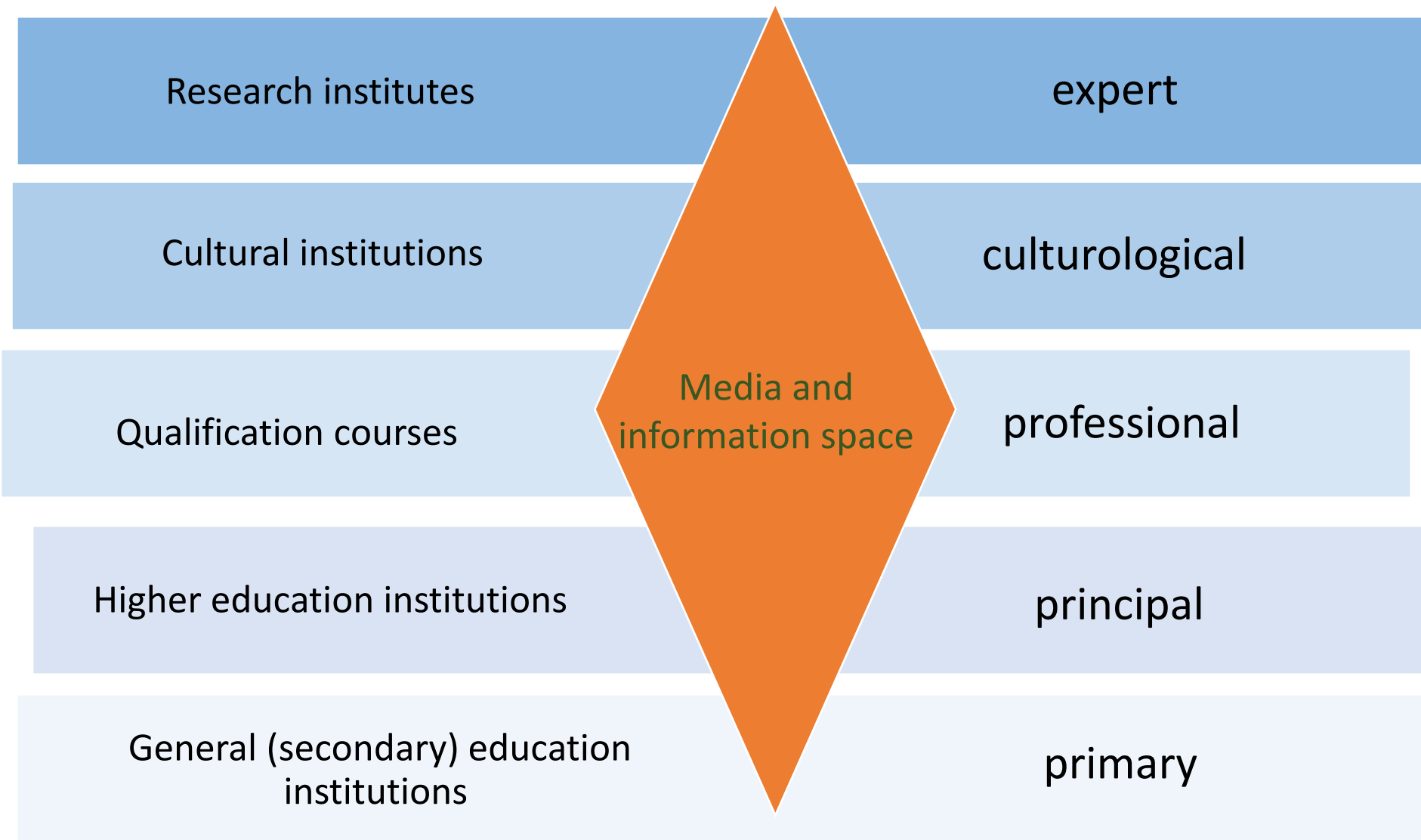
Published 22 December 2010. DOI: 10.1098/rsbl.2010.1056

Szeged - Space archaeology day



- 70 students, 5 PhD-students, 25 BA and MA students, 5 teachers, 1 archaeologist, 1 geologist
- Satellite and other photos
- Lot of objects found
- Aboveground patterns, forms are identified and blended to photo

Jugria Project: Geoknowledge forming structure



Labrywhere (European Trees)

- Smart Phones as scientific tools
- If the students find a cut tree, they make a reed photo (a picture on annual rings)
- They send it to a processing center with GPS-data and other metadata
- WebCams, Sensors



If Palaestria-model can be universal/global ...

- The doors are open **for lifelong research** (as professional amateurs, ProAms)
- A (transnational) research community is an **action community** – common action multiplies **epistemic community** features – and builds trust through mutuality, common goals and interactions („peacemaking force”)
- **Social innovation in science education**
- Intensify **distributed control** patterns in resource allocation in Science