Scientic Literacy for S-TEAM

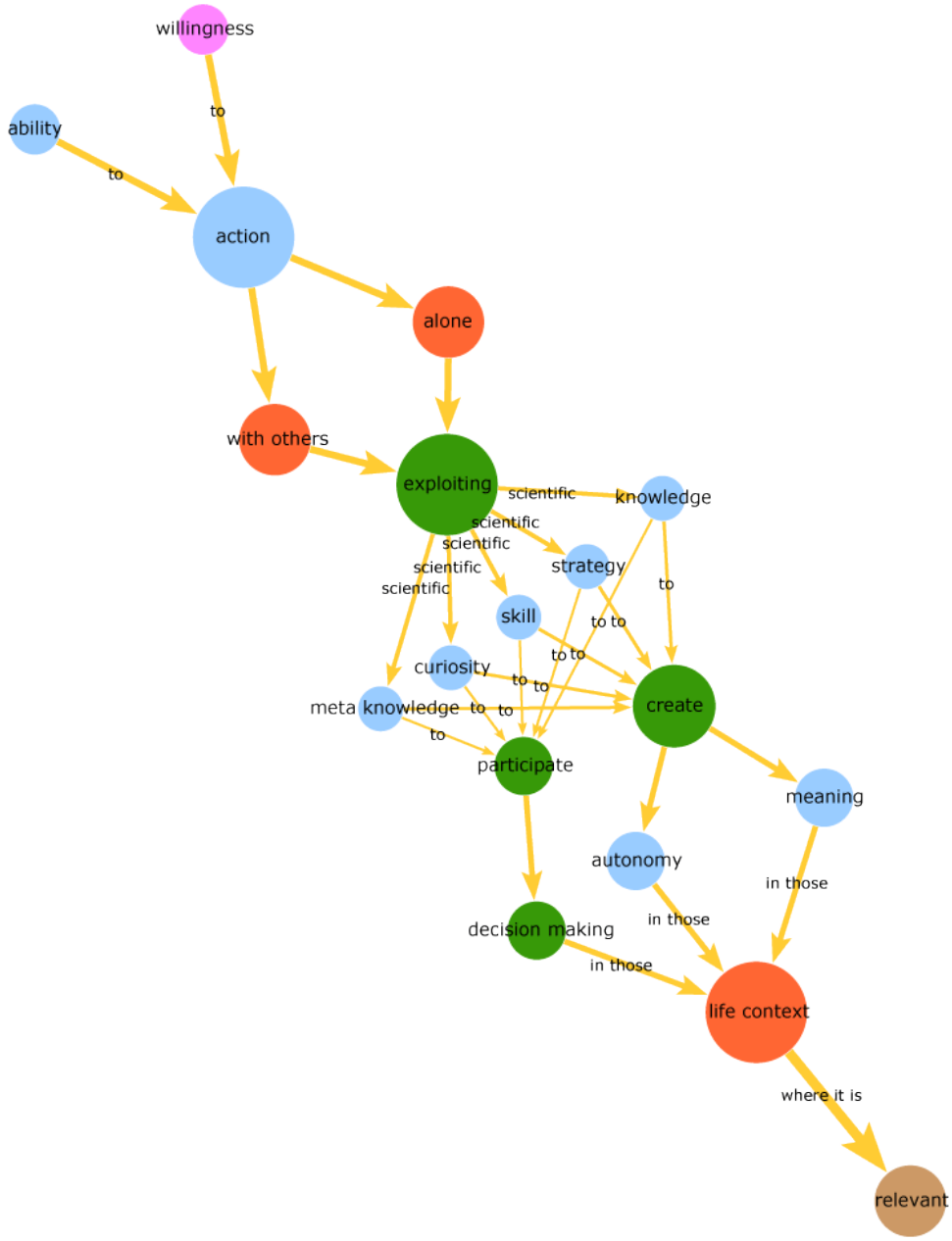
Below is a starting point for WP8's path towards a definition of Scientic Literacy which we can all use. See what you think and feel free to edit the starting definition by writing your full suggestion below the original and then briefly defending your change. We will occassionally update the concept map to show an evolving definition. Thanks....WP8

STARTING S-TEAM DEFINITION OF SCIENTIFIC LITERACY

The ability and willingness to take action, alone and with others, using scientific curiosity, knowledge, skills, strategies, and meta knowledge to autonomously create meaning for and participate in decision making in those contexts in life, where it is relevant.

(Dolin, J., Krogh, L. B., & Troelsen, R. (2003). En kompetencebeskrivelse for naturfagene. In H. Busch, S. Horst, & R. Troelsen, *Inspiration til fremtidens naturfaglige uddannelser* (pp. 59-140). København: Uddannelsesstyrelsen.)

EDIT THE DEFINITION BY WRITING A COMPLETE VERSION BELOW AND EXPLAINING YOUR SUGGESTED CHANGES.



Here is a perspective on Scientific Literacy from Colin Smith

First thoughts on definitions of Scientific Literacy

Colin Smith 28/06/09

colin.a.smith@btinternet.com

For me, our definition of scientific literacy should incorporate the following related points.

- In line with some perspectives on general literacy (e.g. Baynhan,1995), present scientific literacy as a range of practices and levels. We don't all need the professional (and different) forms of scientific literacy attained by nuclear physicists or immunologists, but we do need forms of scientific literacy that allow us to make informed contributions to debates on nuclear power and MMR vaccinations.
- Acknowledge differences between scientific disciplines, particularly in the ways they describe and explain relevant phenomena (see, for example, Mayr, 1997, 2004; Rosenberg, 1985)
- As implied by the first point and in line with S-TEAM aims, incorporate the educational aim of empowering people to participate in decision making within technologically advancing democracies.

The original definition is strong on this last point but, I think, requires to emphasize the others more. So below is an attempt to maintain the features of the original definition while incorporating these others. Inevitably, perhaps, it is getting longer and clumsier.

The ability and willingness to take actions, alone and with others, that use appropriate mixes of scientific: curiosity; disciplines' knowledge, concepts and theories; skills; strategies and meta knowledge to autonomously create empirically supported understandings that give sufficient meaning to allow participation in decision making in those life contexts where scientific thinking is relevant.

Bayhnan, M. (1995) *Literacy Practices: Investigating Literacy in Social Contexts*. London: Longman.

Mayr, E (1997) *This is Biology: The Science of the Living World*. Cambridge: The Belknap Press of HarvardUniversity Press.

Mayr,E. (2004) What Makes Biology Unique? *Considerations on the Autonomy of a Scientific Discipline.* Cambridge: CambridgeUniversity Press.

Rosenberg, A. (1985) *The Structure of Biological Science*. Cambridge: CambridgeUniversity Press.

Colin Smith