



EUROPEAN
COMMISSION

Community Research



The need for Science in Society

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Outline

- **Importance of science in society.**
- **Science solving or creating problems?**
- **Challenges facing science education.**
- **What are we doing?**
- **Where are we going?**



Importance of science in society

- **Towards a knowledge-based society.**
- **Research as a generator of scientific knowledge.**
- **The needs for more science professionals.**
- **Science for cultural development, active citizenship and empowerment.**



Science solving or creating problems for society?

- **Overwhelming pace of S&T development.**
- **Global challenges: climatic change; energy crisis; diseases....**
- **Risk and uncertainty.**
- **Acceptability and ethics.**



Science solving problems for society!

- **Increase general awareness of what science is.**
- **Increase participation in decision making.**
- **Improve science communication.**



Challenges facing science education

Young people are losing interest in science studies

- **OECD: Student numbers increasing but bad news for science!**
- **Eurobarometer: science too hard, careers uninteresting!**
- **PISA survey and ROSE study: performance versus interest; boys and girls are different!**



Challenges facing science education

Young people are losing interest in science studies

- **Science curricula need revising:**
 - **Decontextualised!**
 - **Content heavy!**
 - **Transmissive!**



Challenges facing science education

Young people are losing interest in science studies

- **Science curricula need revising:**

"I really do not understand what we are doing. I just learn it by heart and do what the teacher says. And if you do so and smile to the teacher you will have good marks"

From Terry Lyons: International Journal of Science Education: Vol 28, No6



Challenges facing science education

Young people are losing interest in science studies

- **Science curricula need revising**

→ • **Poor images of scientists:**

Male, white, middle-aged, poor quality of life...

Lifestyles of real scientist: role models.



Challenges facing science education

Young people are losing interest in science studies

- **Science curricula need revising**
- **Poor images of science**
- • **More information on science careers:
Diversity.
Empowerment and opportunity.**



What are we doing?

- **Formal science education prerogative of national authorities.**
- **Much can be done at the European level:**
 - **To support science education**
 - **To promote exchange of best practices and know-how**
 - **To bridge the gap between how science is learnt and how science is done**
- **The project PENCIL is a good example.**



The “NUCLEUS” Cluster

Partners include activities led by

PENCIL

Coord: European network of science museums and centres; includes EUSchoolnet)

CISCI

Coord: Vienna Institute of technology; includes AcrossLimits)

VOLVOX

Coord: University of Reading

ESTI

Coord: ESA, includes other EIROFORUM members)

SCIENCEDUC

Coord: Ecole Normale Supérieure:La main à la pâte)



The NUCLEUS Cluster

- **Pilot actions involving schools museums and science centres.**
- **Dissemination of “hands-on” techniques.**
- **International Science on Stage fairs (networks of science teachers).**
- **Journal on science education (bridging the gap between education and research).**
- **Science in films (video clips).**
- **Development of a Science-based Internet Portal www.Xplora.org.**



Where are we going? Capacities: Science in Society

“Creation of an open environment which triggers curiosity for science in young people, by reinforcing science education at all levels including schools and promoting interest and full participation in science among young people from all backgrounds”



Where are we going?

Capacities: Science in Society

Envisage 3 key focal points in specific programme:

- **Support for formal and informal science education.**
- **Reinforcing the links between science education and careers.**
- **Research and policy development.**



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