Informal Science Learning and Disadvantaged Groups

Dr Hilary Leever
Head of Education and Learning
ASDC Education Conference, February 2014

@WTEducation
education@wellcome.ac.uk
wellcome.ac.uk/education
Why informal?

- <20% spent in school
- >80% spent out of school

Waking hours
2 Reports Commissioned

• From UK-based GHK Consulting – report examines who is doing what, who are they reaching and how are they evaluating.

• From Stanford - Oregon State University- examining the science education ‘ecosystem’ and the role of informal learning within it.

• Plus a commentary piece from John Holman and Clare Matterson
Findings the Informal Learning Landscape

• Diversity: ‘…. As far as we can tell, such diversity is not matched elsewhere’

Findings – Research and practice are not well connected

• Practioners tend to read grey literature - policy documents, evaluations and online resources
Findings – Evaluation

Evaluation is widespread but unsophisticated
- user surveys are most common methodology used
- mostly done by providers themselves, not by external evaluators

‘Overall, this is a community eager to find out what its users think of its activities, but less inclined to measure long-term impact’
Findings – underserved groups

- Under 5s
- Adults
- Lower socioeconomic groups
One in four students studying STEM courses at English universities report that visits to museums or science centres were important or very important in influencing their choice of course.⁶
Follow-up: research, practice and profession

- Developing a new grant scheme to fund research into informal learning
- Working with ESRC, the National Science Foundation in the US, Gordon and Betty Moore Foundation, the Noyce Foundation and the MacArthur Foundation
- Grants will be for researchers and practitioners to work together
- Hoping to launch soon
Follow-up: disadvantaged groups

- Preliminary discussion in June about connecting disadvantaged young people to science
- Commissioned follow-up research with young people to explore what they would most engage with or value
Key influencers on young people:

- Extended Family
- Parents
- Young Person
- Siblings
- Friends
- Teachers
- Youth workers
Influencers on activities they do

- Friendship
- Enjoyment
- Being in control
- Incentives to participate
- Parental support/family involvement
- Increased self esteem

If my friends didn’t go to the YMCA then I wouldn’t go on my own, don’t want to be billy no mates

Success breeds success, they keep coming because they are doing well. If they fail then they don’t want to come back. These kids have enough knocks in life to deal with.
Attitudes to Science

It’s dull, proper dull.

I don’t like it because I don’t know the words they use.

I don’t really like science to be honest, but I love experiments.

I like doing practicals, I don’t like writing a lot but I like doing practicals. Doing it yourself rather than watching.
Influencers on attitudes to science

- Gender
- Age
- School environment
- Role of the science teacher
- Parental attitudes to science
- Religion

When I was in years 7 & 8 we dissected so many things but in year 10 it's just boring. It's just work, work, work, work. Tests, books, you revise that, you do a test, books again. Even the practicals lead to a test!
Steps to successful engagement

1. Know your target audience
2. Engage a champion
3. Ensure your activity is young person led
4. Ensure activity is relevant and at the right level
5. Invest in long term relationships for maximum impact
Other Tips

Make activities…
• practical/ interactive
• social/ involve friends
• accessible/ in the local community

Celebrate/ reward successes

Use trusted networks for communication
What does this mean for our work?

• How can we build a stronger link between research and practice?

• How can we develop more sophisticated evaluations?

• How can we have a bigger/better impact with hard-to-reach audiences?
The future of science depends on the quality of science education today.
Aims of the Review

Practical outcomes of the study:

• A better understanding of the scope of informal learning, its theoretical base and the types of change it can bring about in people’s understanding, behaviour and attitudes to science

• Better understanding of how to evaluate the impact of informal science learning

• Best practice in reaching deprived learners schools and families

• Best practice in linking informal and formal learning.
Today’s Talk

• Recap of Informal Learning Review

• Highlight what Wellcome Trust has done since the launch of the Review

• Focus on a piece of research about reaching disadvantaged young people

• Explore implications for all our work