Evaluations of presentations to the general public with a biomedical focus

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Bridging the gap between science and society
Society demands good science has:

• societal relevance
• adherence to societal moral values
• accountability
Accountability at all levels to:

- the public
- the government
- funders
Effective science communication

SOCIETY

SCIENTISTS
Science communication and South African society

- special needs and special problems
- need to demystify science among literate and economically active
- engage the interest of those less privileged
- expose school learners to career opportunities in S and T
Novel approaches to engage public

- science centres
- science expos
- interactive workshops
- focus on biomedicine
Aim

To develop mechanisms to evaluate the impact of presentations with biomedical focus to a diverse society
METHODS
• pilot study
• focussing on an existing workshop on DNA
• workshop was presented five times
  – three times to school learners
  – twice to educators
Diverse workshop participants

1 = Learners: well-resourced school  n = 10
2 & 3 = Educators: under-resourced schools  n = 38
4 = Learners: selected from under-resourced schools  n = 32
5 = Enrichment programme Grade 11 learners  n = 38
• 2 questionnaires
• self-administered questionnaire
  – demographics of participants
  – knowledge
  – questionnaire completed before and after presentations
  – data analysed using descriptive statistics
• feedback questionnaire
  – rating of activities
  – comments on activities
  – responses were coded by 2 investigators
RESULTS
Home language by workshop

- Workshop 1: 10 Xhosa, 5 Other
- Workshop 2: 5 Xhosa, 5 Other
- Workshop 3: 20 Xhosa, 10 Other
- Workshop 4: 30 Xhosa, 10 Other
- Workshop 5: 35 Xhosa, 5 Other
Average pre- & post by workshop

118 questionnaires completed
Change in score pre to post by workshop

Number of Workshop:
- Workshop 1
- Workshop 2
- Workshop 3
- Workshop 4
- Workshop 5

Score Categories:
- Higher
- Lower
- Unchanged
No correct per question pre & post
Feedback questionnaire

- group 3 (n = 32)
- 26 completed feedback questionnaires
• Learned a lot (12)
• Interesting (12)
• Fabulous/exciting (7)
• Societal relevance (8)
• Pitched at level appropriate to audience (3)
• More time/explanation please (2)
• Would like to run similar workshops (4)
Limitations of this study

- both questionnaires not used for all presentations
- high rate of unuseable data due to people coming late and leaving early
- questionnaires in English
- no open feedback from learners
Using questionnaires helps

- knowledge and feedback questionnaires valuable
- knowledge improved across diverse groups
  - complex biomedical concepts can be demystified
  - participants keen to communicate knowledge gained
- workshops valued
  - informative
  - relevant to contemporary society
- “wow” factor evident
... and also identifies problems

• unexpected decrease in knowledge of some concepts identified
  – reasons seem apparent but need to be investigated
  – wording of questionnaire items needs attention
Lessons learned

- complex biomedical phenomena can be communicated to a diverse audience
  - use imagination
  - link to contemporary issues
  - make it interactive
  - be enthusiastic
Lessons learned

- use evaluation to ensure concepts are being understood
  - explanation of some concepts needs to be modified
  - workshops in participants’ home language likely to have greater impact
Challenges to be addressed

• English not mother tongue of many participants
  – workshops presented in English
  – questionnaires completed in English
  – Xhosa speaker present at workshop asked many questions

• logistics