Empowering Students in STEM Outreach: A Team Leader Pilot Initiative

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Overview

1. Introductions
2. The UoN STEM Approach
3. STEM Team Leader Pilot Initiative
4. Conclusions and Implications for Practice

A Campus of Changemakers

- Global collaboration and excellence in changemaking and social innovation.
- 37 colleges and universities, in 7 countries.
- University-wide ethos: engaging students as agents of innovation and social change.
- Embedded throughout curriculum, social impact programmes etc.
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The UoN STEM Approach

- Over a decade of STEM provision.
- Accessible and championed across the university, through:
  - Cross-University STEM Steering Group
  - STEM Champions
  - Discipline-specific training
  - Dedicated events: community groups, schools, FE and HE
- Promotion of diversity and inclusion

STEM Steering Group

- Cross-discipline representation.
- Oversees coordinated STEM training programme.
- Collaboration in delivery and research.
- Single point of contact for community groups, students, staff and schools.
- Mediates relationship between university and local community.
- Raises STEM profile.

STEM Champion Volunteers

- Use talent and enthusiasm in new ways, while clarifying career options
- Identify strongly with subject area
- Confidence, employability-related skills, reinforces subject knowledge
- Enhances staff teaching practice
- Value of staff-student and peer interaction.
- Recognition: Changemaker, Employability, STEM Ambassador.

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Value for STEM Champions

“I loved putting theory into practice.”

“Being a STEM Champion helped me to make my career decisions.”

“It’s all about teaching children new and exciting things.”

“Being a STEM Champion has helped me improve my communication skills.”

“I feel that I can really make a difference.”

“I believe I have enhanced my skill set.”

Value for Participants

“Absolutely awe-inspiring” (team)

“I learnt all about the amazing things my brain can do.”

“Where do I start? An amazing action packed day!”

“Interesting, Fun, Amazing, Fantastic, Exciting” (student)

“The kids loved it” (teacher)

“I learnt a lot of interesting facts.”

“I learnt that there are lots of jobs available.”

2015-16: at least 66 county schools
Yr 3 - 110
Yr 4 - 26
Yr 5 - 894
Yr 6 - 816
Yr 7 - 238
Total: 2134

“Absolutely awe-inspiring” (teacher)

STEM Team Leader Pilot Initiative

• Provide discipline-specific support and leadership
• Support staff in STEM Champion recruitment, training and coordination.
• Valuable STEM support network
• Paid: professionalism, contract, CPD
• Challenges: communication, ongoing engagement, measuring success, inconsistency between disciplines.
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Positive Outcomes

• Students empowered as partners in STEM outreach.
• Best placed to recruit STEM Champions.
• Identified current themes, training needs and creative approaches.
• Direct impact on future careers, key skills and confidence.
• Orient for success beyond the degree:
  • Identify strongly with university and continued involvement.

"It was easy to become somewhat frustrated when individuals appeared enthusiastic but were not willing to participate... but getting just one person active really makes a difference."
Student STEM Team Leader

"Team Leaders are valuable in connecting staff with students."
Staff STEM Lead

Implications for Practice

• Valuable staff-student networks and cross-discipline STEM championing should involve discipline-specific student representation.
• STEM Team Leader initiatives empower students as partners in STEM outreach, with positive outcomes for students, staff and participants.
• This work enhances student employability, STEM Champion recruitment and project delivery, while helping to further raise the science aspirations of young people within the local community.

Future Steps

• STEAM Changemakers – widening participation.
• Continued Team Leader funding.
• Student inclusion in STEM Steering Group.
• Tracking alumni careers and evaluating student impact.
• Longitudinal study on impact of STEM on students, staff and young people.
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References