



What Impact Does Promotion of Targeted STEM opportunities Have on Pupils Attitudes Towards STEM?

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Background:

- STEM stands for Science, Technology, Engineering and Mathematics.
- STEM is the fastest growing industry in the world with every major economy making STEM engagement and education a priority.
- The Scottish government has committed to prioritising STEM education, especially in the primary and BGE phase of education.
- Pupils can be reluctant to engage in STEM education or plan for a career in STEM when leaving school.
- There are many barriers to entering STEM such as gender, ethnic background and socioeconomic status.

Aim:

The aim of this research was to determine pupils' views on STEM and if providing them with opportunities to participate in STEM-based projects out with the normal school curriculum would influence these views.

Method:

Questionnaires and interviews were used to gather quantitative and qualitative data on attitudes to STEM before and after the intervention to identify any change in attitudes due to participation in STEM projects.

Results:

- Increased understanding of the term STEM
- Slight decrease in enjoyment and understanding of importance of STEM subjects.
- Increase in numbers looking to study STEM at further or higher education and move into a career that uses STEM.
- Positive decrease in stereotypical views of those who work in STEM.

Conclusion:

- No significant shift in attitudes towards STEM education or careers.
- Positive effect on soft skills such as communication, conflict resolution and time management.
- Pupils enjoyed the collaborative nature of the STEM projects and this added to their positive feeling towards STEM.
- Being exposed to role models allowed the pupils to have people to look up to and to look to emulate.
- Exposure to businesses and people out with the normal school environment allowed pupils to see career opportunities they had not previously considered.

Recommendations:

- Increase length of projects and size of cohort involved.
- Increased training and preparation prior to delivery of projects.
- Increase network of outside agencies to provide diverse role models.

