Raising science attitudes and perceptions at Key Stage 3

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Background
Low science uptake post-GCSE

Project aims
To increase uptake through enhancing attitudes and perceptions towards science

Strategy
Deliver practical and applied chemistry workshops over a 3 year period

Data collection
Longitudinal study design using questionnaires and focus group interviews

Context-based learning⁽¹⁾
Real-world applications of the science curriculum.
Non-science applications of science.
Delivery by experts from different areas of science indirectly communicates diverse careers.

Practical focus⁽²,⁽³⁾
Hands-on and visual conceptualisation of complex concepts.
Wet chemistry workshops improve practical skills and confidence.
Team work, problem solving and presentation skills nurtured early on.

Repeat engagement
Enables project-based learning⁽⁴⁾.
Builds familiarity with facilitator for more rounded engagement.

Local emphasis
Bilingual delivery.
Empowerment and relatability.

References

“Parallel analysis of PCA determines the number of factors present. Factor loadings explain interrelationships between latent and observed variables. CFA applied to test set (30% of data) allows confirmation of the model. Factor score coefficients allow item weighting when generating overall latent variable ‘scores’⁽⁶⁾. Build an understanding of the relationships between science capital, attitudes, perceptions and demographics.

Next Steps...
Explore and further validate questionnaire data using Exploratory Factor Analysis and Confirmatory Factor Analysis⁽⁵⁾: Parallel analysis of PCA determines the number of factors present. Factor loadings explain interrelationships between latent and observed variables. CFA applied to test set (30% of data) allows confirmation of the model. Factor score coefficients allow item weighting when generating overall latent variable ‘scores’⁽⁶⁾. Build an understanding of the relationships between science capital, attitudes, perceptions and demographics.

“I don’t really know what a science job is”
“It’s, like, out of fashion”