Final Report 2019

The Smallpeice Trust

2019 Subsea UK STEM Challenge

Regional Events and Aberdeen Final Report and Statistical Analysis

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Dare to imagine

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1.0 OVERVIEW OF YOUR SUPPORT

For the second year The Smallpeice Trust has worked with Subsea UK to develop and deliver a programme of STEM activities to promote the subsea industry and associated careers.

The Smallpeice Trust developed an exciting, hands-on project that could be delivered as part of the programme. The project was British Science Association accredited.

The Smallpeice Trust were also tasked to engage with school across five regions to recruit teams to participate in regional challenges. A fill list of the regions and the participating schools can be found in **Appendix A**.

The Smallpeice Trust delivered an exciting STEM challenge at each of the regional events. The winning team from each of the regional events was invited to a national final hosted at Subsea 7 in Aberdeen.

At the Aberdeen final participating students completed a range of activities including a follow-on challenge developed by The Smallpeice Trust that enabled students to apply for The British Science Association Crest discovery award.

The programme was a huge success. Feedback shows the students and teachers highly valued the initiative.

2.0 Project Development and Crest Awards

The original project developed during the 2017-18 academic year focused on Subsea ROVs. The decision was made to use this project again as it was popular with students and remained relevant to the subsea industry.

In the challenge, participants used Lego Mindstorms and iPads to build and programme their own ROVs which had to navigate around a subsea terrain without human interaction.

For the Aberdeen final The Smallpeice Trust developed an expansion of the original project. The additional work allowed the project to become British Science Association accredited.

The Subsea Challenge was designed to comply with the CREST Discovery Award guidelines which state that “Discovery Awards offer an introduction to real project work and give students the freedom to run their own investigations. They can be completed in one day, with students working together in self-managed groups. Students work in groups to solve a STEM challenge, or challenges, with minimal adult intervention.”

3.0 Regional Events

The Smallpeice Trust ran a campaign to engage with schools across five regions (Newcastle, Glasgow, Sheffield, Plymouth and Southampton). Within each region a maximum of ten school teams were to be recruited. A full list of each region and the teams can be found in **Appendix A.**

A full breakdown of the student feedback is included in **Appendix B.** Headlines for the programme include:

- 261 students participated in the regional programme (137 Female, 108 Male, 16 prefer not to say)
- 38 teams from 28 schools participated in the programme
- 98% of participants stated they enjoyed the day
- 97% said that because of the programme they now know how STEM is used in the Subsea sector
- 68% said that they would now consider a career in the Subsea sector.
- 100% of the teachers rated the programme as excellent and said they would recommend the programme to other schools.

One teacher commented “It was a brilliant event; the students gained a lot from it especially the insight into the different careers available in the industry”.

The winning team from each event was invited to attend the national final in Aberdeen.

4.0 ABERDEEN FINAL

The national final was hosted at Subsea 7 on 6th March 2019. Teams from the following school attended:

- Cantell School - Southampton
- Plymouth High School for Girls
- All Saints' Catholic High School - Sheffield
- Williamwood High School - Glasgow
- Royal Grammar School- Newcastle

The schools completed a follow on ROV challenge that allowed them to receive the CREST Discovery award and received presentations from Subsea UK and their partners.

Subsea UK representatives and their partners selected All Saints' Catholic High School as the overall winner. The school's teacher commented that "It has been an absolute pleasure to have taken part in this event, which has been managed brilliantly, you have all been extremely helpful and without you this would not have been possible for our students".

The event generated positive PR including coverage on local BBC radio. All PR was managed by Subsea UK.

4.0 FEEDBACK AND CONCLUSION

The Subsea UK STEM Challenge received extremely positive feedback. The participating students enjoyed and benefited from all elements of the programme. Students had the opportunity to engage with, and learn from, real role model engineers and worked on a project reflecting the modern challenges facing the Subsea Industry; this is an opportunity they don't have in school.

The addition of CREST gives students the added benefit of a recognised certificate that can be used to demonstrate what they have achieved.

The Smallpeice Trust welcomes the opportunity to work with Subsea UK on the programme in the future.

APPENDIX A – PARTICIPATING SCHOOLS

Newcastle

Royal Grammar School, Newcastle
Durham Johnston Comprehensive School
St Mary's Catholic School
Norham High School
Cramlington Learning Village
Barnard Castle School
The Duchess's Community High School
High Tunstall College of Science
Churchill Community College
Newcastle School for Boys

Southampton

Cantell School
Noadswood
The Portsmouth Grammar School
The King's School
St Swithun's School
Testwood School

Sheffield

Sheffield Park Academy
All Saints' Catholic High School
Wales High School
Kirkbalk Academy
Retford Oaks Academy

Glasgow

Kings Park Secondary School
Turnbull High School
Kilsyth Academy
Hyndland Secondary School
Knightswood Secondary School
Notre Dame High School
Rosshall Academy
Whitehill Secondary School

Williamwood High School
St. Stephen's High

Plymouth

Plymouth High School for Girls
All Saints Church of England Academy
Marine Academy Plymouth
Plymstock School
Lipson Co-operative Academy

APPENDIX B – FEEDBACK

Teacher Evaluation

Question		Total
New to Smallpeice Trust	Yes	7
	No	47
How were pupils selected?	Class/Yr Group	14
	Gifted & Talented	10
	Student interest	31
	D&T Set	5
	Random	1
	Other	9
General pupil aptitude/ability	High	29
	Average	4
	Low	2
	Mixed	8
General level of pupil interest in the day	Enthusiastic	40
	Average	3
	Low	0
Please rate the standard of the project/s	Low 1	0
	2	0
	3	0
	4	15
	High 5	28
How would you rate the delivery of the day?	Excellent	26
	Good	15
	Fair	2
	Poor	0
How would you score the day?	Excellent	27
	Good	16
	Fair	0
	Poor	0
Do you feel the day has addressed any of the following curriculum areas?	Science	33
	Maths	17
	Design & Technology	20
	Engineering	41
	Inclusion	11
	Personal learning & thinking skills	27
Would you request another STEM day?	Yes	42
	No	0
Would you recommend a STEM day to another school?	Yes	42
	No	0

Combined Student Feedback

		Strongly Agree 3	Agree 2	Disagree 1	Strongly Disagree 0	Total
S1	I enjoyed the Day	56%	42%	2%	0%	100%
S2	I learnt new things	50%	47%	3%	0%	100%
S3	I am more confident in my team working skills	32%	61%	6%	2%	100%
S4	I now know more about how STEM is used in the Subsea sector	54%	43%	3%	0%	100%
S5	I feel inspired about what Engineers do	28%	58%	13%	1%	100%
S6	This Day has made me further consider a career in the Subsea sector	19%	49%	26%	6%	100%

Female Student Feedback

Female Student		Strongly Agree 3	Agree 2	Disagree 1	Strongly Disagree 0	Total
S1	I enjoyed the Day	57%	42%	1%	0%	100%
S2	I learnt new things	51%	47%	1%	0%	100%
S3	I am more confident in my team working skills	34%	58%	6%	2%	100%
S4	I now know more about how STEM is used in the Subsea sector	53%	45%	1%	1%	100%
S5	I feel inspired about what Engineers do	28%	61%	10%	1%	100%
S6	This Day has made me further consider a career in the Subsea sector	18%	52%	24%	7%	100%

Male Student Feedback

Male Student		Strongly Agree 3	Agree 2	Disagree 1	Strongly Disagree 0	Total
S1	I enjoyed the Day	56%	43%	1%	0%	100%
S2	I learnt new things	49%	48%	3%	0%	100%
S3	I am more confident in my team working skills	31%	64%	5%	0%	100%
S4	I now know more about how STEM is used in the Subsea sector	57%	38%	5%	0%	100%
S5	I feel inspired about what Engineers do	30%	55%	16%	0%	100%
S6	This Day has made me further consider a career in the Subsea sector	20%	49%	27%	4%	100%

Prefer Not To Say Feedback

Prefer not to say Student		Strongly Agree 3	Agree 2	Disagree 1	Strongly Disagree 0	Total
S1	I enjoyed the Day	44%	44%	13%	0%	100%
S2	I learnt new things	50%	31%	13%	6%	100%
S3	I am more confident in my team working skills	19%	63%	13%	6%	100%
S4	I now know more about how STEM is used in the Subsea sector	31%	69%	0%	0%	100%
S5	I feel inspired about what Engineers do	19%	63%	13%	6%	100%
S6	This Day has made me further consider a career in the Subsea sector	19%	31%	31%	19%	100%