



USING THE LEARNING GAIN TOOL® TO EXPLORE IMPACT

IVE APPLIED CREATIVITY LAB

Food Sustainability Programme





USING THE LEARNING GAIN TOOL TO EXPLORE IMPACT 'IVE APPLIED CREATIVITY LAB: FOOD SUSTAINABILITY PROGRAMME'

The IVE Food Sustainability Programme



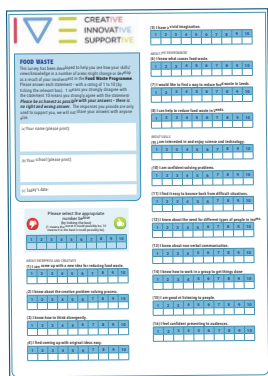
In response to requests from young people to find creative solutions to real world challenges, IVE have developed their Applied Creativity Lab model. This intensive programme is designed to empower young people to come up with their own creative and often STEM-related solutions to real world challenges. The Food Sustainability Programme focuses on finding new ways to reduce food waste. Pupils from Lawnswood School, St. Matthew's Primary and Shire Oak Primary took part in this initial programme.

How the Learning Gain Tool was used on the Food Sustainability Programme

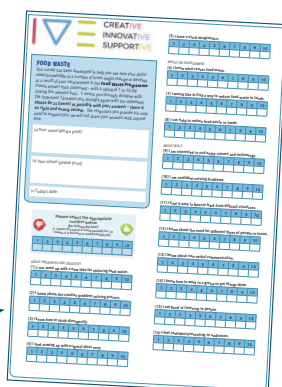


As part of their participation in the above programme, students were asked to respond to a series of statements linked to the Applied Creativity Lab programme.

These questions were administered by the programme team as part of the first workshop session, and again as part of the final programme event. The bank of questions focused on understanding linked to enterprise and creativity, the environment and skill development. Questions were developed by Research Toolkit and have been used on other similar outreach and widening participation interventions designed to enhance STEM and creativity skills.



Learning Gain Tool completed beginning and end of programme.



Learning Gain Tool

The Research Toolkit Learning Gain Tool[®], is an interactive resource capable of assessing and measuring impact of educational interventions. It uses pre and post-activity data to explore impact from the perspective of the activity participant, school or stakeholder representative. This tool has been used across a number of outreach programmes and is also used by other widening participation providers regionally and nationally to identify effect, impact and distance travelled of educational interventions.



About the data



Data were collected from 42 participants at the beginning of the programme, and 19 at the end of the programme.

Participant data were combined to produce an average 'score' across the 16 question or statement areas at the beginning and end of the programme. At the beginning of the programme this resulted in the production of a 'temperature reading' of attitude, perceived skill and understanding. The difference in average values (pre- and post-programme) produces a distance travelled or 'learning gain' value.



Learning Gain surveys
BEGINNING OF
PROGRAMME



Lawnswood School (16)



St. Matthew's Primary (12)



Shire Oak Primary (14)



Learning Gain surveys
END OF
PROGRAMME



Lawnswood School (10)



Shire Oak Primary (9)



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Differences in number of surveys completed pre and post the programme can be explained as a reaction to the rapidly developing COVID-19 situation (at the end of the programme). Teachers, during this time, found it difficult to encourage completion of the post-programme learning gain survey; this should not be interpreted as a reflection on the programme.

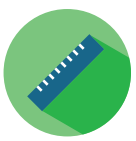
Percentage increases



For the purposes of transparency we include the numeric change in average value - from the beginning of the programme to the end of the programme (see **FIGURE 1:** Learning Gain statement analysis: Food Sustainability Programme).

For example, the change in value of question 1 (*I can come up with a new idea for reducing food waste*) moves from an average of 5.14 to 7.74 by the end of the programme. To clarify this movement we have converted the change to a percentage figure; using the beginning of the programme as a base this represents a 50% increase at the end of the programme.

Greatest Learning Gains reported

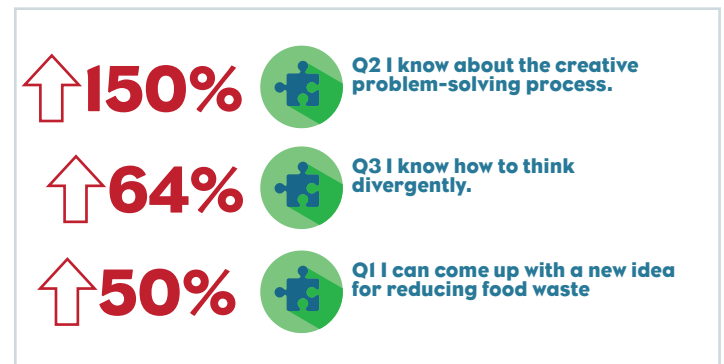


The greatest learning gains reported by participants on the Food Sustainability Programme were linked to creative problem-solving and divergent thinking. In addition, participants gained substantially in their understanding of what causes food waste.

We have ranked all questions by greatest learning gain reported (see **FIGURE 2:** Learning Gain statements ranked by largest learning gain).

Creative and problem-solving skills

By the end of the programme, participants reported that their creative problem solving skills (Q2) had been increased by 150%. Thinking divergently about issues had also increased dramatically by the end of the programme (Q3). The huge leap in ability to think creatively may have also led to the enhanced ability to generate new ideas for reducing food waste (Q1).



About the environment

By the end of the programme, participating students had a considerably enhanced understanding of the causes of food waste (Q6). Armed with this, participants felt more able to take action to reduce food waste in Leeds (Q8).



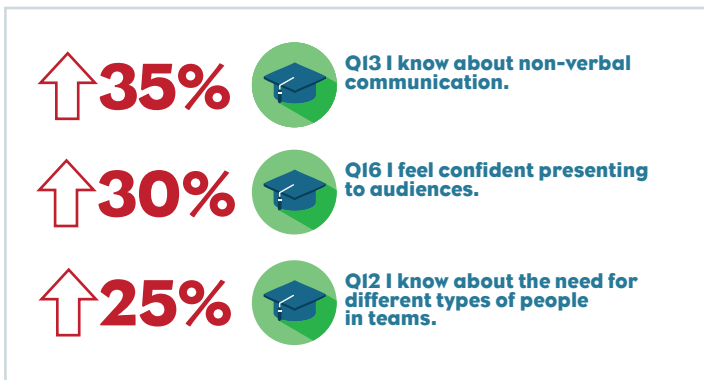


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About skills

Communication skills and awareness of team dynamics attracted the greatest gains by the end of the programme. By the final session participants reported considerable gains in non-verbal communication (Q13). In addition, through their active participation, pupils had a greater understanding of team roles and dynamics that are of value for creative group problem-solving (Q12).

In some 'skill' areas participants reported a very slight decrease by the end of the programme. Reasons for this could include participants having a more realistic and contextualised understanding of their own skill by the end of the programme - informed by their experiences in the delivered workshops. Another factor that may have an impact here is that the quantity of data collected at the end of the programme was less so than that collected at the beginning of the programme. This can have the effect of making slight variations of participant-reported skill much more pronounced at the end of the programme.



	Pre	Post	Change %
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ABOUT ENTERPRISE AND CREATIVITY

(1) I can come up with a new idea for reducing food waste.	5.14	7.74	↑50%
(2) I know about the creative problem-solving process.	3.24	8.11	↑150%
(3) I know how to think divergently.	4.67	7.63	↑64%
(4) I find coming up with original ideas easy.	5.95	6.89	↑16%
(5) I have a vivid imagination.	7.40	7.37	0%

ABOUT THE ENVIRONMENT

(6) I know what causes food waste.	6.00	8.84	↑47%
(7) I would like to find a way to reduce food waste in Leeds.	8.14	8.42	↑3%
(8) I can help to reduce food waste in Leeds.	6.48	8.16	↑26%

ABOUT SKILLS

(9) I am interested in and enjoy science and technology.	7.52	8.32	↑11%
(10) I am confident solving problems.	7.02	7.16	↑2%
(11) I find it easy to bounce back from difficult situations.	6.14	6.05	↓-1%
(12) I know about the need for different types of people in teams.	7.00	8.00	↑14%
(13) I know about non-verbal communication.	6.40	7.89	↑23%
(14) I know how to work in a group to get things done.	8.05	8.00	↓-1%
(15) I am good at listening to people.	7.64	7.53	↓-2%
(16) I feel confident presenting to audiences.	5.81	6.53	↑12%

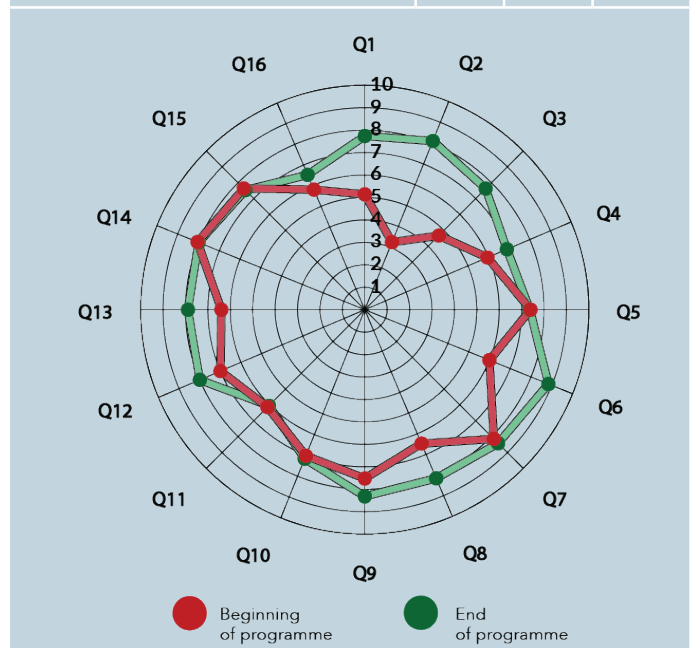


FIGURE 1: Learning Gain statement analysis: Food Sustainability Programme



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	Pre	Post	Change %
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(3) I know how to think divergently.	4.67	7.63	↑64%
(6) I know what causes food waste.	6.00	8.84	↑47%
(1) I can come up with a new idea for reducing food waste	5.14	7.74	↑50%
(8) I can help to reduce food waste in Leeds.	6.48	8.16	↑26%
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FIGURE 2: Learning Gain statements ranked by largest learning gain