LOTTERY FUNDED

Plots & Plots with the PLT, Project Report
by Jess Mock (PGCE) and Nicola Scott (PGCE, PhD)

The plot in October 2016

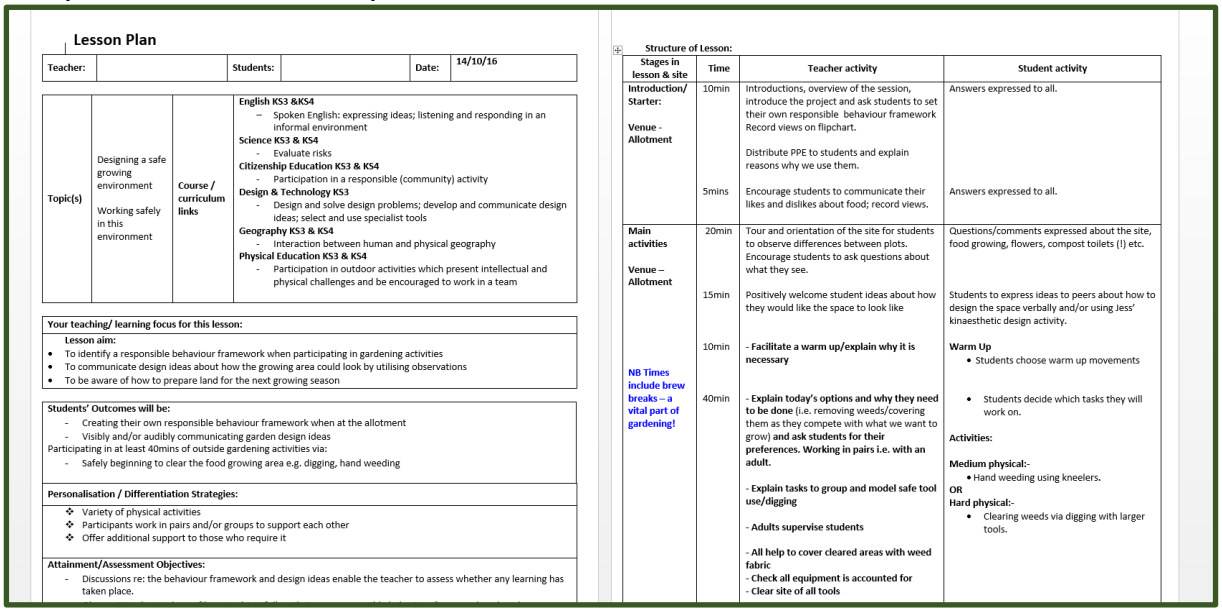
The plot in August 2017

Project overview:

Pots and Plots was an innovative 12 month social and therapeutic project to nurture food growing at Manchester Secondary PRU (MSPRU) and transform the school's recently acquired nearby allotment plot next to the Southern Cemetery. Weekly school gardening sessions were delivered for students aged 11-16. For learners to fully experience the benefits of horticulture, funding also delivered cooking sessions to demonstrate to learners how to utilise harvested produce.

Sessions were open to students' carers to foster greater health and wellbeing amongst adults who in the majority experience multiple deprivation. Key to the project's long-term sustainability was the training of staff in social and therapeutic horticulture by two experienced professionals, whilst the project's time frame ensured participants engaged with growing or cooking food throughout a complete food growing cycle. Each session was planned to link in where possible with the secondary curriculum.

Example of a Pots & Plots lesson plan



Lesson Plan

Teacher:		Students:		Date:	14/10/16

Topic(s)	Designing a safe growing environment Working safely in this environment	**Course / curriculum links**	**English KS3 &KS4** – Spoken English: expressing ideas; listening and responding in an informal environment **Science KS3 & KS4** - Evaluate risks **Citizenship Education KS3 & KS4** - Participation in a responsible (community) activity **Design & Technology KS3** - Design and solve design problems; develop and communicate design ideas; select and use specialist tools **Geography KS3 & KS4** - Interaction between human and physical geography **Physical Education KS3 & KS4** - Participation in outdoor activities which present intellectual and physical challenges and be encouraged to work in a team

Your teaching/ learning focus for this lesson:

Lesson aim:

- To identify a responsible behaviour framework when participating in gardening activities
- To communicate design ideas about how the growing area could look by utilising observations
- To be aware of how to prepare land for the next growing season

Students' Outcomes will be:

- Creating their own responsible behaviour framework when at the allotment
- Visibly and/or audibly communicating garden design ideas

Participating in at least 40mins of outside gardening activities via:

- Safely beginning to clear the food growing area e.g. digging, hand weeding

Personalisation / Differentiation Strategies:

- Variety of physical activities
- Participants work in pairs and/or groups to support each other
- Offer additional support to those who require it

Attainment/Assessment Objectives:

- Discussions re: the behaviour framework and design ideas enable the teacher to assess whether any learning has taken place.

Structure of Lesson:

Stages in lesson & site	Time	Teacher activity	Student activity
Introduction/ Starter: **Venue - Allotment**	10min	Introductions, overview of the session, introduce the project and ask students to set their own responsible behaviour framework Record views on flipchart. Distribute PPE to students and explain reasons why we use them.	Answers expressed to all.
	5mins	Encourage students to communicate their likes and dislikes about food; record views.	Answers expressed to all.
Main activities **Venue – Allotment**	20min	Tour and orientation of the site for students to observe differences between plots. Encourage students to ask questions about what they see.	Questions/comments expressed about the site, food growing, flowers, compost toilets (!) etc.
	15min	Positively welcome student ideas about how they would like the space to look like	Students to express ideas to peers about how to design the space verbally and/or using Jess' kinaesthetic design activity.
	10min	**- Facilitate a warm up/explain why it is necessary**	**Warm Up** • Students choose warm up movements
NB Times include brew breaks – a vital part of gardening!	40min	**- Explain today's options and why they need to be done** (i.e. removing weeds/covering them as they compete with what we want to grow) **and ask students for their preferences. Working in pairs i.e. with an adult.** **- Explain tasks to group and model safe tool use/digging** **- Adults supervise students** **- All help to cover cleared areas with weed fabric** **- Check all equipment is accounted for** **- Clear site of all tools**	• Students decide which tasks they will work on. **Activities:** **Medium physical:-** • Hand weeding using kneelers. **OR** **Hard physical:-** • Clearing weeds via digging with larger tools.

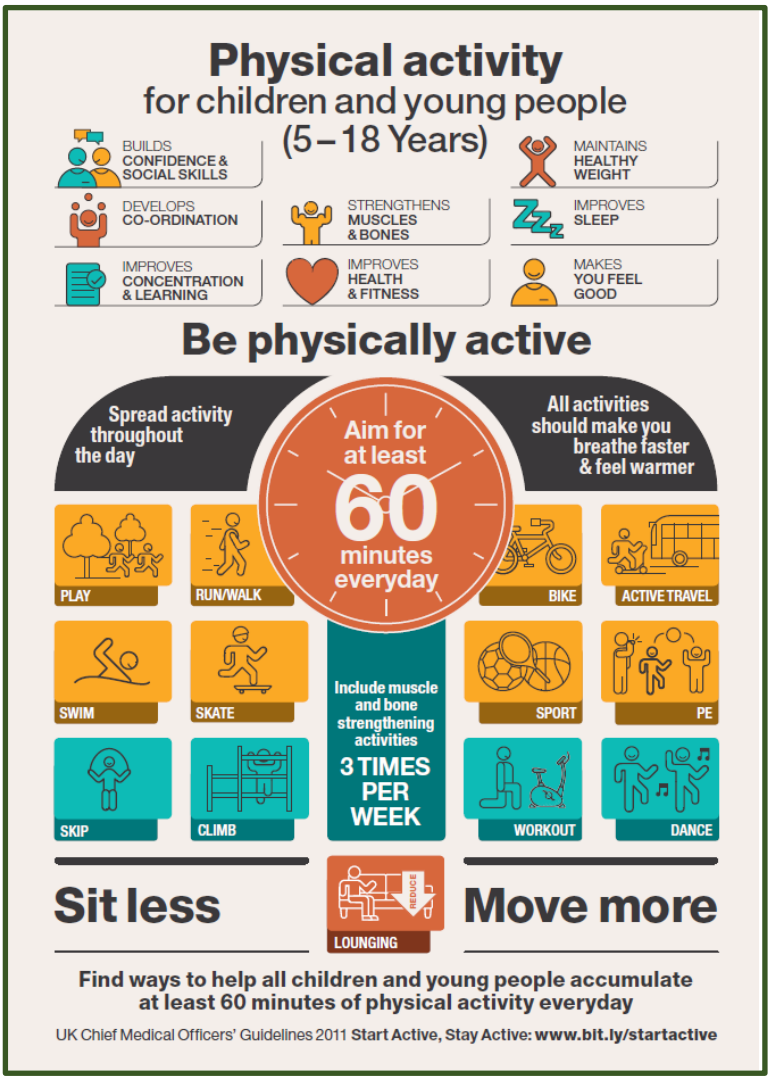
Funding was spent on gardening inputs alongside the payment of two qualified and experienced sessional workers who are therapeutic community horticulturists having worked with students who have complex learning and behavioural needs. They planned, prepared, and delivered weekly gardening and/or cooking sessions which took place at MSPRU and the nearby allotment plot, plus trained staff in social/therapeutic gardening techniques.

Why have a therapeutic gardening project?

As gardening is not part of the National Curriculum these sessions tackled the issues faced by Fielden's students through preventative measures e.g. fostering resilience, helping them to gain a sense of purpose and achievement, independence, build self-esteem and

confidence (Thrive, 2017). Parents/carers of students were also welcome to participate as gardening in groups is well known to reduce feelings of social isolation and exclusion (Buck, 2016). Hence, the project provided opportunities for participants to nurture valuable life and employability skills in a trusted and supportive environment.

As Fielden's students are distance learners based primarily at home and transported by taxi to MSPRU sites, their opportunities for physical activity during the school day are limited. The project provided more than the required 60 minutes/day of physical activity and contributed to the recommended thrice weekly muscle strengthening activities for 5-18 year olds (UK Chief Medical Officers' Guidelines, 2011).



Furthermore, research suggests that young people who regularly engage with nature are also more likely to develop 'pro-environmental behaviours and beliefs in adulthood' (Asah et al, 2013), so will be less likely to damage their natural environments in the future.

Through Pots and Plots with the PLT our Government's 'healthy eating standards' were encouraged by enabling participants to grow and eat their own seasonal and organic fruit/veg and be enthused to do so at home where possible. The positive impact of gardening in terms of improving mental and physical health is well documented and is a recognised NHS treatment for mental health, whilst gardening is conducive to developing interpersonal and social skills.

Specifically, analysis of food growing with school children indicates 'perceived nutritional benefits for children involved in school gardening, including greater knowledge and awareness, improved attitudes towards food such as willingness to try new foods, and healthier eating habits' as well as overall positive personal well-being impacts (Ohly et al, 2016, pp15-17).

Pots & Plots with the PLT photo diary

The following photos illustrate how the allotment plot nurtured by MSPRU's Fielden students developed from October 2016 when the project began, to the summer of 2017. Other pictures include those of indoor garden-related activities which students participated in at Fielden's site on Barlow Moor Road.

Autumn 2016

The plot in October 2016

Lots of weeds and rubbish to remove

14th October 2016 Discovering a pond on site

14th October 2016 Observing earthworms with students

21st October The first crop planted - onions

21st October Debbie clearing out the fruit bush area

4th November 2016 The onion sets begin to sprout

4th November 2016 The clear up continues

11th November Observing the stream generated by compost nearby

11th November The rear of the plot is weeded and cleared up

11th November 2016 Planting up homemade pots with bulbs and bedding plants

25th November 2016 Making holes for garlic cloves

25th November Sowing broad beans

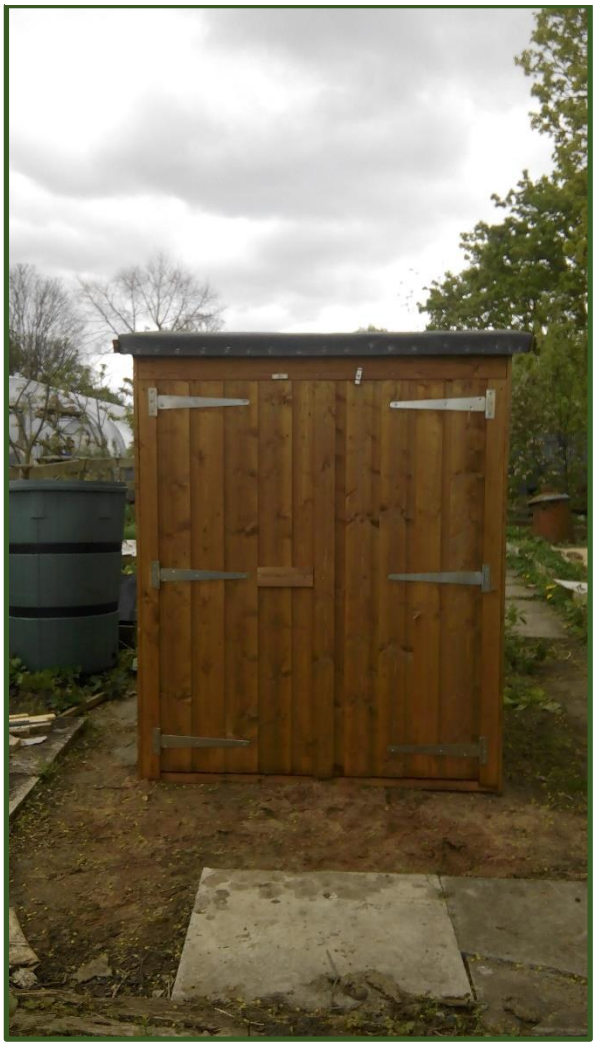
After the winter break…

3rd March 2017 Work begins in the polytunnel

3rd March 2017 Discovering the tunnel needs a thorough watering

3rd March 2017 An apple tree safely pruned by a student into a goblet shape

21st April 2017 Students waterproof the delivered raised beds



21st April The tool storage shed arrives

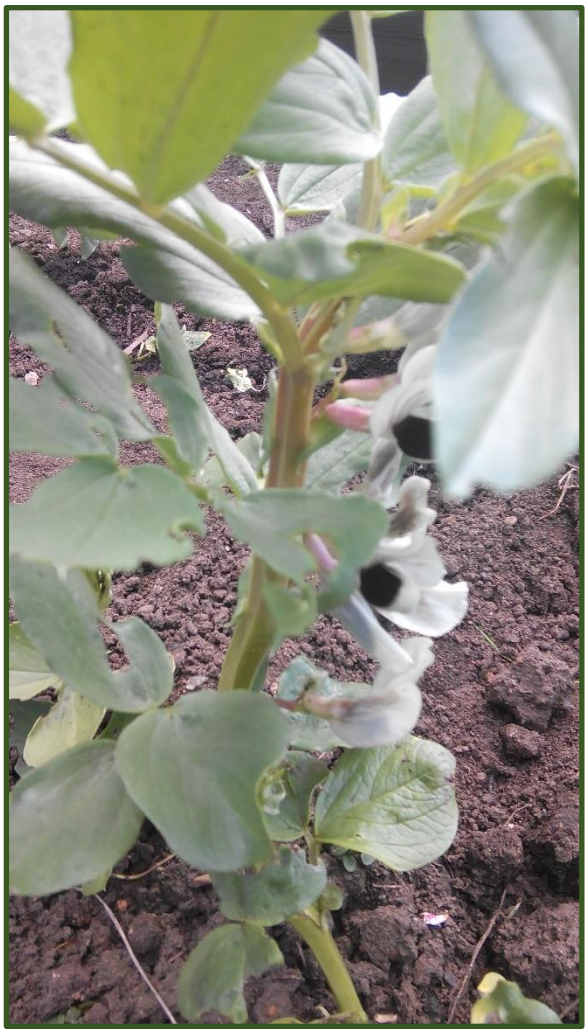
21st April Broad beans, lettuce and nasturtium seedlings emerge in the polytunnel

5th May 2017 Planting out and gently supporting broad bean seedlings

5th May 2017 The first harvest - lettuce in the polytunnel

5th May 2017 Student-made pea tepees as the polytunnel begins to come to life

12th May 2017 Installing the treated raised beds



12th May 2017 Flowering broad beans

19th May 2017 Harvesting salad

9th June 2017 Planting out runner beans – will they recover?

9th June 2017 Homegrown salad box

9th June 2017 Harvesting broad beans

9th June Planting out polytunnel grown sweetcorn and pumpkins

16th June 2017 Pumpkins, courgettes, and broad beans in the summer sun

16th June 2017 Polytunnel tomatoes, aubergines & chillies on the left; peas on the rear right, nasturtiums, broad beans & sweetcorn

30th June 2017 Squashes and potatoes enjoying the warmer weather

30th June 2017 The thriving polytunnel: tomatoes, peas, cucumbers, nasturtiums & runner beans

30th June 2017 Huge aubergine leaves in the polytunnel

14th July 2017 Harvesting early potatoes

21st July 2017 End of summer term harvest

Plot development and maintenance during the summer holidays…

7th August 2017 Flattening out the previous tenant's rubbish mound, weeding & adding woodchip to suppress weeds

18th August 2017 Installing more raised beds, while the runner beans (behind) have recovered to be in full bloom!

21st August 2017 The pumpkins and sweetcorn get bigger

21st August 2017 Adding ornamental plants to the flower bed

1st September 2017 A good-sized pumpkin for autumn term harvesting

1st September An abundance of polytunnel tomatoes!

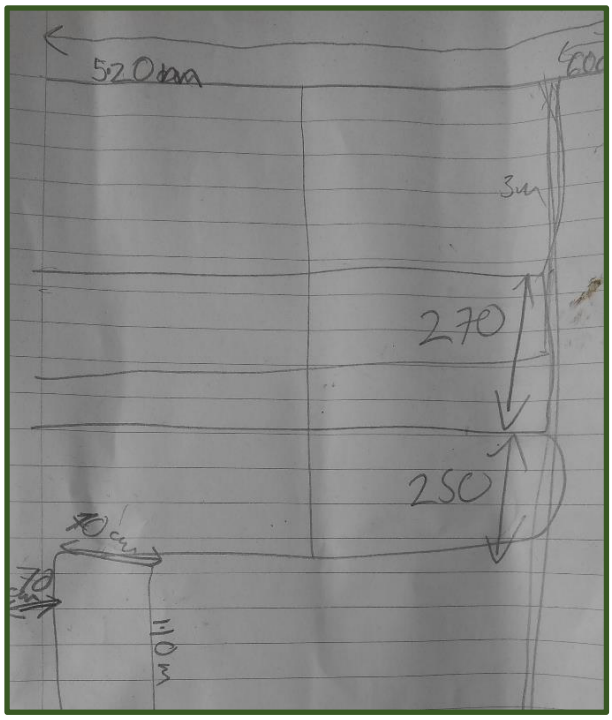
1st September 2017 A polytunnel aubergine

September 2017 – Final plot pictures

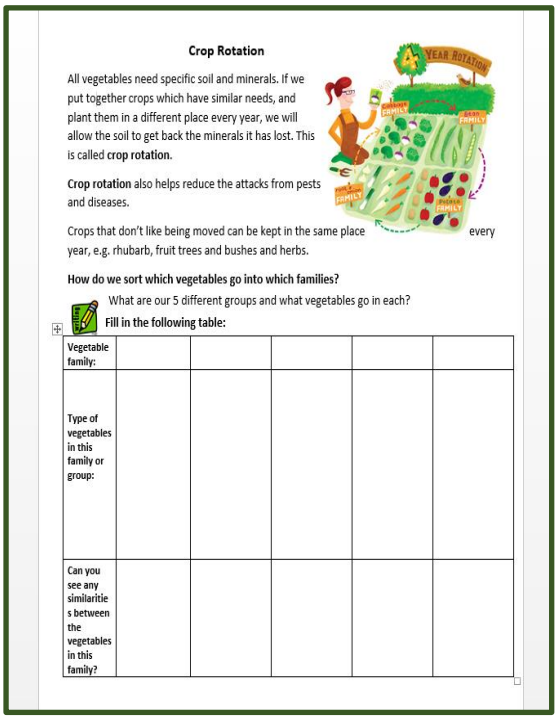
Project outcomes

- The project built students' confidence and prepared them to reintegrate back into a classroom learning environment with teachers and peers.
- Through access to a local allotment plot, participants were equipped with multiple skills to help cope with their lives once they leave MSPRU e.g. caring for a community-based environment.
- Overall, young people at MSPRU, their carers, and staff engaged in tailored social/therapeutic gardening sessions which enabled them to gain a practical understanding of food growing for one school year, and cook harvested fruit & veg.
- Additional activities included those suited during quieter periods of the growing season e.g. willow craft making, indoor planting etc.

Furthermore, students learnt about site assessments and design (linked to Geography and the Maths curriculum), as well as organic and sustainable growing methods e.g. crop rotation and reasons to grow peat-free.



A very early plan of the plot



Crop Rotation

All vegetables need specific soil and minerals. If we put together crops which have similar needs, and plant them in a different place every year, we will allow the soil to get back the minerals it has lost. This is called **crop rotation.**

Crop rotation also helps reduce the attacks from pests and diseases.

Crops that don't like being moved can be kept in the same place every year, e.g. rhubarb, fruit trees and bushes and herbs.

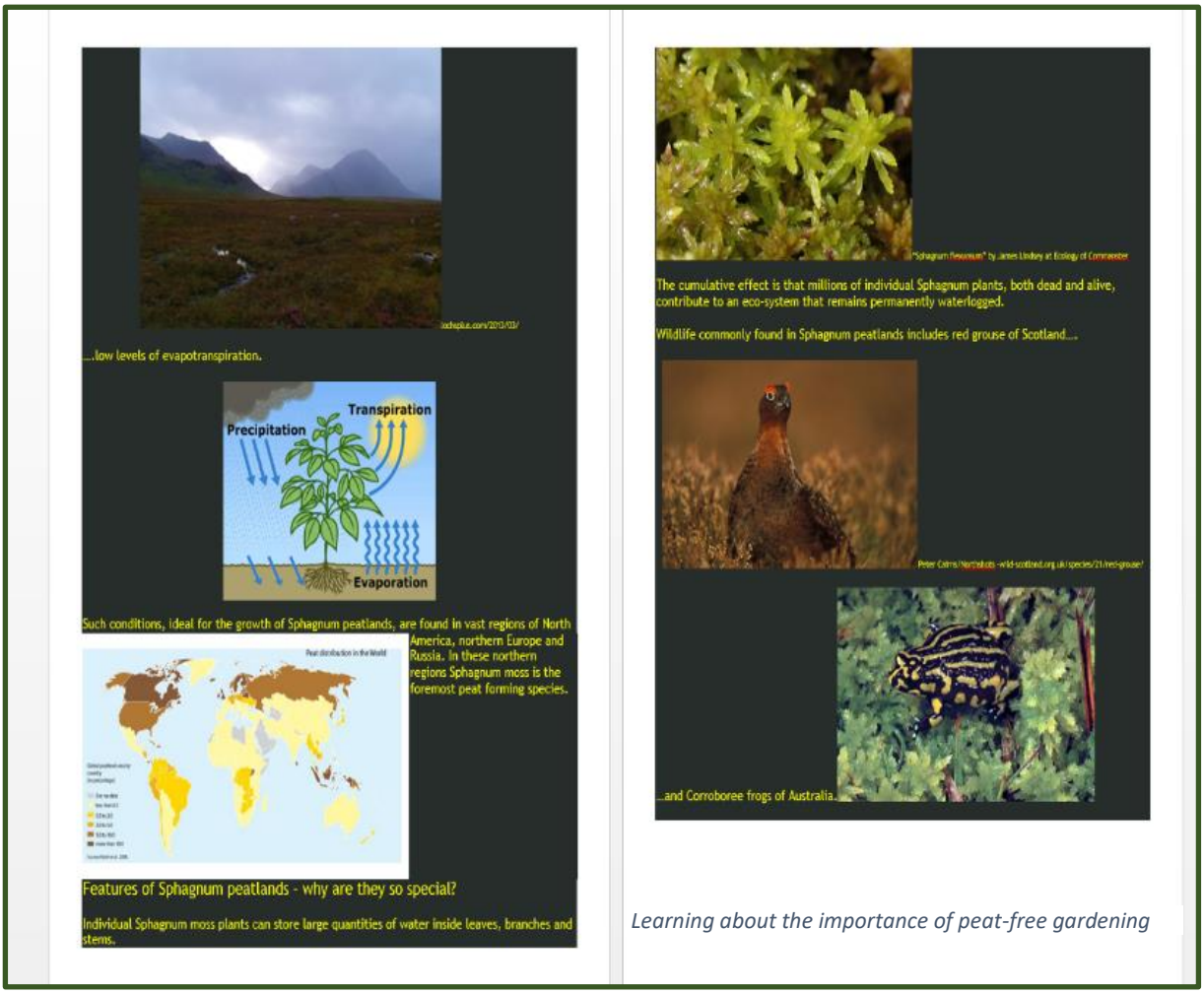
How do we sort which vegetables go into which families?

What are our 5 different groups and what vegetables go in each?

Fill in the following table:

Vegetable family:					
Type of vegetables in this family or group:					
Can you see any similarities between the vegetables in this family?					

Planning what crop to grow in which bed



Learning about the importance of peat-free gardening

Hulme Community Garden Centre

In addition, students made chutneys to sell to staff, the proceeds of which they used to budget for buying essential seeds for the next growing season.

Responsible students were then taken on a day trip to the nearby Hulme Community Garden Centre in December 2016, and collaboratively decided which vegetables to grow in 2017.

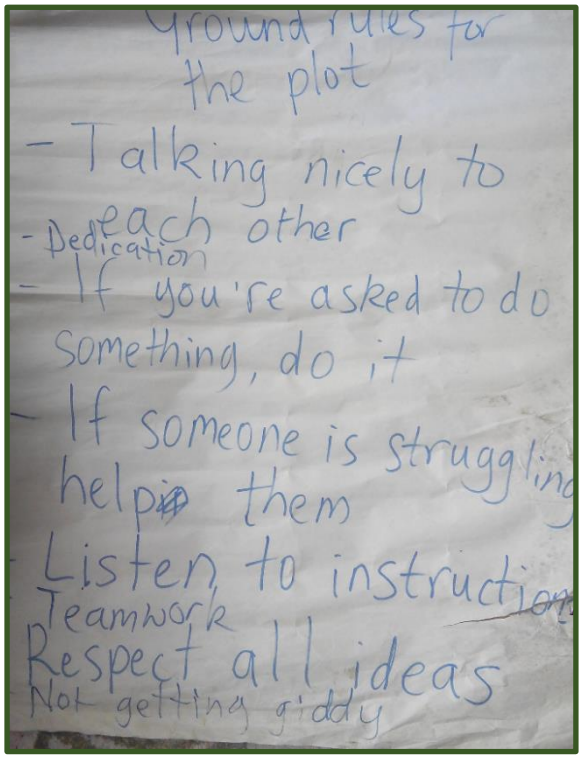
Student Feedback and overall conclusions

Year 8 student: "I've had a great time; I'm going to try this at home."

Year 8 student: "I feel better now even though I was tired when I got here"

Year 10 student: "Guess what my top three fruit and vegetables are? Number 3 is kale; 2 is beetroot; 1 is raw rhubarb!"

Students began to develop key skills of collaboration and creativity, by discussing preferences for use of space and equipment, helping peers, working with others on tasks and by taking the initiative by identifying tasks, suggesting ideas and by leading with the planning and organisation of the group. For example, when activities began at the plot in October 2016, students were encouraged to say what behaviour was expected of all on site, including teaching staff. All students at the plot thereafter were encouraged to observe these expectations and add to them. **Over the course of the school year, only two students were escorted off site for inappropriate behaviour.**



Establishing behaviour expectations at the start of the project and each session

For some students who had been expelled for violent behaviour, they had the opportunity to develop skills to nurture and care for plants.

Touching base and reflecting on how students felt became the norm during circle time before the start of, and during sessions. Often students arrived feeling tired, anxious, or troubled in some way. Through recording student feedback at the end of each weekly session, they noted that they had experienced an improvement in their mood and felt more able to cope with their situation. **Overall, the practical outdoor gardening activities were the vehicle to address some of the difficulties faced by students in their education and personal lives.**

The transformed plot in August 2017 designed and nurtured by MSPRU students, their parents/carers, staff and the project's facilitators, Jess Mock and Nicola Scott

References

Asah S. T., Blahna D. J. (2013). Practical implications of understanding the influence of motivations on commitment to voluntary urban conservation stewardship. *Conservation Biology*, 27, 866-875.

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