Boys in the Garden: Planting the Seeds of Adaptability

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Further Information
This poster and further information is available at http://www.theibsc.org/

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Introduction

As this was the first year of gardening at our school, it was important to approach this project with a long-term view. Gardening itself follows the cycle of the seasons and naturally forces one to continually learn from one's mistakes, and adapt from year to year. Using Stringer's (2007) *Look, Think, Act* routine as the framework for the first year of this project allowed me to undertake it in a systematic cyclical way. I used the model to plan, implement, and evaluate the garden, which enabled me to go back in year two to start the cycle all over again, but with the knowledge gleaned from year one.

Research Context & Participants

Founded in 1908, Selwyn House is an urban all-boys private day school, located in Westmount, Canada. Westmount is a high socioeconomic residential city adjacent to Montreal. The student body consists of 534 boys from Kindergarten to Grade 11. The official language of the province of Quebec is French and, although Selwyn House is an English school, it has a strong French language and cultural focus. Selwyn House's motto is VERITAS. It is taught through the "three truths" of being true to self, true to others, and true to the school.

The Research Action

The project gave pairs of students the responsibility of planning, developing, and designing an outdoor garden. The boys had to take into account several parameters and variables in their design such as, types of plants, spacing, watering schedule (frequency and duration), shade,and harvesting (and what to do with the harvest). Lessons included: project-based learning, the adaptability cycle, seed spacing, climate, shade, germination, pollinators, weeding, watering, scale, variables, measurement, and decimals.

Phase 1
Planning & Planting
(March – June)

→

Phase 2
Watering & Weeding
(July – August)

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Phase 3
Harvesting
(September – October)

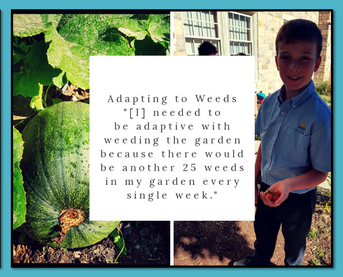
In the autumn, the boys watered, harvested, and (as a group) decided what to do with their produce as they answered the question:

"What will you do with your garden products to help your community?"

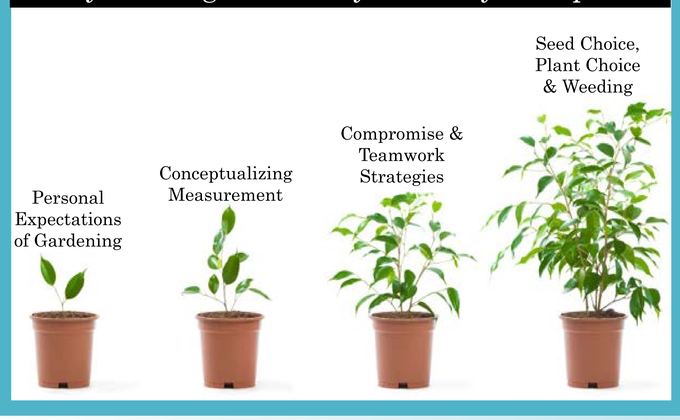
They learned about the five steps in the cycle of adaptability (Martin, 2014) and also used a project-based model of learning (Bell, 2010) to develop ways to answer their community question.

How might participation in a S.T.E.M. garden-based learning project encourage adaptability in grade 5 and 6 boys?

After careful observation, this boy displayed adaptability when he went home and accessed "the internet and … searched white pumpkins, there it showed me that it was mildew, and it's like bad stuff, poison. I made the recipe to remove the mildew and then I put it on the plants to remove it."
Healthy pumpkins were harvested in the autumn!



Key Findings: The Ways the Boys Adapted



Data Collection & Analysis

After phase one of my research, I waded through the data to pull out emerging themes. I found that the boys reflected upon four areas that required adaptability:

Novel Situations → Content Areas → Interpersonal Relationships → Mindset

I used the data to inform phase three of my project and told the boys about the results so they could be active members of the next phase. In phase three, I focused more on how the boys worked with one another in the garden and then formed focus groups using questions that targeted those four areas. From there, I transcribed focus group sessions and reviewed their end of project reflection letters. I then coded them into the areas of gardening and partner dynamics with the subsections that emerged under both of those topics. The final step was to review all of the data that was not written anonymously and to pull out specific numbers to calculate the frequency that certain terms and themes were mentioned.

teacher journals + Google Forms surveys + short-answer questionnaires + semi-structured individual interviews + semi-structured focus groups + summative reflection letters

Conclusions

Participation in a S.T.E.M. garden-based learning project definitely encouraged adaptability in Grade 5 and 6 boys. Firstly, they were all able to define adaptability in ways that made sense to them (in terms of gardening and in their personal lives). Additionally, upon completion of the project the boys could recognize when they personally had been adaptable in the gardening context and which of the four areas of adaptability that arose was the area in which they were most adaptable.

When I run this gardening project again, I am going to start (as opposed to end) with the big question: **"What could you do with your garden products to help your community?"** We will, together, identify areas in the school where the produce can be used. This will allow us to be more strategic with plant choices and to also think about the fact that gardening is not a solo act, but something that we do for one another. It will give the project a larger purpose.

Key Readings:

Blair, D. (2009). The Child in the Garden: An Evaluative Review of the Benefits of School Gardening. *The Journal Of Environmental Education*, *40*(2), 15-38.

Martin, A.J. (2014). Academic buoyancy and adaptability: How to help students deal with adversity and change. In H. Street & N. Porter (Eds). *Better than OK: Helping young people to flourish at school and beyond.* Fremantle, WA: Fremantle Press.

Mertler, C. (2017). *Action Research: Improving Schools and Empowering Educators. Fifth Edition.* Los Angeles: SAGE Publications, Inc.

International Boys' Schools Coalition Action Research Program 2017 – 2018:
Adaptability in a Changing World