



Grade 7 Learning Support: Stepping Stones Math Project

(Submitted by Diana Castiñeiras Iglesias, 2017, while serving as Learning Support Teacher at International School of Havana, Cuba)

Tool(s) used:	<ul style="list-style-type: none"> • Systems Mapping
Purpose of using tool:	<ul style="list-style-type: none"> • Research • Generating Questions • Guiding Discussion <p>Overview:</p> <p>As part of the Math Unit ‘Measurements’, a Grade 7 student from the Learning Support caseload searched for links between weight, length and time. She looked for images related to obesity and these led to a discussion regarding the factors that might affect people’s weight. The Sustainability Compass tool helped to explore those factors from the four directions.</p>
Context of lesson/case study:	Cross-curricular Stepping Stones – Math project ‘Healthy weight’
Participants (# and description):	A Grade 7 student from the Learning Support caseload.
Topic, Theme, or Key Understanding of unit/project:	Unit: Measurements Topic: Weight
Length of unit/project:	A six lesson Stepping Stones – Math project
Resources/materials & setting required:	Computer, Internet access, poster paper, pins, string, markers, post-it notes
<p>Lesson Plan/Description of the Project:</p> <p>Introduction:</p> <p>Stepping Stones is a programme based on Citizenship and Personal, Social and Health Education themes. This Math project links two Stepping Stones modules: Around the Globe (Different countries, different lives) and Health (Food for life and Healthy exercise). The skills developed by the student and involved while working on the project are:</p> <ul style="list-style-type: none"> • Presenting • Communicating • Researching • Collecting evidence and • Solving problems. <p>The Mathematic competencies are demonstrated through:</p> <ul style="list-style-type: none"> • Exploring how statistics are used in everyday life • Exploring and extracting data presented in tables, graphs, charts and diagrams in order to solve problems, • Identifying, displaying and interpreting data in the form of bar charts or pie charts, using ICT where appropriate. 	



**Steps:**

1. Elicit student's previous experiences about measurements and connect them to human body variables (age, height).
2. Have the student weigh different objects by using the appropriate scales and compare them according to their weights.
3. Open a discussion around the question 'What is a normal weight for a person?'
4. Come up with a classification for people according to their weight.
5. Look for images related to underweight and overweight conditions (obesity).
6. Choose the factors that might affect people's weight ensuring that they cover the four directions of the Sustainability Compass.
7. Discuss with the student and identify the relation between the different factors.
8. Design a poster with the Connection Circle.
9. Make a PowerPoint presentation to include the information recorded and the poster.
10. Present the project 'Healthy weight'.

Reflection**Plusses:**

- The student contextualized the different types of measurement to the human body and understood the connection among them. She was engaged in the project, as she was able to see the subject in a real life context through the lenses of the Stepping Stones modules.
- Choosing the appropriate images and graphs led to the analysis of behavioural patterns in different countries regarding diet, exercises, culture, among others.
- Having used the Sustainability Compass tool in an activity related to the Stepping Stones curriculum helped her to come up with all the factors and find their relationships. It represents a valuable visual tool, which facilitates the analysis of the problem and suggests possible solutions.
- The Connection Circle helped her to see the 'Big Picture' when considering the interaction among the different elements. While building the model she raised her awareness on these interactions as she made the physical connections and evaluated whether the impact was positive or negative in each case.

Challenges:

- For a future implementation of the project, it would be better to have:
 1. a more thorough discussion on the collection, organisation, display and processing of data;
 2. a discussion on how different types of measurements could be combined to get a suitable indicator for weight, such as the Body Mass Index (BMI).
- The project focused mainly on obesity. In a group with more students, it would have been possible to analyse also underweight and healthy weight. Students may discuss and contrast their results as a closing activity and possibly suggest strategies to avoid underweight or overweight.
- The project offers an opportunity to connect different subjects such as History, Geography or ICT while approaching the same problem from different perspectives and in the end see how it works as a system.

Suggestions for other practitioners and educators:

The Stepping Stones programme offers a platform to develop many skills in students, including those regarding systemic thinking. Through their modules, it is possible to address topics from different subjects and it perfectly matches the Sustainability Compass methodology.





Evidence and Resources:

