Activity sheet

# Activity: Self-determination theory (Adapted from Castle and Buckler, 2021: 240)

Read through the following lesson.

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| A typical lesson with 7-year-old students in science relates to the optimum conditions for growing seeds. A ‘typical’ lesson may involve setting up seeds in the same pots, providing the same amount of water, but placing the pots in locations that have different light intensity. This way, the variables are kept the same except for the light intensity. The seeds can be measured over time in relation to their height. Of course, a different variable could be changed, for example, the amount of water each pot has, while all other variables are kept the same.  The problem with this lesson is that there is little autonomy from the student: they are purely following their teacher’s directions. Consequently, the lesson can be altered slightly to ensure a more self-determined focus.  The teacher could introduce the lesson about seeds growing through a variety of ways, perhaps relating this to the story of ‘Jack and the Beanstalk’, or through making bread in Design and Technology, etc. From this, the teacher can ask the students to help with an investigation that they will lead to see what helps seeds to grow as they will need to grow some food for a later lesson (for example decorating a salad, sandwich, or pizza).  Two labels are then presented on the board: ‘What we could change’ and ‘What we could measure’. The students are asked to list as many ideas as possible under each of these headings. As an example, under ‘What we could change’, students may suggest water, soil, pots, location, or temperature. Under ‘What we could measure’ students may suggest height of plant, or number of leaves.  Once the choices are saturated, students can be grouped and encouraged to choose one word from each list. One group may choose to change the amount of water, while measuring the number of leaves: another group may choose to change the soil type while measuring the height of the plant. It is important to note that all of the other variables under ‘What we could change’ are kept the same to ensure fair testing. Not only have the students collaborated to select they experiment they want to conduct, they can also plan how the experiment can proceed.  Through conducting the lesson this way, the students have been encouraged to think about how the experiment may relate to other subjects (such as English or Design and Technology), and how skills from other subjects may help in conducting the experiment (in this example, problem solving, measuring). Furthermore, the experiment could be related to a real context if, for example, the students were to grow some food that they could use for cooking. A choice has been presented in how they conduct the experiment through selecting the variable and measure and through this choice, the students have been encouraged to collaborate developing their relationship with others in a group. Similarly that they have developed a relationship with the teacher who has ‘trusted’ the students to develop their own experiment. |

Consider how such an approach could be adapted for a different curriculum subject.