

SOLO taxonomy: Robotics and embedded systems (7-8)

We are creating an online game or mobile app				
SOLO LEVEL	One	Many	Relate	Extend
SOLO VERB	<i>Identify Isolated Skills</i>	<i>Describe, and Combine Serial Skills</i>	<i>Integrate Skills</i>	<i>Evaluate Skills</i>
<p>DECLARATIVE knowledge (knowing about – talking or writing about the programming code)</p> <p>Create a digital game or app.</p> <p>Success Criteria</p>	<p>I can DEFINE a problem and identify functional requirements such as usability, technical or social constraints/ considerations and data requirements</p> <p>I can IDENTIFY key elements by decomposing the problem.</p> <p>I can IDENTIFY parts of a programming solution that uses a microcontroller</p>	<p>I can DESCRIBE two or three different design ideas and in detail discuss:</p> <ul style="list-style-type: none"> <input type="checkbox"/> the 'user experience' <input type="checkbox"/> the instructions to operate the solution 	<p>...AND I can EXPLAIN my programming choices –</p> <ul style="list-style-type: none"> <input type="checkbox"/> that involve branching (where decisions by the user are enabled), <input type="checkbox"/> iteration (where loops and repeat functions have reduced the script length and detail) <input type="checkbox"/> other functions for example the use of variables. <p>I can EXPLAIN the syntax of the particular programming language required to code the programming board</p>	<p>AND I can EVALUATE the effectiveness of mine and other's digital solutions in meeting its functional requirements by explaining:</p> <ul style="list-style-type: none"> <input type="checkbox"/> how well it meets its intended purpose <input type="checkbox"/> how the solution met one functional requirement and one constraint.

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<p>FUNCTIONING knowledge (knowing how to)</p> <p>Create a digital solution using visual programming language.</p> <p>Success Criteria</p>	<p>I can interpret an algorithm presented as a flow chart and follow the steps</p> <p>I can use a visual programming language or a general purpose programming language IF I copy programming examples created by someone else such as a sketch of an Arduino program.</p>	<p>I can use functional requirements to create an algorithm that I use to plan out a program for a digital solution.</p> <p>I can create a paper-prototype of my design to show screen transitions</p> <p>I can independently program a digital solution using a visual programming language</p> <p>BUT I am still not confident to program using a general purpose programming language</p>	<p>I can independently and confidently create a digital solution that incorporates a microcontroller and use a general programming language</p> <p>AND I can debug as I build. (correct my own code)</p>	<p>AND I can create a 60 sec video to pitch my innovative design</p>
<p>Digital Technologies</p> <p>Way Of Thinking</p>	<p>Design thinking</p>	<p>Computational thinking</p> <p>Design thinking</p>	<p>Computational thinking</p>	<p>Systems thinking</p>

As learning progresses, it becomes more complex. SOLO stands for the Structure of the Observed Learning Outcome. It is a means of classifying learning outcomes in terms of their complexity. It can help differentiate a task to enable students to operate at their level and provide learning tasks that are progressively more challenging.

For more about SOLO Taxonomy refer to these websites

[John Biggs Solo Taxonomy](#)

[HookED: Solo Taxonomy](#)



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