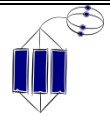
**HookED SOLO Taxonomy and the Science Capabilities**

| **NoS Capabilities: Gather & interpret data.** | | | | |  |
|---|---|---|---|---|---|
| | **Prestructural** | **Unistructural** | **Multistructural** | **Relational** | **Extended Abstract** |
| | | | | | |
| **Gather data** (making observations using the senses and measurement)<br><br>*What did you see, hear, feel (touch), smell, taste or measure? What did you notice?* | I need help to ...<br><br>• **Observe events**<br><br>***Reliable**- If you repeated the observation would you get similar results?*<br>***Accurate**- Is the observation/measurement without error or mistakes*<br>***Valid** – do the results really measure what is being tested? What other variables may be influencing the result?* | If shown how I can …<br><br>• **Observe events** | I can …<br><br>• **Observe events**<br><br>BUT I am not confident about the accuracy and reliability of my observations – e.g. would other people see what I see/measure what I measure etc. | I can …<br><br>• **Observe events**<br><br>AND I know how, why and when to do this so that my observations are accurate and reliable. | AND I can back up my observations and inference with evidence to increase the validity. |
| **Interpret data** (making inferences about what I observe - figuring out - explaining what the observations mean).<br><br>*Why do you think it is like that? What did that mean?* | I need help to ...<br><br>• **Make inference/s (**figure out what the observations mean) | If shown how I can …<br><br>• **Make inference/s** (figure out what the observations mean) | I can …<br><br>• **Make inference/s** (figure out what the observations mean)<br><br>BUT I am not confident about the logic of my inference/s | I can …<br><br>• **Make inference/s** (figure out what the observations mean)<br><br>I know how, why, and when and how to do this so that my inferences make sense. | |
| **Effective Strategies** | HookED SOLO Describe ++ Map and self assessment rubrics | | *[because]* | | *[because …because]* |

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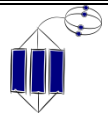
| **NoS Capabilities:**<br>**Use evidence** | | | | |  |
|---|---|---|---|---|---|
| | **Prestructural** | **Unistructural** | **Multistructural** | **Relational** | **Extended Abstract** |
| | | | | | |
| **NoS Capabilities**<br><br>• **Use evidence.**<br><br>*I know this because ...*<br>*I think this because …*<br>*I checked this by ...*<br>*An example of this is …*<br>*An exception would be …*<br><br>[because … because] | I do not use evidence to support my observations.<br><br>I do not use evidence to support my inference about what I think is happening. | I can use evidence if directed or shown how. | I can use evidence to back up my observations/inference.<br><br>But I am not sure if the evidence is relevant or accurate. | I can select and use relevant evidence to back up my observations/inference.<br><br>[Evidence is relevant, accurate and reliable] | I can select, critique and use relevant evidence to back up my observations/inference.<br><br>[Evidence is relevant, accurate, reliable and valid.] |
| **Effective Strategies** | | | | | |

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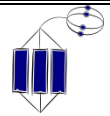
| **NoS Capabilities:**<br>**Critique evidence** | | | | |  |
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| **NoS Capabilities**<br><br>• **Critique evidence**,<br><br>[evaluate evidence for its accuracy, reliability (repeatability) and validity (random sample groups/control variables etc)] | I do not critique evidence | I can critique evidence if I am shown how. | I can critique the accuracy, reliability and validity of evidence BUT I am not certain about how, why or when to do this | I can critique the accuracy, reliability and validity of evidence.<br><br>I can explain how and why my evidence is accurate, reliable and valid. | AND I can seek out errors, unwarranted assumptions and or alternative explanations to improve the accuracy, reliability and validity of my evidence. |
| **Effective Strategies** | | | | | |

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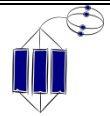
| **NoS Capabilities: Interpret representations** | | | | |  |
|---|---|---|---|---|---|
| | **Prestructural** | **Unistructural** | **Multistructural** | **Relational** | **Extended Abstract** |
| | | | | | |
| • **Interpret representations.**<br><br>[**interpret** – make meaning]<br>[**representation** - a model, graph, chart, diagram - written, visual, verbal and multimodal texts representing a thing or process] | I need help to interpret a representation of a scientific thing or process. | I can interpret a representation of a scientific thing or process if directed.<br><br>[directed – shown how] | I can interpret a representation of a scientific thing or process.<br><br>BUT I am not sure if my interpretation is accurate, reliable or valid. | I can interpret a representation of a scientific thing or process.<br><br>AND I can explain why my interpretation is accurate, reliable and valid. | I seek and act on feedback from others on how I can improve my interpretation of a representation. |
| **Effective Strategies** | | This representation identifies that … | This representation shows us … | The message from the representation is that […] because […] | This representation is effective/ineffective because …<br><br>This representation leaves out/ omits/ exaggerates/ oversimplifies … |

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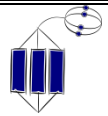
| **NoS Capabilities:**<br>**Engage with science** | | | | |  |
|---|---|---|---|---|---|
| | **Prestructural** | **Unistructural** | **Multistructural** | **Relational** | **Extended Abstract** |
| | | | | | |
| **NoS Capabilities**<br>• **Engage with science.** | I do not engage with science in real life contexts. | I can engage with science in real life contexts if I am prompted or directed. | I can engage with science in real life contexts BUT I am not sure how or why I should be doing this so I make mistakes. | I can engage with science in real life contexts.<br><br>I can explain how and why I am engaging with science. | I seek and act on feedback from others on how I can improve the ways in which I engage with science in real life contexts. |
| **Effective Strategies** | | | | | |

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