

Introduction

SOLO stands for Structure of Observed Learning Outcomes. It was developed in 1982 by John B. Biggs and Kelvin Collis. It is essentially a hierarchy which has 5 stages or levels that attempts to assess the students learning based on the quality of their work. Like Bloom's taxonomy it looks and structures many of the key verbs used in assessment into different levels.

SOLO can be used not only in assessment, but in designing the curriculum in terms of the learning outcomes intended, which is helpful in implementing constructive alignment. SOLO can also explain why those who use low complexity arguments in political or marital disputes usually win – in the short term. But in politics that's all you need

Solo Taxonomy shares similarities with the Modified Daggett's Application Model, where the higher levels of learning are achieved when learning is applied in real world unpredictable situations, rather than just applying it to studies within a single unit of learning

Model - five levels of understanding

■ **Pre-structural** – The task is not attacked appropriately; the student hasn't really understood the point and uses too simple a way of going about it.

■ **Uni-structural** – The student's response only focuses on one relevant aspect.

■ **Multi-structural** – The student's response focuses on several relevant aspects but they are treated independently and additively. Assessment of this level is primarily quantitative.

■ **Relational** – The different aspects have become integrated into a coherent whole. This level is what is normally meant by an adequate understanding of some topic.

■ **Extended abstract** – The previous integrated whole may be conceptualised at a higher level of abstraction and generalised to a new topic or area.

SOLO has many advantages over Bloom's Taxonomy (cont)

Enables proximate - hierarchical - explicit feedback For example - Educators and students find it easy to determine what they are doing - the SOLO complexity of the task - Educators and students find it easy to reliably and validly determine how well it is going - SOLO differentiated success criteria - Educators and students find it easy to reliably and validly determine their next steps - plus one SOLO level.

4. SOLO has high inter-rater reliability - educators and students tend to agree when moderating student work against SOLO levels - (versus Bloom's with low inter-rater reliability)

5. SOLO levels can be communicated through text, hand signs and symbols - across large and noisy learning environments (versus Bloom's where levels communicated by text alone)

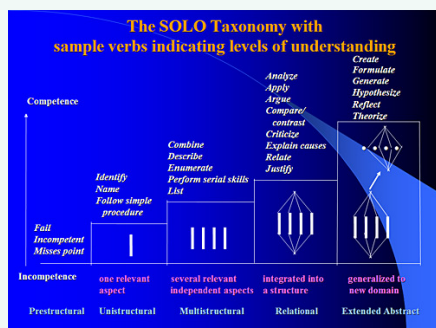
6. SOLO allows task and outcome to be at different levels (versus Bloom's not designed/cannot be used to level outcomes against each task)

7. SOLO has clarity of verb use for each level. Clarity of verb level is a powerful advantage when educators are planning and writing learning intentions using OBE and constructive alignment - and when students are doing their own inquiry - see below. (versus Bloom's confused verb use across levels.)

8. SOLO can be used to look at levels of declarative knowledge and functioning knowledge including metacognitive reflection. Kinds of knowledge

9. SOLO is brutally and blissfully simple and can be used by students as young as five to look at their own learning outcome and the learning outcomes of their peers

Solo Taxonomy



The diagram lists verbs typical of each such level.

Source: http://www.johnbiggs.com.au/solo_graph.html

SOLO has many advantages over Bloom's Taxonomy

1. SOLO is research/evidence based on structure of student learning outcomes (versus Bloom's developed from proposal by a committee of educators)

2. SOLO is a theory about teaching and learning (versus Bloom's theory about knowledge)

****3. SOLO is based on levels of ascending cognitive complexity****
(versus Bloom's questionable hierarchical link between levels) This is powerful when giving feedback, feed-forward and feed-up.



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Published 9th November, 2015.
Last updated 10th May, 2016.
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