SOLO Taxonomy

Category: Assessment, Feedback and Learning

The Structure of the Observed Learning Outcome (SOLO) Taxonomy describes increasing complexity in a learner's response to a task. Developed by Biggs and Collis, it focuses on how relevant elements are selected, accumulated, integrated and eventually generalised. It can support assessment criteria, task design and analysis of curriculum progression.

SOLO concerns the quality of an observed outcome, not a permanent measure of intelligence or a label for a learner. The level may vary with the topic, prior knowledge, task conditions and support, so judgements require disciplinary interpretation and suitable evidence (Biggs & Collis, 1982).

Five Levels of Response Complexity

1. **Prestructural:** The response misses the point or uses no relevant element coherently.
2. **Unistructural:** One relevant aspect is identified and used, but the response remains limited.
3. **Multistructural:** Several relevant aspects are presented, usually as separate or additive points.
4. **Relational:** The aspects are integrated into a coherent explanation, argument or organising principle.
5. **Extended abstract:** The integrated understanding is generalised, reconceptualised or applied beyond the immediate task.

Examples in Practice

In a climate-policy response, a student may name one consequence, list several independent consequences, explain how economic and social effects interact, and finally use that integrated account to propose and test a principle for another national context.

Why It Matters

SOLO helps educators distinguish quantity of information from structural quality and makes progression towards integration visible. It should not be used as a mechanical ladder: complexity depends on the construct and particular task, while sophisticated responses still require accurate and sufficiently rich disciplinary knowledge (Brabrand & Dahl, 2009).

Further Reading

6. Biggs, J. B., & Collis, K. F. (1982). Evaluating the quality of learning: The SOLO taxonomy. Academic Press.
7. Brabrand, C., & Dahl, B. (2009). Using the SOLO taxonomy to analyze competence progression of university science curricula. Higher Education, 58(4), 531–549.
8. Biggs, J., & Tang, C. (2011). Teaching for quality learning at university (4th ed.). Open University Press.

Related Terms: Bloom's Revised Taxonomy | Constructive Alignment | Learning Outcomes | Cognitive Complexity