Learning Orientation Index (LOI)

Standard Report for Cognadev

STRICTLY CONFIDENTIAL

NAME:
Amy Sample

LOI NUMBER:
LOI-010290

ASSESSMENT DATE:
2016-08-18

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SECTION 1

Introduction

The LOI

The Learning Orientation Index (LOI) is a computerised assessment exercise that has been designed to measure aspects of cognition and information processing of school, college and university leavers. Unlike conventional ability and IQ tests, the LOI measures how people think, deal with information and go about problem-solving. The LOI does this by externalising and tracking the different processes people apply when working through exercises. The results can be used as part of a battery of assessments to inform career guidance, selection and placement as well as development initiatives in tertiary educational and work environments.

Note: This report has been compared against the V2 norm group (1555 results), which represents a diverse sample of people of the ages 18 to 27 years.

Cognitive constructs reported on by the LOI

- Complexity and unit of information
- Cognitive styles
  - Applied cognitive styles
  - Underutilised cognitive styles
- Rank order of cognitive modes
- Speed and power
- Cognitive competencies
- Metacognitive areas
  - Metacognitive developmental guidelines
- External structuring

Biographical information

Full name:	Amy Sample
Gender:	Female
Date assessed:	2016-08-18
Report date:	2016-08-18
Unique test number:	LOI-010290
Date of birth:	1998-08-21
Nationality:	South Africa
Ethnicity:	White/Caucasian
Highest education:	12 Year Schooling
Discipline:	Medicine / Healthcare

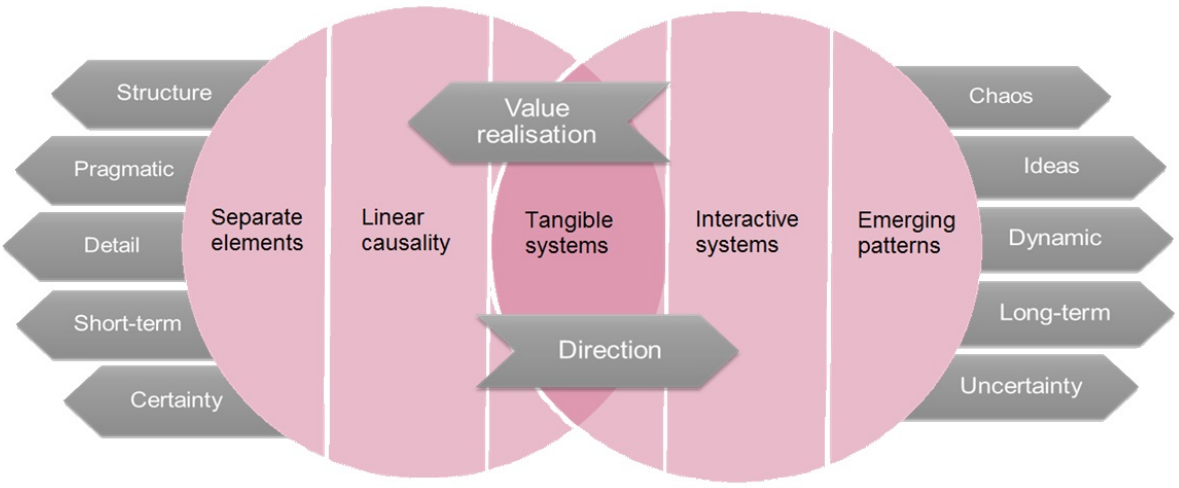
SECTION 2

Complexity and unit of information

The manner in which individuals process information reflects, amongst other factors: previous exposure and learning experiences, personal preferences, cognitive flexibility and modifiability, capability and preference for dealing with complexity and vagueness and confidence in own intuitive insights. Based on a combination of these factors, the individual can be expected to function best in various environments of increasing complexity. The complexity of a task reflects the number of elements involved, the degree of interactivity between elements, the level of abstraction and the vagueness and dynamic or static nature of the information involved.

Amy's current and potential preferences in terms of cognitive complexity:

	Separate elements	Linear causality	Tangible systems	Interactive systems	Emerging patterns
					
Information Application Context	Clear, concrete information Operational application (routine contexts, structured tasks, quick feedback / short time frames)	Technical-specialist information Unfamiliar practical problems Rule-based, linear-causal problem-solving Diagnosis according to either-or / if-then investigations	Specialist and generalist information Interactive elements of tangible systems Application of theoretical models Creating alternative solutions Planning to ensure efficiencies	Integrative approach Vague theoretical information Work with dynamic, interactive systems Innovation, strategy lignment, creating models Ensuring viability of complex and dynamic solutions	Intuitive approach Philosophical trends Emerging patterns in chaotic contexts Simultaneous consideration of micro and macro aspects
Current unit of information					
Potential unit of information					



SECTION 3

Cognitive styles

Cognitive styles describe response tendencies and preferences in approaching and solving problems. These preferences are related to personality and motivational factors and may also reflect previous learning exposure.

Most individuals show distinct information processing preferences and habits. Someone with an Intuitive style may, for example, capitalise on “gut feel” whereas someone who prefers a Structured approach may tend to gather and organise information. The different ways that people or team members process information may cause interpersonal misunderstanding and frustration, but it may also enrich the outcome of the problem-solving process.

Applied cognitive styles

Amy seems to prefer applying the following cognitive approaches or styles:

EXPLORATIVE

- Tends to investigate issues
- Thoroughly explores different types of information
- Checks information carefully and precisely
- Tries to understand the task requirements
- Focuses on finding information relevant to the problem
- May get confused by over-exploring and checking too much
- May repeatedly explore the same information without moving forward

REFLECTIVE

- Tends to explore and consider information very carefully
- May be guided by existing knowledge and information structures
- Shows a careful approach and revisits previous conclusions
- May work relatively slowly
- Tries to avoid making mistakes
- Indicates a preference for working with tangible information in structured contexts
- Shows a need for certainty

TRIAL-AND-ERROR

- Has a vague and unsystematic approach to problem-solving
- Tends not to plan or monitor information processing approach
- May show an undirected action approach
- Not likely to be focused on the task or goal
- May lack self-awareness, motivation or flexibility
- Likely to prefer structured and familiar information or environments
- May not systematically analyse, structure or reason about issues

REACTIVE

- Likely to work quickly but inaccurately
- May be impulsive or show quick closure
- May respond emotionally rather than rationally
- May not identify or focus on the most relevant aspects of a problem
- May not spend sufficient time on complex cognitive challenges
- Could lack motivation
- Likely to be sensitive and/or experience performance anxiety
- May find it difficult to deal with unfamiliar cognitive challenges

Underutilised cognitive styles

Amy does not appear to prefer applying this cognitive style and may benefit from developing this approach:

INTEGRATIVE

A tendency to synthesise discrepant, fragmented and ambiguous information into a coherent / meaningful whole.

Metacognitive criteria: “meaning”, “coherence”, “context”, “depth”, “parsimony”, “inclusiveness”

In order to develop a more integrative approach, Amy may have to practice representational skills and learn to identify fragmented, discrepant or conflicting information that can be synthesised into a coherent structure, model or flow diagram.

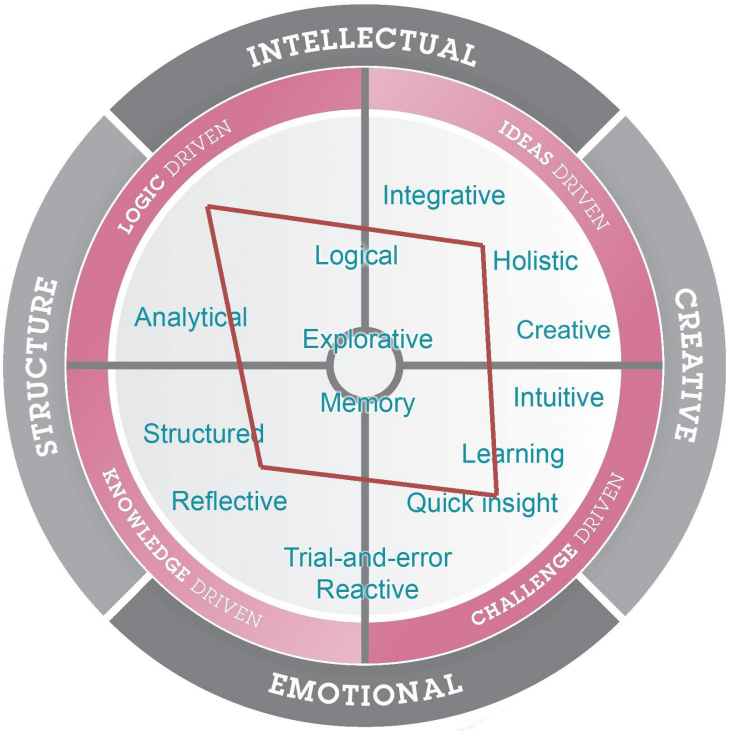
SECTION 4

Rank order of cognitive modes

A person's Cognitive mode preference indicates the types of information and problem-solving contexts that are best suited to their learning preferences. The various modes can broadly be organised into four categories that are often referred to as a "left-" or "right-brain" orientation, which is either intellectually or emotionally driven.

Of the four orientations, Amy was found to have the following order of preferences:

Rank	Cognitive mode	Description
1	Logic Driven	This refers to the logical, analytical – commonly referred to as "left-brain" approaches. It involves a preference for logical problem-solving that involves the rigorous application of theoretical information. Logic driven environments are characterised by information-rich theoretical, technical and professional problem-solving activities
2	Challenge Driven	This preference can be described as flexible, open-minded awareness, curiosity and learning. It may well be characterised by an emotionally driven tendency to become bored and / or to challenge oneself and others. In the case of this approach, the acquisition of detailed information is less important than understanding the issue. Such a learning orientation is often characterised by a need for stimulation, novelty and variety
3	Ideas Driven	This mode is descriptive of integrative, holistic, intuitive and creative approaches. It is a preference for discrepant, theoretical, and conceptual information which has to be interpreted meaningfully. It may involve brainstorming, creating models, and coming up with creative conceptualisations and innovative solutions
4	Knowledge / Structure Driven	This refers to a structured approach relying on memory and reflection. This mode is characterised by a preference for clear, familiar and well-ordered information. Applied, it may involve creating checklists and a reliance on technical guidelines and existing practices. This preference is driven by a need for certainty and emotional security



Speed and power are separate constructs in cognition. Amy shows the following preferences in terms of the speed-related dimensions measured.

Speed and power

Dimension	Description	Score
Speed of Work	The speed by which unfamiliar cognitive tasks are completed	43
Quick Insight	The rate of grasping and understanding concepts	38
Pace Control	The tendency to spend most time on the most difficult task requirements	35
Quick Closure	The tendency to jump to conclusions and make assumptions	62

SECTION 6

Cognitive competencies

These competencies represent the person's overall information processing functioning. The various processing categories do not follow one another up linearly but are structured holonically (a dynamic, soft hierarchy). This information can be used to facilitate developmental programmes and to match the person to suitable work or educational environments.

Dimension	Sub-dimension	Score
Memory	Use of memory	40
	Checking	85
	Memory strategies	43
Exploration	Effectiveness of exploration	43
	Degree of exploration	69
Analysis	Detailed identification of relationships	40
	Systematic and rule-based linking	34
Structuring	Tendency to structure	31
	Integration	46
	Complexity	38
Transformation	Logical reasoning	53
	Lateral creation	47
Learning	Quick insight learning	46
	Gradual improvement learning	54
Metacognition	Intuition	45
	Metacognition	45
	Activity	49

SECTION 7

Metacognitive areas

Metacognition guides a person's thinking and it is a crucial component of intellectual functioning. It also plays a critical role in the development of thinking skills. Amy's metacognitive criteria were tracked in the assessment and specific areas of strength and further development are given below.

Construct	Description	Metacognitive criteria or "meta-voices"	Areas of development	Areas of strength
Exploration	Extent of exploration	Do I need to explore and **investigate** further?		
	Focus on relevant aspects	What is **relevant** and **important**?		
	Seeking clarity	Is this **clear** to me? Do I have **clarity** on this?		
Analysis	Awareness of rules	What are the **rules**? Am I being **systematic**?		
	Detail orientation	How **detailed** and precise should I be?		
	Focus on relationships	What are the **relationships** between the elements?		
Structuring	Ordering and representing information	How can I order, **structure** and **represent** the information?		
Integration	Synchronising fragmented elements	Is this **meaningful** and does it make sense? Is it **coherent** or fragmented?		
Creativity	Lateral creation	What **changes** are required and how **creative** are these?		
Logical reasoning	Follow through	Are rule-based arguments followed through **rigorously**? What are the **implications**, **consequences** and applications here?		
	Purposeful transformation	How **purposeful** is this? Will this solution achieve the goals?		
Learning	Using feedback effectively	What can I **learn** from this? How can I correct and **improve** my approach?		
Intuition	Capitalising on gut feel	What is my **gut feel** and intuitive insight?		

Metacognitive developmental guidelines

Effective thinkers continuously, and almost automatically, ask themselves certain questions to guide their thinking and problem-solving processes. These critical questions are generally referred to as “metacognitive criteria”.

Using and developing metacognitive criteria is the most effective way to improve problem-solving, this is because it requires that the person ask themselves additional questions, which brings their attention to aspects of a problem that were previously ignored or missed.

Focus on relevant aspects

Deciding between relevant and irrelevant information is a crucial prerequisite for problem-solving. All problems have core aspects that you will need to focus on in order to solve the problem and less important elements, which will only confuse and cloud the issue. Removing irrelevant aspects can help you to think more clearly, quicker and more accurately.

This skill should be refined through reflection. Once a problem is solved, you can ask yourself what information you have gathered and worked with was of little value in solving the problem.

Questions to ask yourself include:

- Is this relevant to finding the answer?
- Is this important information or just noise and extra clutter?
- Has my thinking become unfocused or have I gone off-topic?

Awareness of rules

An analytical or logical problem-solving process normally involves the application of rules or rule-based arguments. The interrelationships between elements also reflect certain rules. The degree to which one needs to focus on the rules of the task differs from situation to situation.

The questions that can guide your thinking include:

- What are the rules here?
- Am I being systematic?

Ordering and representing information

Complex information can be managed and simplified using structuring and representation techniques. Structuring skills significantly improves performance in complex, vague, unfamiliar and dynamic situations. Examples of these structuring and representing techniques include: creating lists or categories, tree structures, matrixes, hierarchies, cubes, flow diagrams, mind maps, summaries, highlighting, diarising, time tables among many other techniques.

Questions to ask yourself include:

- How can I structure this information?
- Can I build a model from this information to make it clearer?
- What is the best way to represent this information?
- Does this structure make sense?

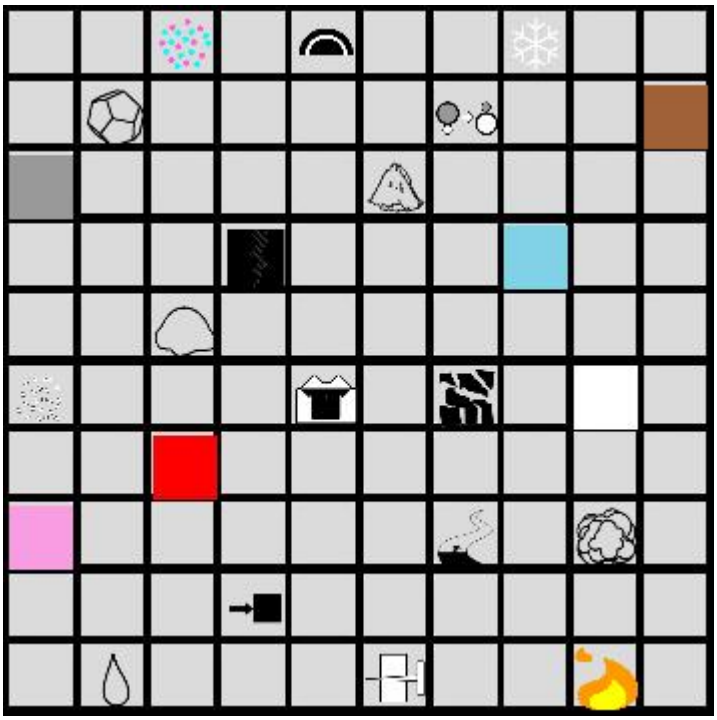
SECTION 8

External structuring

Please note that the LOI assesses a person's understanding of the underlying structure of the LOI task in many different ways besides the construction of a table as depicted below. This table is only one aspect that is measured as part of the "Structuring" competency. Some individuals, however, prefer keeping all the information in mind rather than to represent it in a table.

This table indicates the degree to, and the comprehensiveness that, the person structures and represents unfamiliar information in terms of the various elements, the categories of information, the interrelationships between elements, flow processes and interactive / matrix effects. This tendency and skill may indicate the way in which Amy structures complex information in everyday life by compiling lists, diarising and visually representing ideas and plans.

Amy ordered the elements dealt with during the game in the following way:



Final comments

The LOI is a psychological assessment technique distributed by Cognadev. For more information on the LOI and other assessments offered by Cognadev, please visit the website:
http://www.cognadev.com

The LOI is a complex instrument that requires comprehensive training. Feedback on this report should always be done by an accredited LOI practitioner.

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