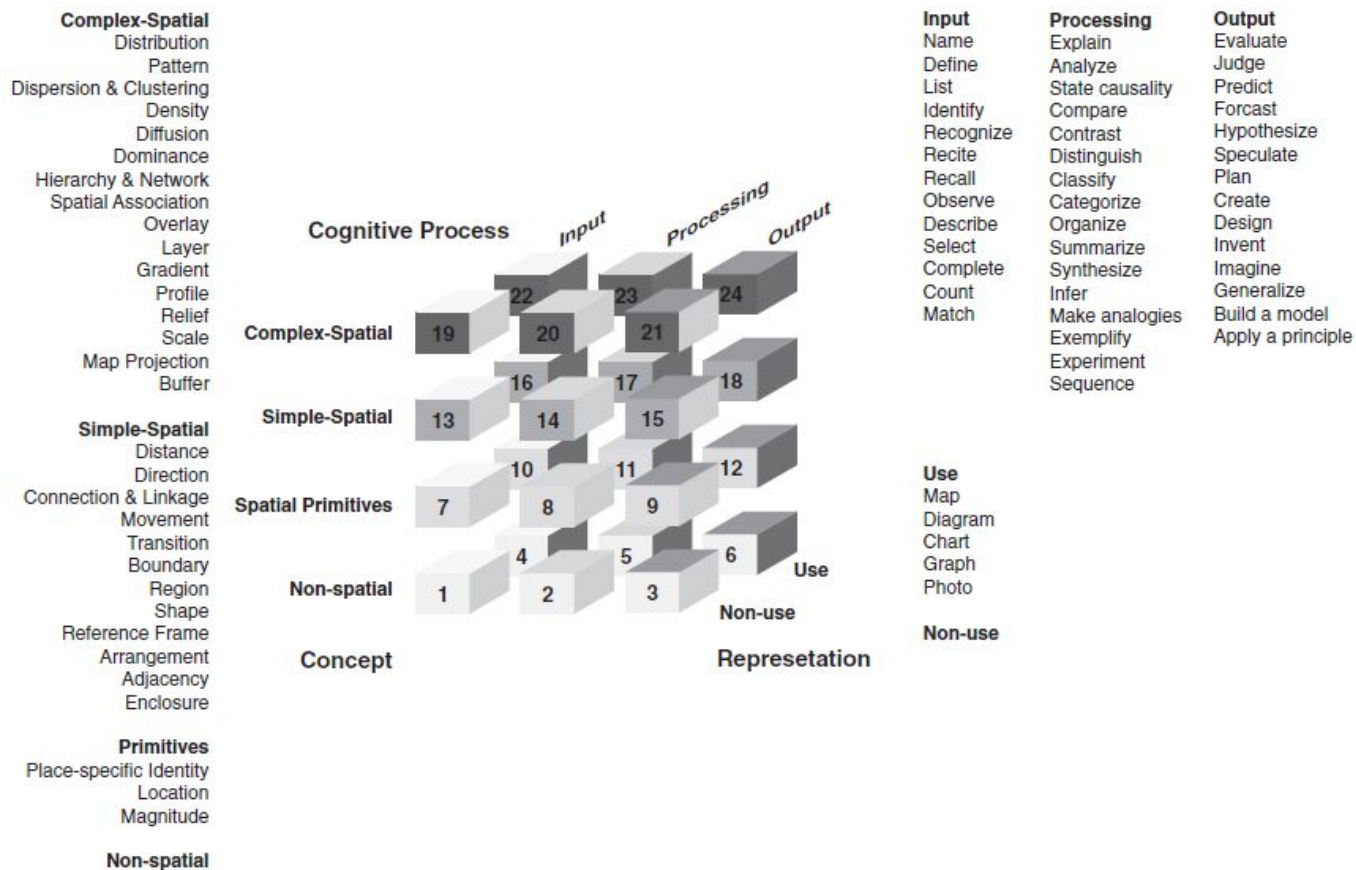


Bednarz & Jo's Taxonomy of Spatial Thinking



Jo, Injeong, and Sarah Witham Bednarz. "Evaluating geography textbook questions from a spatial perspective: Using concepts of space, tools of representation, and cognitive processes to evaluate spatiality." *Journal of Geography* 108.1 (2009): 4-13.

Jo, Injeong, Sarah Bednarz, and Sandra Metoyer. "Selecting and designing questions to facilitate spatial thinking." *The Geography Teacher* 7.2 (2010): 49-55.

Five-Level Scope & Sequence of Geospatial Concepts (from Golledge, Marsh, and Battersby)

Table 2. Five-level scope and sequence of geospatial concepts

I Primitive	Concept levels			
	II Simple	III Difficult	IV Complicated	V Complex
Identity location	Arrangement	Adjacency	Buffer	Activity space
Magnitude	Class/group	Angle	Connectivity	Central place
Space-time	Direction	Area	Corridor	Distortion
	Distribution	Center	Gradient	Enclave
	Edge	Change	Profile	Great circle
	Order/sequence	Cluster	Representation	Interpolation
	Proximity	Grid	Scale	Projection
	Relative distance	Growth	Surface	Social area
	Shape	Isolated		Subjective space
		Linked		
		Polygon		
		Reference frame		
		Spread		

Note: Sample concepts are arranged alphabetically in each column.

Golledge, Reginald, Meredith Marsh, and Sarah Battersby. "A conceptual framework for facilitating geospatial thinking." *Annals of the Association of American Geographers* 98.2 (2008): 285-308.