A Non-Exhaustive List of Quantitative Tools to Assess Metacognition

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Multiple quantitative tools exist to assess metacognition. Here I compiled a non-exhaustive list of tools that directly or indirectly relate to metacognition. Hopefully it serves as a starting point for anyone interested in this type of assessment. The accompanying blog post describes the process I went through to select an assessment for a large project.

Acronym	Full Name	Focus	self -report?	"Style" (Likert, open response, etc)	# Questions	Cost	Original Description of Tool	The tool	Examples of studies that have used the tool (Discipline in which used)
ALSI	Approaches to Learning and Studying Inventory	Focuses on a particular course; characterizes student learning as "deep" or "surface"	Yes	Likert, 5-point uses check marks (see tool)	18	Free	Tyler and Entwistle, 2003	Supposedly in Appendix 1 but Appendix 1 isn't there First 18 questions of the ETLQ	Mogashana et al 2012 (chemical engineering) Mattick et al 2004 (medical students) Devoe (medical students) Baeten et al. 2013 (first-year student teachers)
ALSI - self score version	Approaches to Learning and Studying Inventory	Focuses on a particular course and asks students to consider their learning more broadly; characterizes	Yes	Likert, 5-point	36	Free	Tyler and Entwistle 2007	Tyler and Entwistle 2007 (it's supposed to be in the appendix, but the appendix	

		student learning as “deep” or “surface”						is not provided)	
*ASI	Approaches to Studying Inventory	Characterizes student approach as Deep, Surface, or Strategic	Yes	Likert, 5-point	Short version: 30	Free	Entwistle, N. J., and Ramsden, P. (1983). Understanding Student Learning. London: Croom Helm.		ASI, RASI, ASSIST citations
A-SRL-S	Academic Self-Regulated Learning Scale	Academic self-regulated learning	Yes	Likert (4-point: strongly agree, agree, disagree, strongly disagree)	55	Free	Magno 2010	Magno 2010	Articles citing it
*ASSIST (a refined version of the ALSI)	Approaches and Study Skills Inventory for Students	Approaches to studying and learning	Yes	Likert	67	Free	Entwistle et al 2000	ASSIST	ASI, RASI, ASSIST citations Aaron and Skakun 1999 (medical students)
ETLQ	Experiences of Teaching	Focuses on a particular course	Yes	Likert (5-point: agree,	77	Free	Richardson 2014	ETLQ	

	and Learning Questionnaire			agree somewhat, unsure, disagree somewhat, disagree)					
ILP	Inventory of Learning Processes	Assesses study behavior	Yes	true-false	62	Free	Schmeck et al. 1977		Abouserie 1995
ILP-R	Revised Inventory of Learning Processes						Schmeck et al 1991	*currently unable to obtain	
ILS	Inventory of Learning Styles	Components of student learning: 1. cognitive processing strategies, 2. metacognitive regulation strategies, 3. conceptions of learning, 4. learning orientations	Yes	Likert, 5-point agree to disagree	120	Free	Vermunt 2004	Vermunt 2004	Vermunt and Vermetten 2004 - cites papers that use ILS
KMAI	Knowledge Monitoring Assessment Instrument	Uses individual confidence that they know/don't know a word with questions about the	No - compares an individual's estimates of their knowledge to their actual	Confidence followed by multiple choice	Varies - people often develop their own (I think)	Free	Tobias and Everson 1996	Tobias and Everson 1996 (contains examples)	Tobias and Everson 2002 Beziat et al 2014 (undergraduates in intro university 100 course)

		definitions of words	knowledge (assessed via performance)						
LASSI***	Learning And Study Strategies Inventory	Awareness and use of learning and study strategies	Yes	Likert, 5-point not at all typical of me to very much typical of me	60 (3rd edition) 80 (original)	Purchase	Weinstein et al 1987	Purchase here User's manual	Downing et al 2008 (first year undergraduates in Hong Kong),
MAI	Metacognitive Awareness Inventory	metacognition	Yes	Originally continuous line, subsequently Likert	52	Free	Schraw and Dennison 1994	MAI *note that the scoring page is wrong	Young and Fry 2008 (undergraduate and graduate education students) Sperling et al 2004 (first year students in undergraduate strategies and sophomore education majors) Kauffman 2004 (undergraduates in educational psychology and child development courses) Bas et al 2016

									(pre-service teachers) Devoe (medical students)
MAIT	Metacognitive Awareness Inventory for Teachers	metacognition	Yes	Likert (5-point: strongly disagree, disagree, neutral, agree, strongly agree)	24	Free	Balcikanli 2011	MAIT	Ghonsooly et al 2014 (Iranian English as a foreign language teachers) Mai 2015 (science teachers in Malaysia)
MARSI	Metacognitive Awareness of Reading Strategies Inventory	Metacognitive awareness and use of reading strategies	Yes	Likert (5-point: never/almost never to always/almost always)	30	Free	Mokhtari and Reichard 2002	MARSI	
MSLQ	Motivated Strategies for Learning Questionnaire	Focuses on behavior in a specific class	Yes	Likert (7 point: ill-defined from not at all true of me, very true of me)	56	Free	Pintrich and DeGroot 1990	MSLQ	Sperling et al 2004 (first year students in undergraduate strategies and sophomore education majors)
*RASI	Revised Approaches to Studying Inventory	Produces scores on Deep, Surface, and Strategic	Yes	5-scale likert (5 high)	52 (the 2nd half of the ASSIST) Or 18 (shortened	Free	Duff 2004 Duff 1997 (reliability	See second part of ASSIST	ASI, RASI, ASSIST citations

		approaches to learning			version) see Entwistle et al 2013 for a detailed explanation)		and validity of RASI)		
SPQ	Study Process Questionnaire	Assesses how much an undergraduate “endorses different approaches to learning and the motives and strategies comprising those approaches”	Yes	Likert (5-point: always/almost always true to never/rarely true)	42	Free	Biggs	SPQ Manual	Trigwell et al 1999 (chemistry and physics undergraduates) Emilia et al 2012 (medical students)
R-SPQ-2F	Revised Two-Factor Study Process Questionnaire		Yes	Likert (5-point: always/almost always true to never/rarely true)	20	Free	Biggs et al 2001	R-SPQ-2F	

*Approaches to Studying Inventory (ASI) developed in the 1970’s (Entwistle and Ramsden 1983)
ASSIST developed in 1997 - the second part of the ASSIST is a revised version of the ASI (RASI) which is often used on its own
***Purportedly the most widely used inventory in the world (Downing 2006)

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