Results of Fran's reflection and decision making using MAPSI.				
Cognitive processes	**Scientific reasoning tasks**			
	Least complex			**Most complex**
Generating scientifically oriented questions				
	X		√	
Making predictions or posing preliminary hypotheses prior to conducting investigations				
	X			√
Designing and conducting the research study				
Subprocesses				
Designing the procedure for the investigation	X		√	
Selecting dependent and independent variables	X		√	
Considering experimental controls and conditions that need to be controlled	X		√	
Gathering and organizing data during the investigation		X	√	
Explaining results				
Subprocesses				
Analyzing data using calculations, graphing, and statistical analyses; looking for		X	√	

anomalous data				
Identifying the evidence from the analyzed data	X		√	
Providing explanations; noting unexpected findings; addressing accuracy of data, experimental errors, limitations, or flaws	X	√		
Connecting evidence with scientific knowledge	X	√		
Posing and analyzing alternative explanations and predictions	X	√		
Communicating and defending findings through discussion, presentations, or written reports	X		√	
(**Note:** X = Levels of complexity reasoning for "cookbook" lab. √ = Levels of complexity reasoning for inquiry using MAPSI.)				