

# Why Cognitive Load May Indicate You Teach Competently

«New Ideas in Cognitive Load Theory Research.»

## Cognitive Load Theory

Germaine Load = used to build up schemes and automated routines/ procedural knowledge  
Extraneous Load = induced by the classroom situation  
Intrinsic Load = represents difficulty of a performative task

## Adaptive Control of Thought Theory

Procedural knowledge represents schemes or automated action sequences.  
The more automated an action is, the more working memory capacity can be dedicated to other issues in the classroom.

## Ill-structured Classroom

Ill-structured means that problems are complex and mostly unforeseeable.  
Therefore, there is hardly time to think about any deliberate instructional practice.

## Flow Theory

If difficulty of a task and individual competence are well balanced, flow experience can occur.  
Flow means a total use of working memory and represents pure performance upon procedural knowledge.

**If extraneous load is high and intrinsic load is high, no germane load is available. Therefore, procedural knowledge must be used. Flow is an indicator of this knowledge use.**

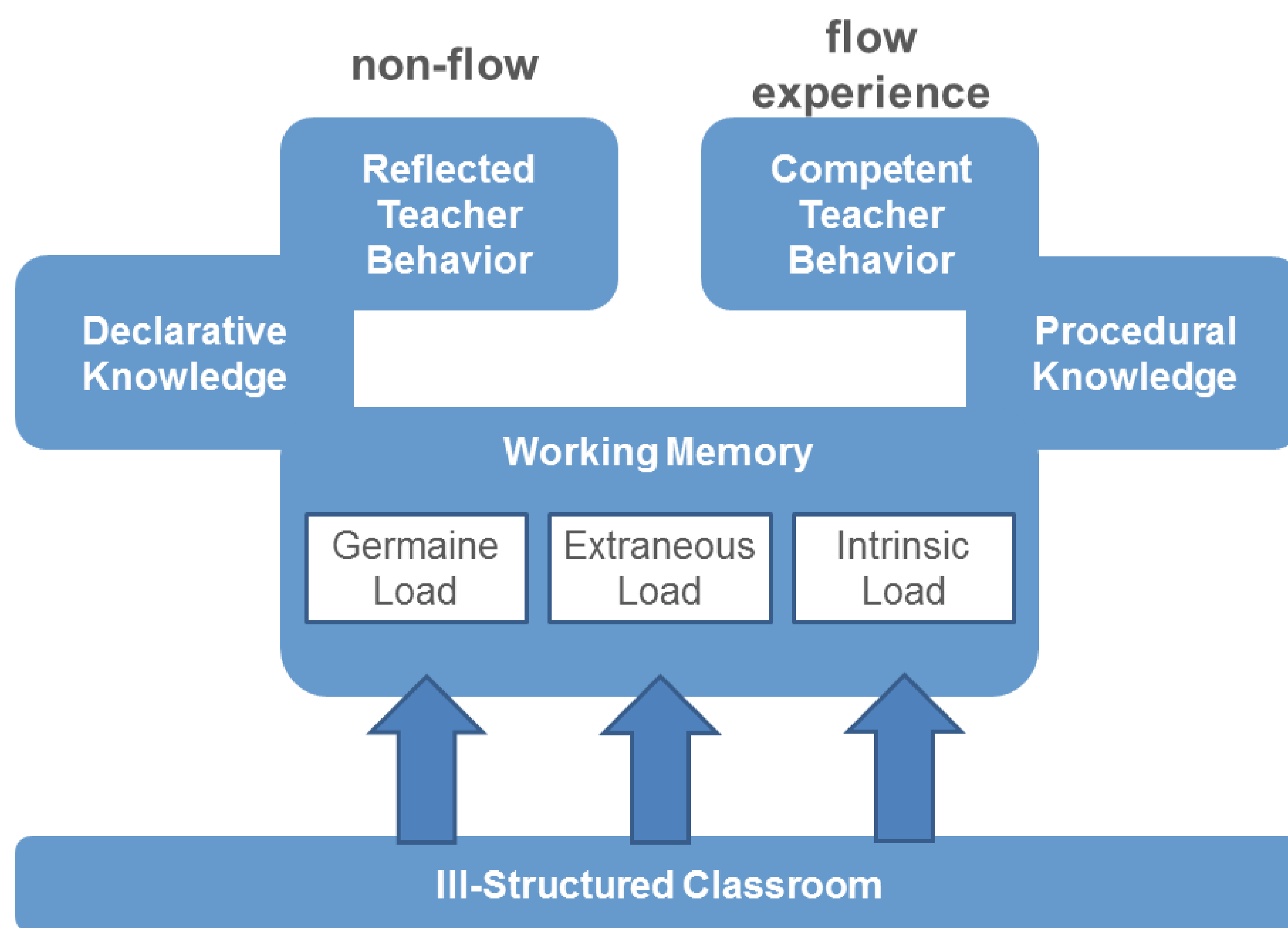


Figure 1: An Integrated Model Of Teacher Behavior

## Theses And Operationalization

If one can measure flow-experience during instructional behavior one can measure procedural knowledge in action.

A correlate of flow-experience is reduced heart-rate variability.  
If one can measure heart-rate variability one has an indicator of flow-experience.

## Research Methodology

Measure heart-rate during instruction using wristbands  
Video-tape instructional performance

Ex-post combination of heart-rate and video  
Interview teachers on situations in which flow is «measured» and have them elaborate of their experience in situ