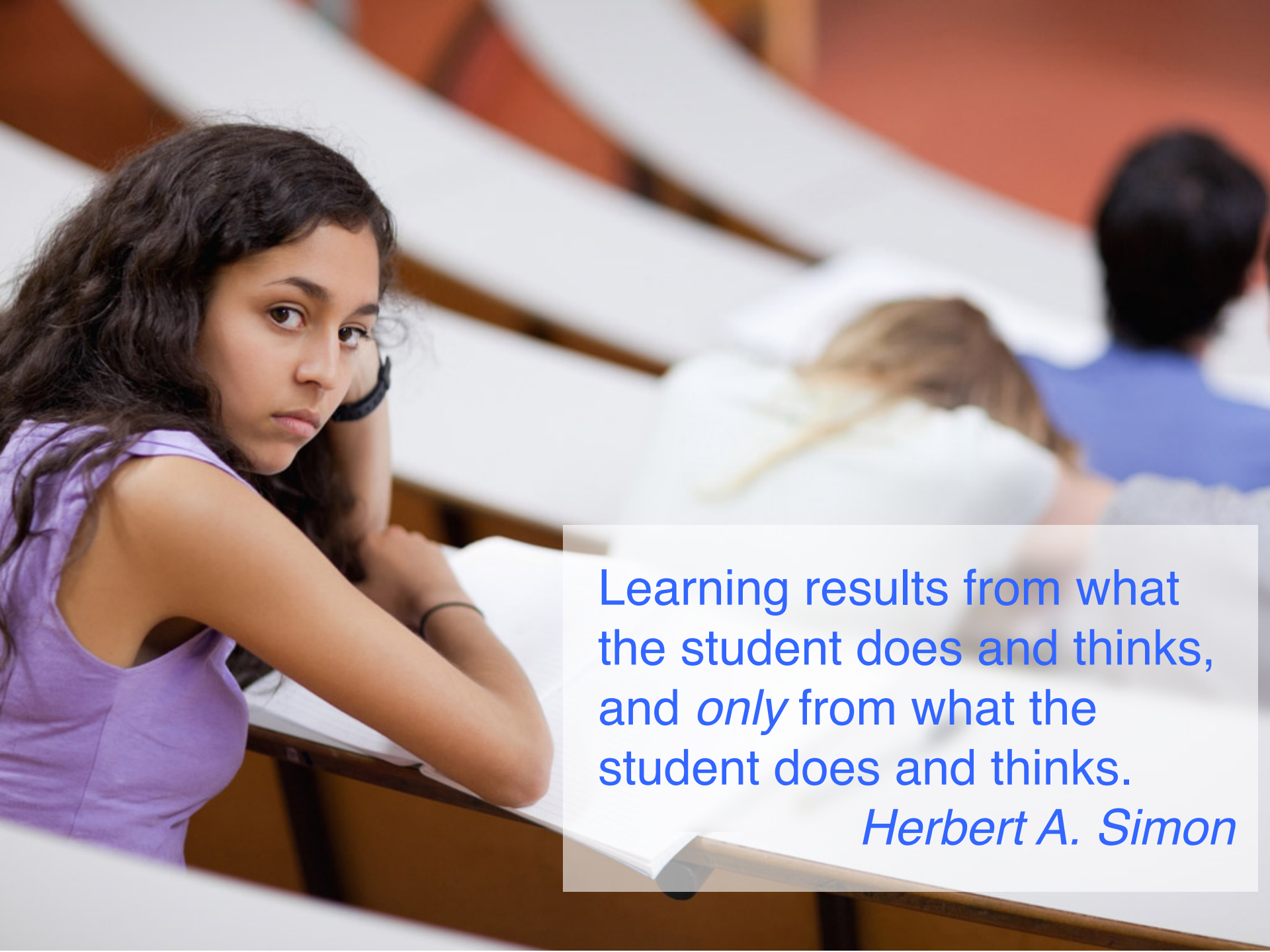
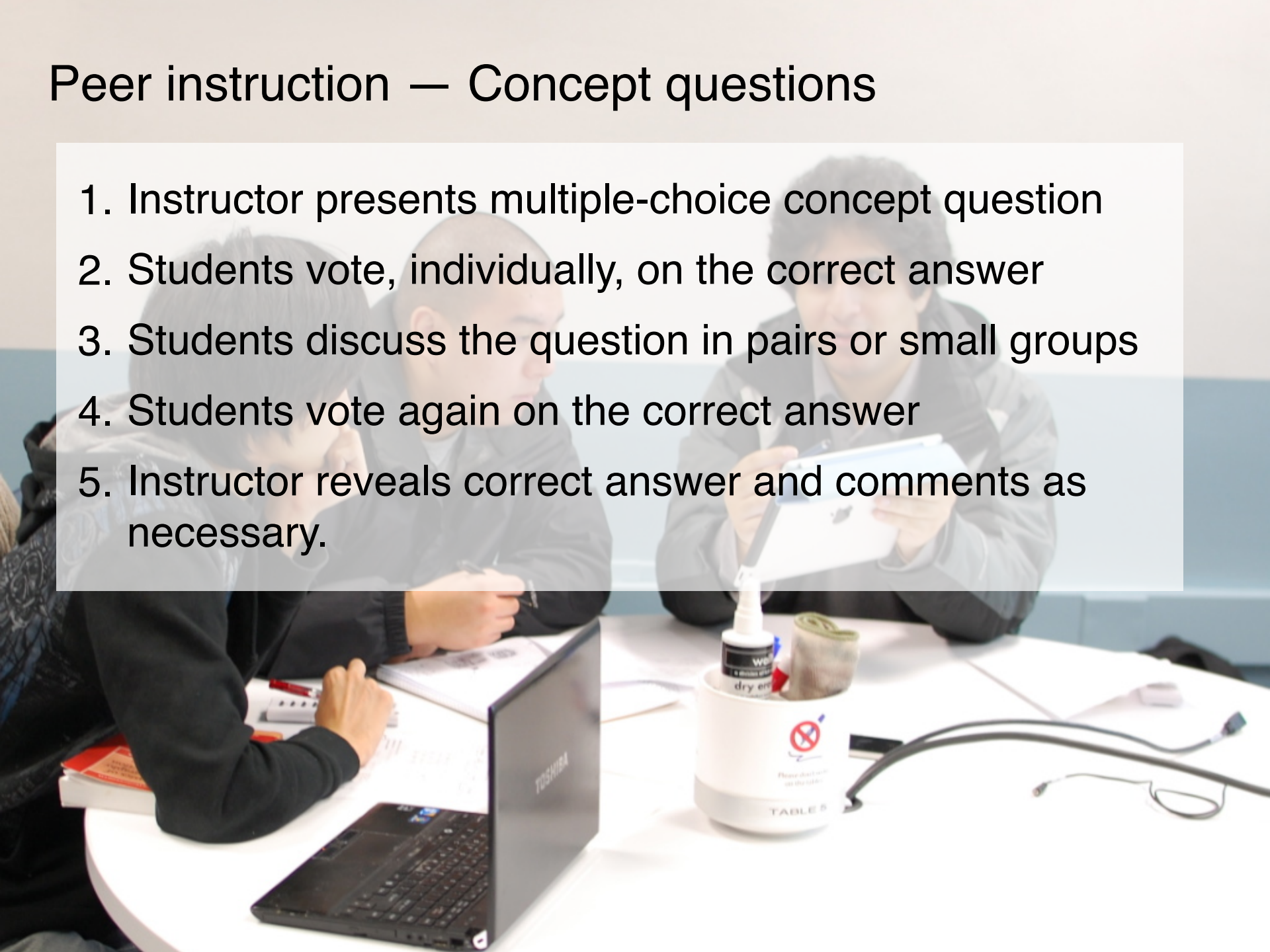

Learning results from what the student does and thinks, and *only* from what the student does and thinks.
Herbert A. Simon


Active learning in *Structure of Materials*

Peer instruction — Concept questions

1. Instructor presents multiple-choice concept question
2. Students vote, individually, on the correct answer
3. Students discuss the question in pairs or small groups
4. Students vote again on the correct answer
5. Instructor reveals correct answer and comments as necessary.



Peer instruction — Concept questions

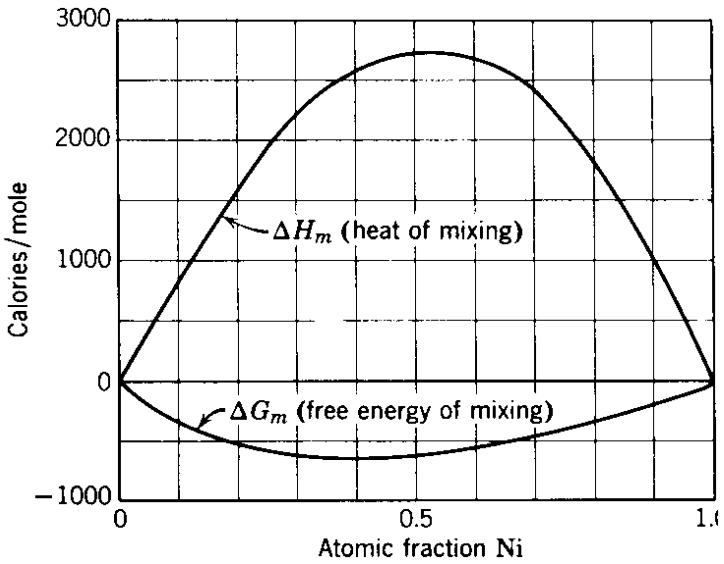
The figure shows data for Au-Ni at 900 °C. At *lower* temperatures, an alloy of 50/50 composition will...

(A) Remain a single phase solid solution at all temperatures

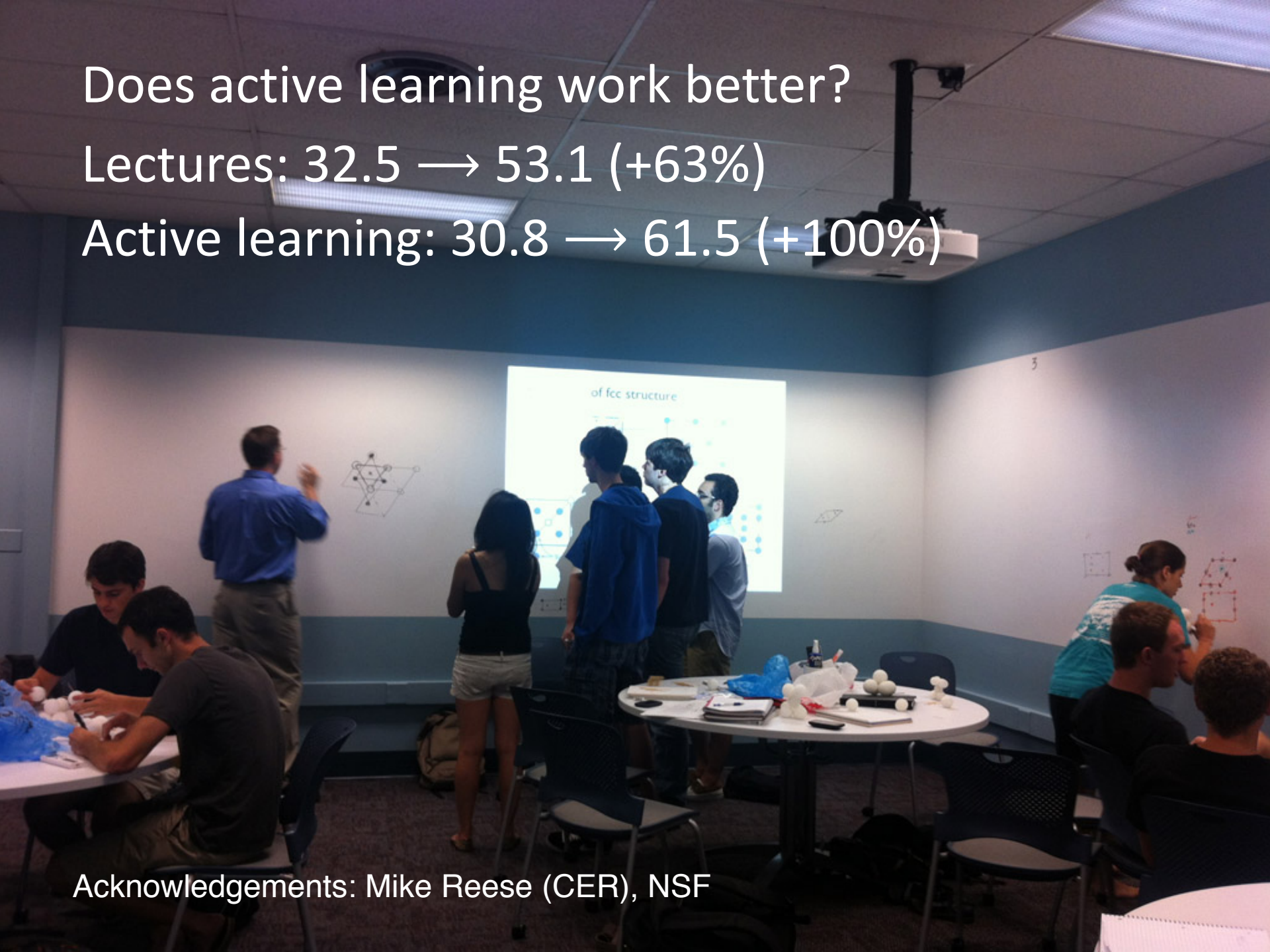
(B) Phase separate into Au-rich and Ni-rich solid solutions below some critical temperature

(C) Form an ordered compound below some critical temperature

(D) Not enough information to say for sure



B.L. Averbach *et al.*, *Acta Metall.* **2**, 92 (1954)



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Peer instruction — pros

1. Students learn more
2. More effective feedback to instructor
3. More fun (at least for me)

Peer instruction — cons

1. Can be difficult to “cover the material”
2. Significant time commitment in the early stages (coming up with and evaluating concept questions)