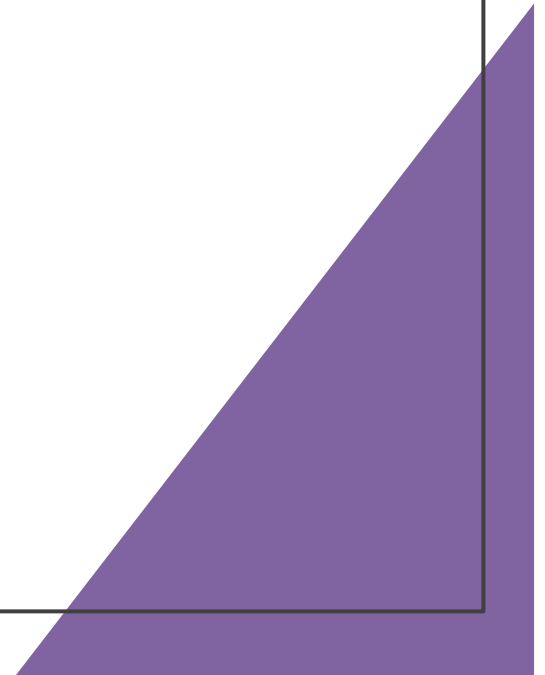


Is your  
students'  
prior  
knowledge

- Appropriate?
- Sufficient?
- Flawed?





Appropriate?

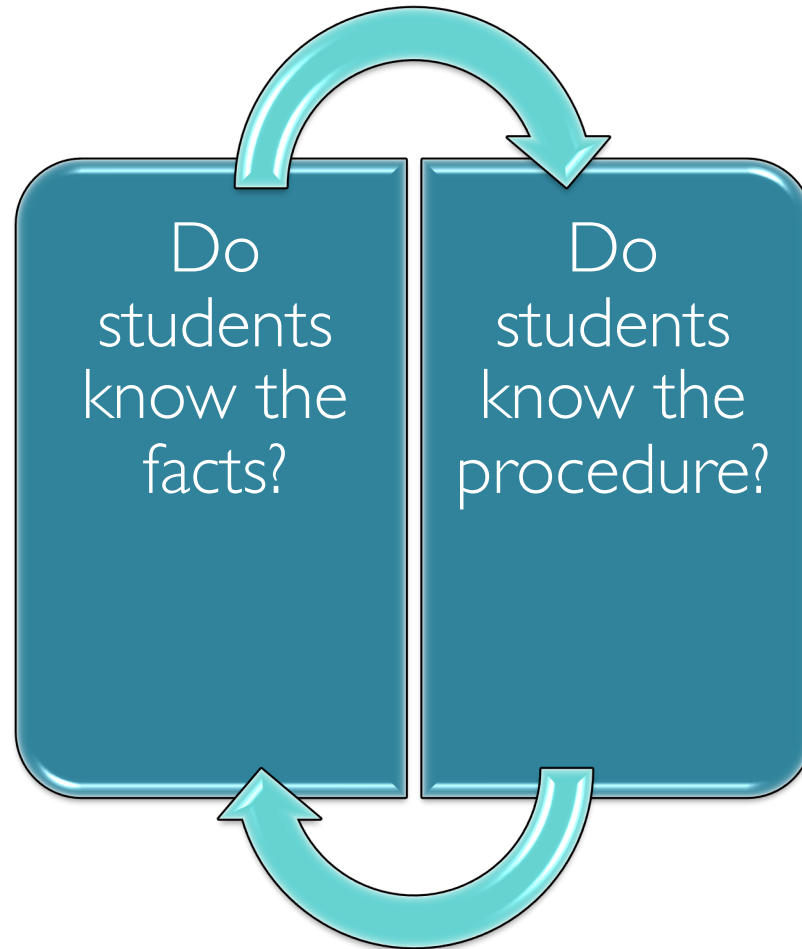
# Is a student's prior knowledge appropriate for the context?

- Everyday language versus technical language
- Failure to appreciate the limitations of analogies
- Transfer to – and limitations of transfer to interdisciplinary contexts



Sufficient?

# Assess for Sufficient Prior Knowledge



# What if prior knowledge is insufficient?

If only a few students lack sufficient prerequisite knowledge

Might advise taking a course leading to the necessary background  
OR

Provide a list of terms and necessary skills to fill in gaps on their own time

If a larger number of students lack sufficient prerequisite knowledge

Devote one or two classes to review

Ask TA to hold a review session outside of class time

If sizable number of students lack critical prerequisite knowledge

Consider revising course altogether

Consider curricular review at department level



Flawed?

# How to work with flawed ideas, beliefs, models, or theories

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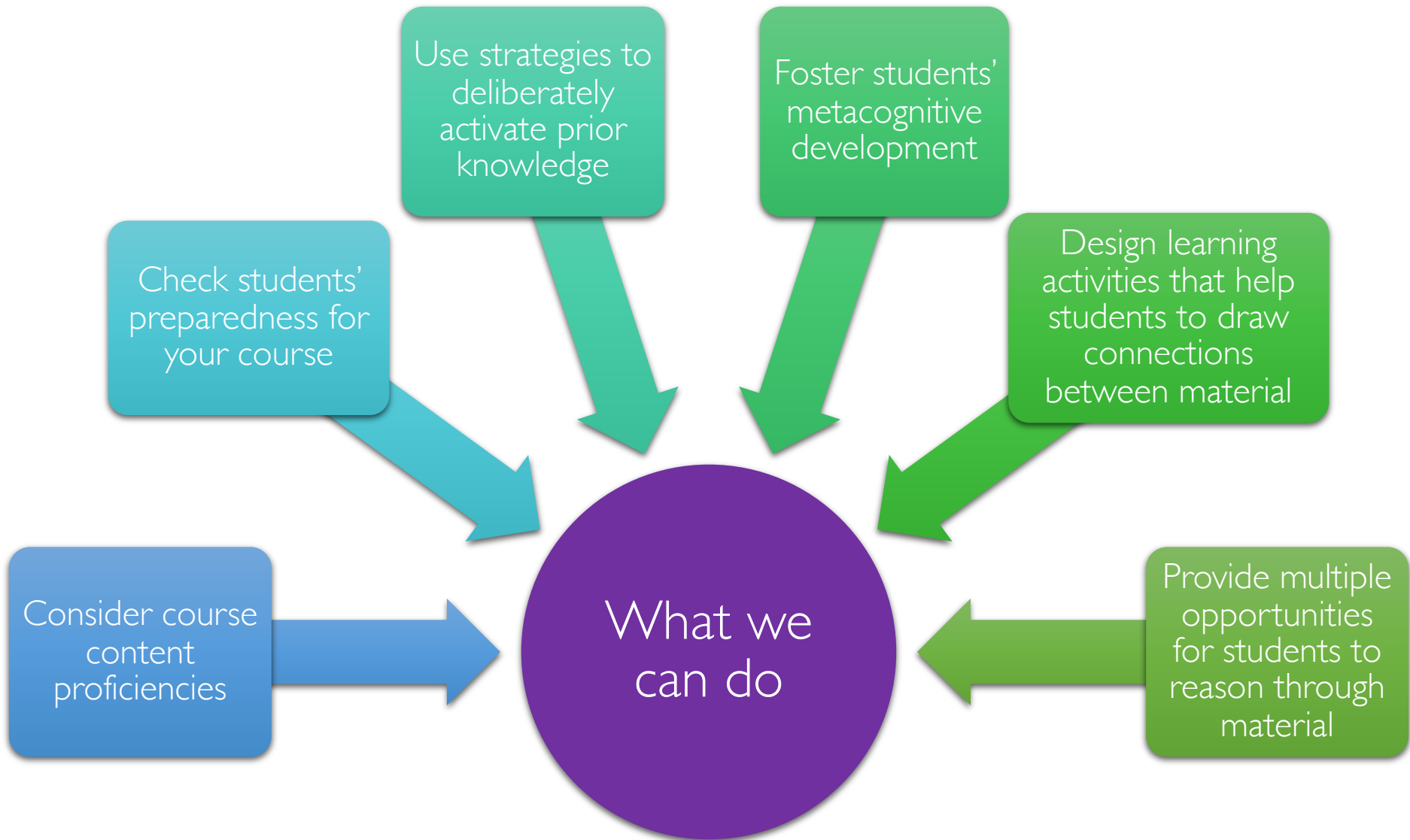
Isolated ideas and beliefs

- Systematic Refutation
  - Reflective questioning during learning
  - Make and test predictions

Deeply-embedded misconceptions

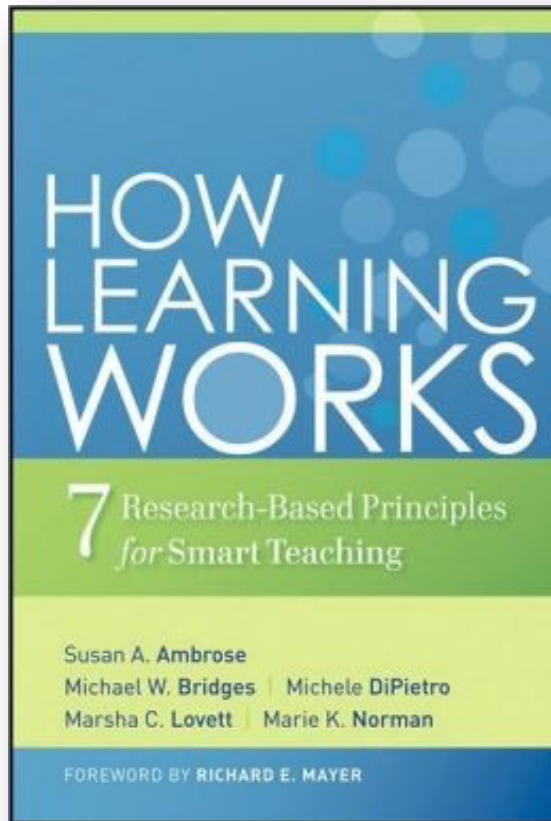
- Reason away from inaccurate knowledge
- Provide multiple opportunities for students to use accurate knowledge
- Allow sufficient time for cognitive processing



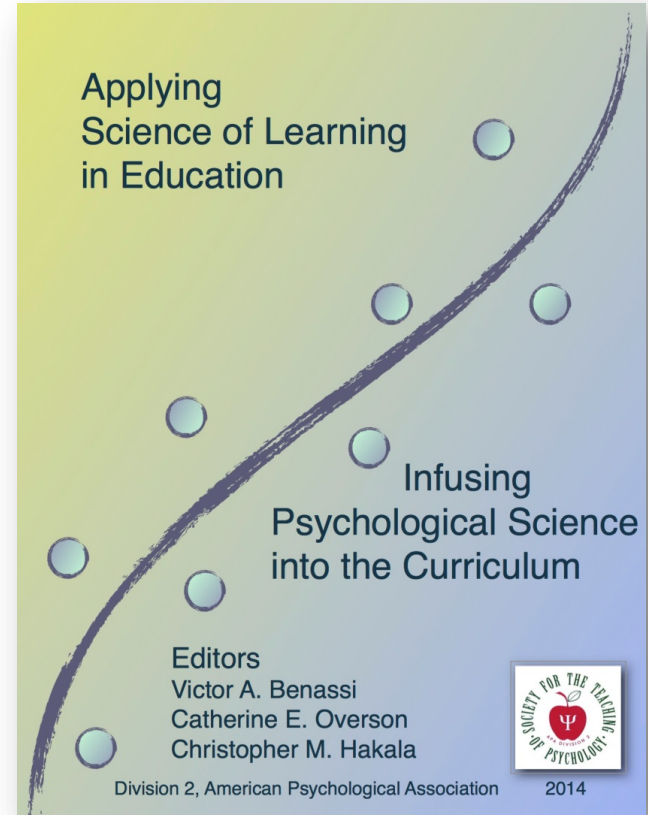


# Resources

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<https://ebookcentral.proquest.com/lib/unh/detail.action?docID=529947&query=how+learning+works>



<http://teachpsych.org/ebooks/asle2014/index.php>

Prior Knowledge is More Than Content:  
Skills and Beliefs Also Impact Learning  
*Susan A. Ambrose and Marsha C. Lovett*