READING, REFLECTING, AND RELATING:

A Metacognitive Approach to Learning

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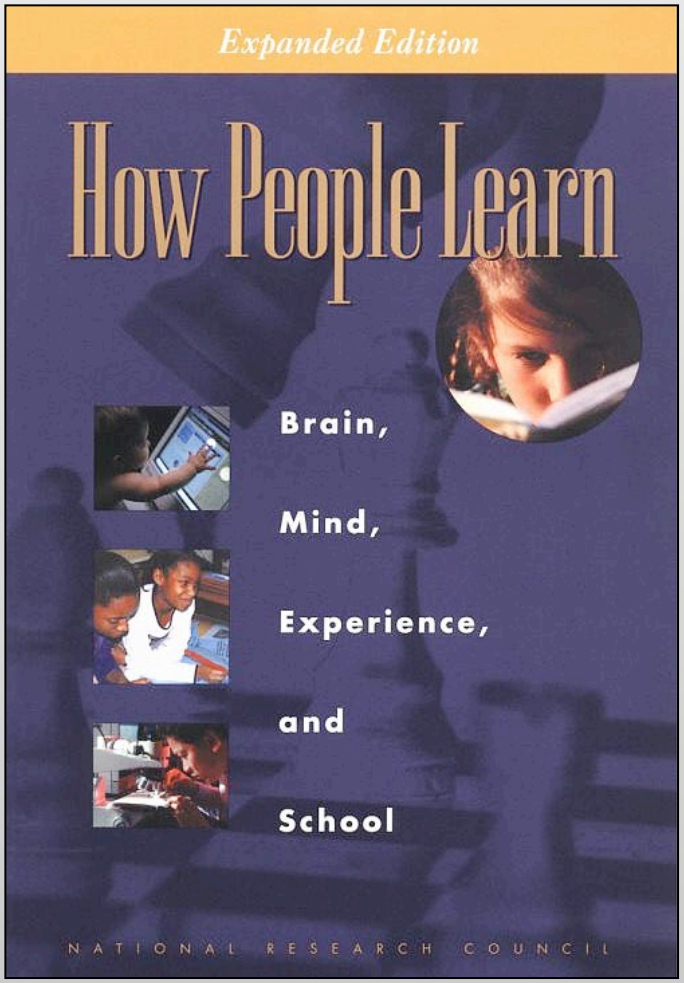
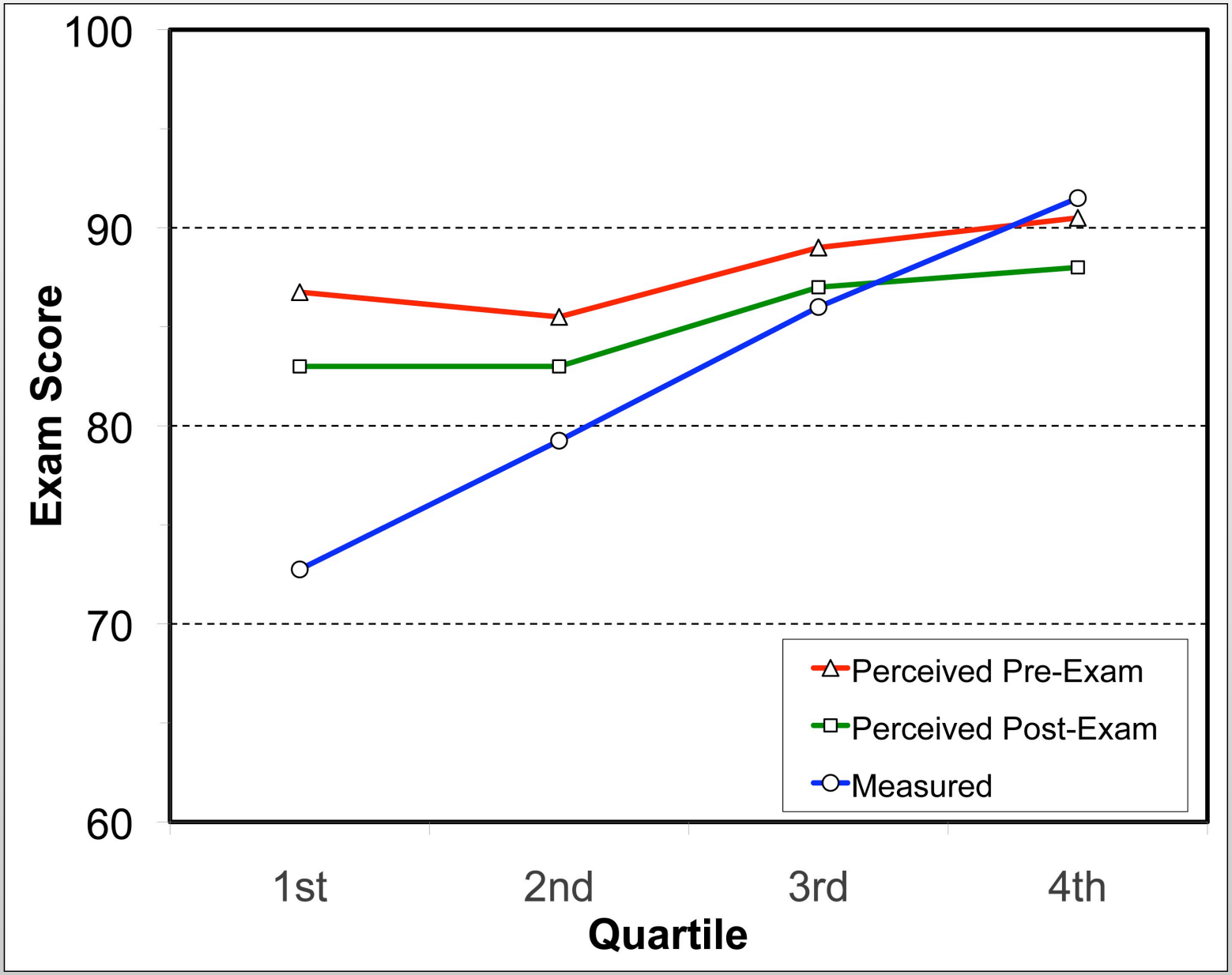
Three Principles of Learning

1. Preconceptions
2. Expert Knowledge
   - Deep foundation
   - Contextual framework
   - Organizational structure
3. Importance of **Metacognition**

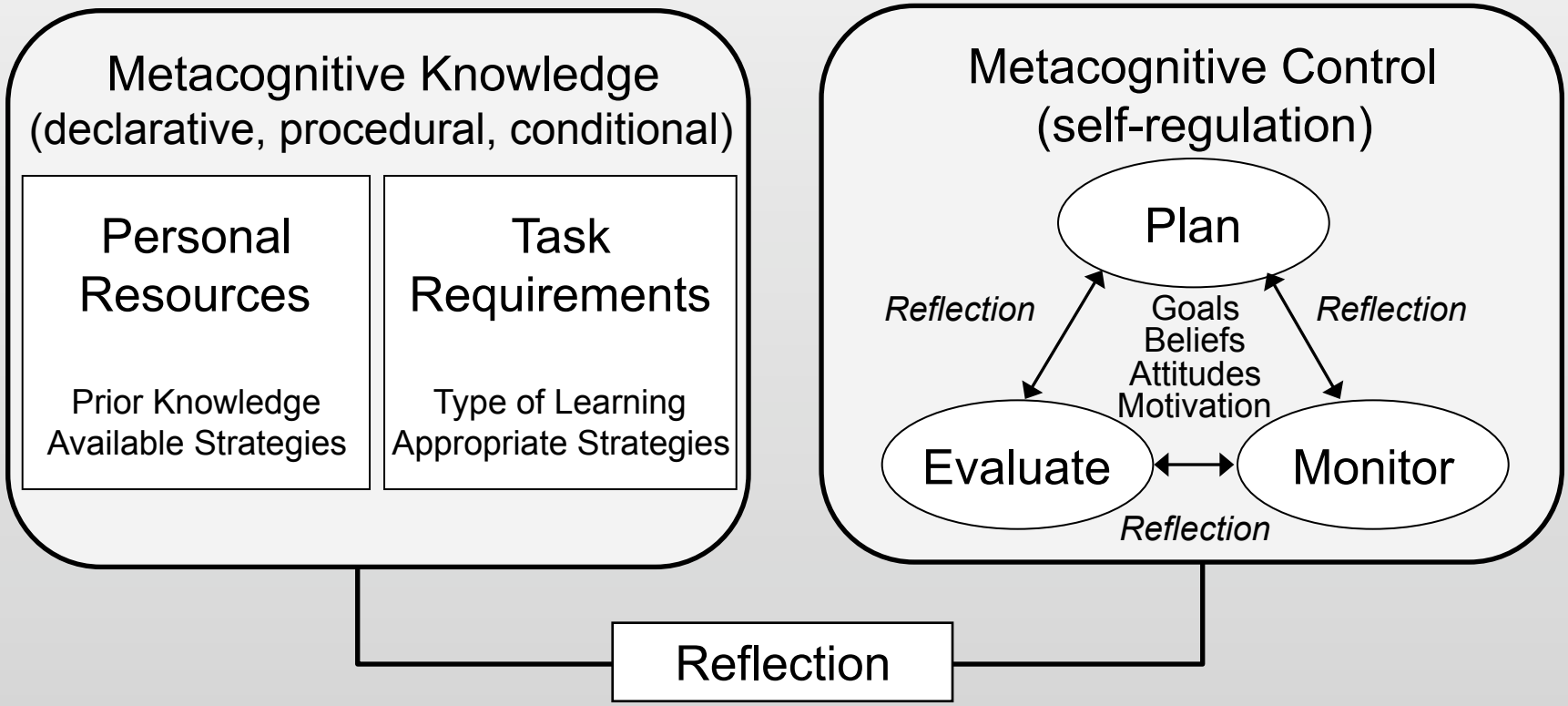


Bransford et al. (2000)

Metacomprehension



Expert Learners



Ertmer and Newby (1996), Butler (1997), Winne and Hadwin (1998), Pintrich (2000), Lovett (2008)

Strategic Reading

Learning from texts is an essential skill

Expert Readers:

- read with a purpose and in “extensive mode”
- accomplished in use of prior knowledge
- utilize a wide variety of strategies for monitoring and comprehension (e.g., prediction, integration, self-questioning, reflecting)

Novice Readers:

- focus on decoding single words or phrases
- fail to adjust for different texts or purposes
- seldom use text-processing strategies

Paris et al. (1996)

Reading Reflection Project

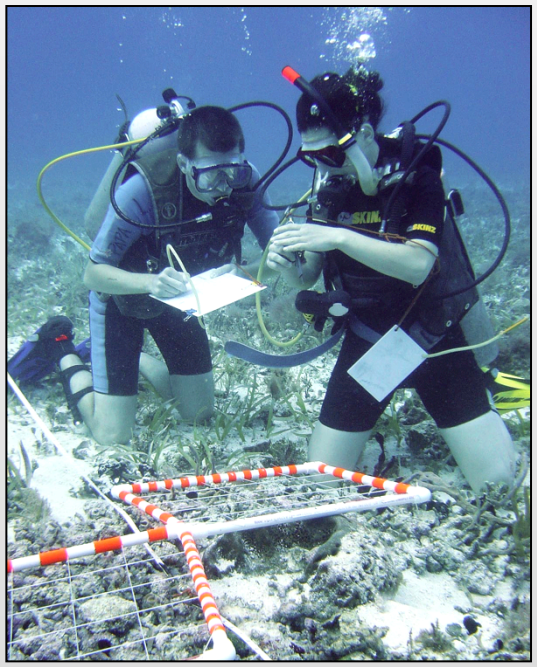
Encourage regular reading before class

Foster development of:

- metacognitive knowledge and skills
- metacomprehension skills
- strategic reading skills

Deepen content learning

Assessing the Efficacy of Reflections

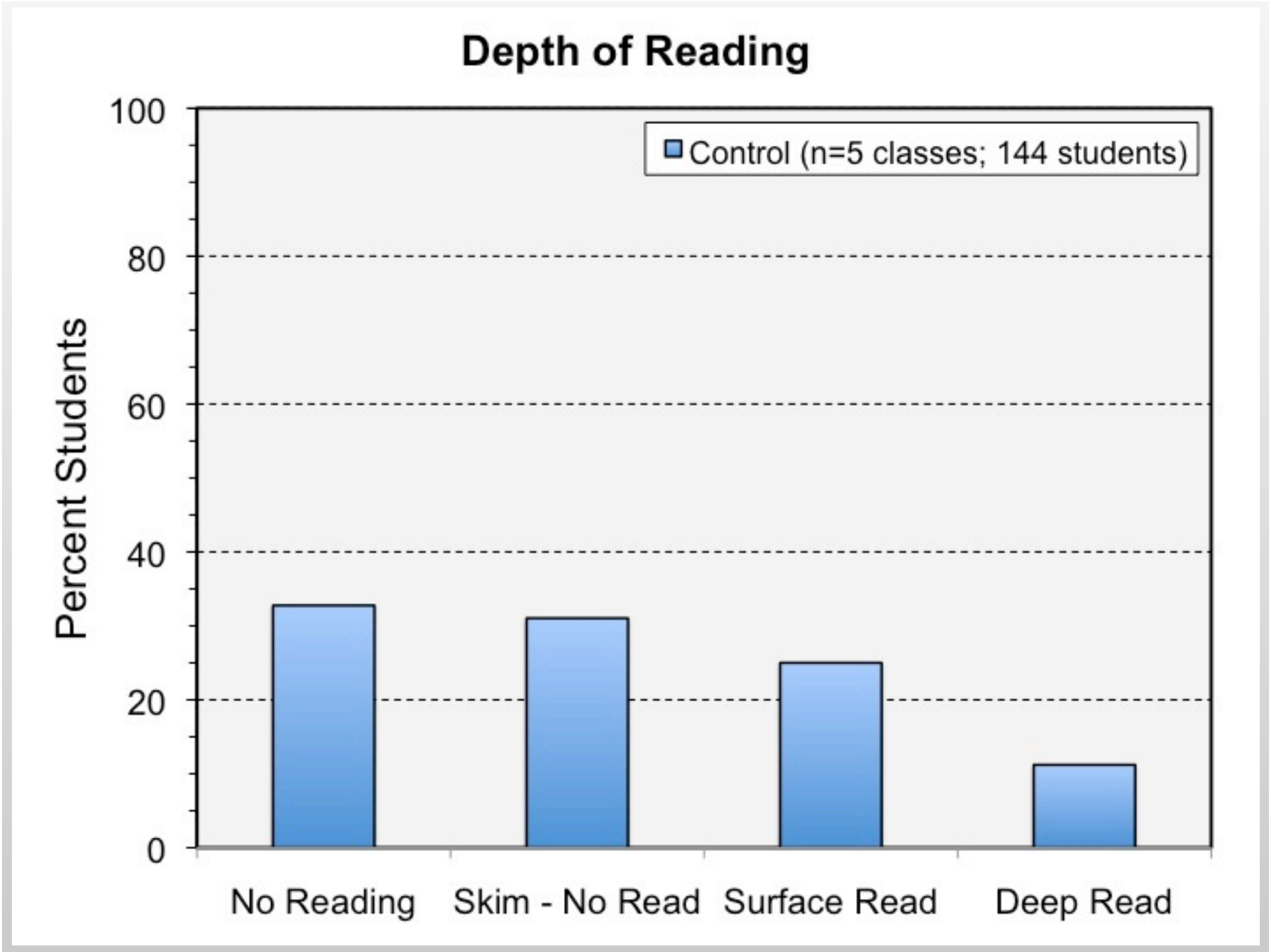


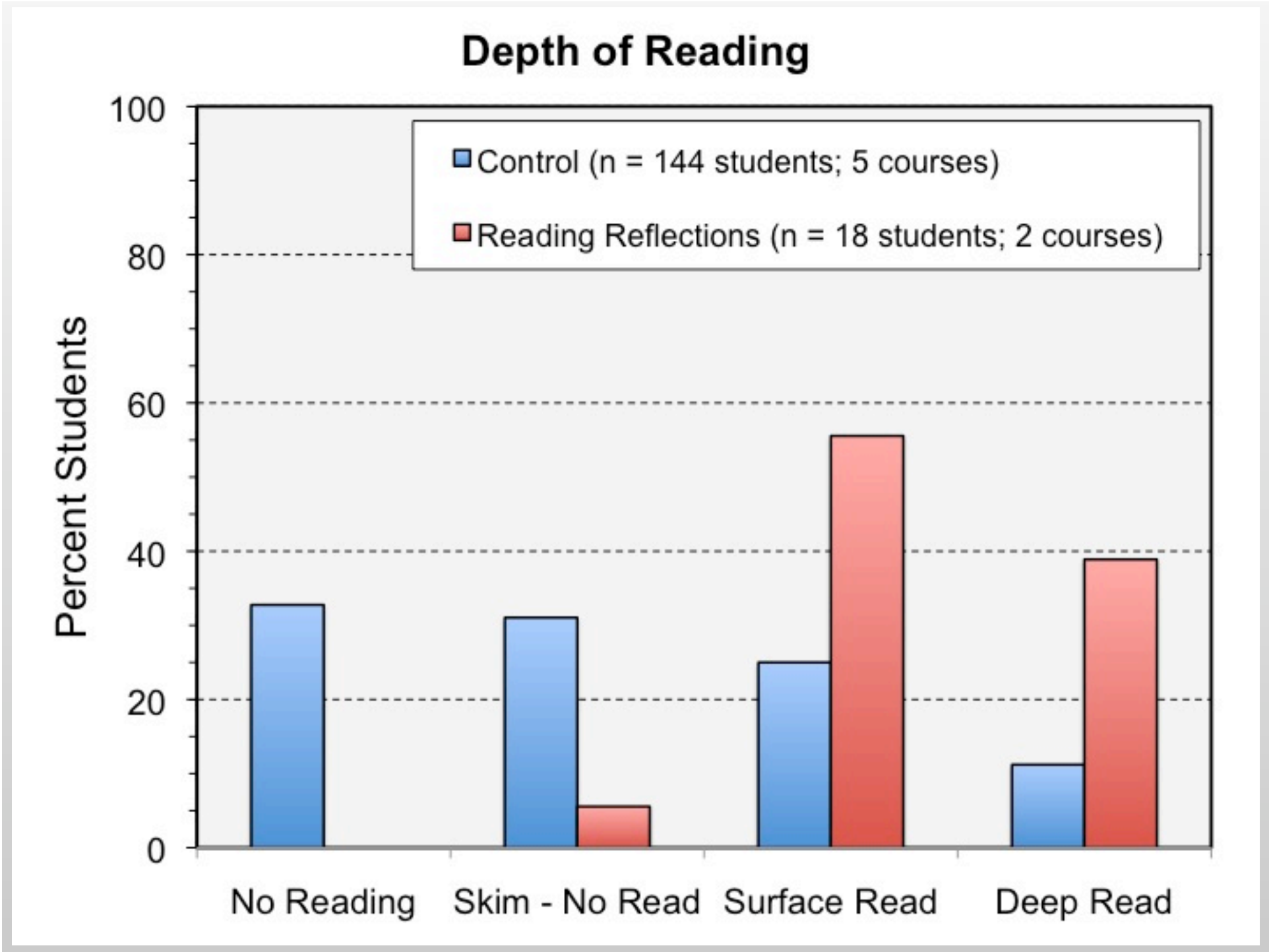
Survey of Reading Strategies

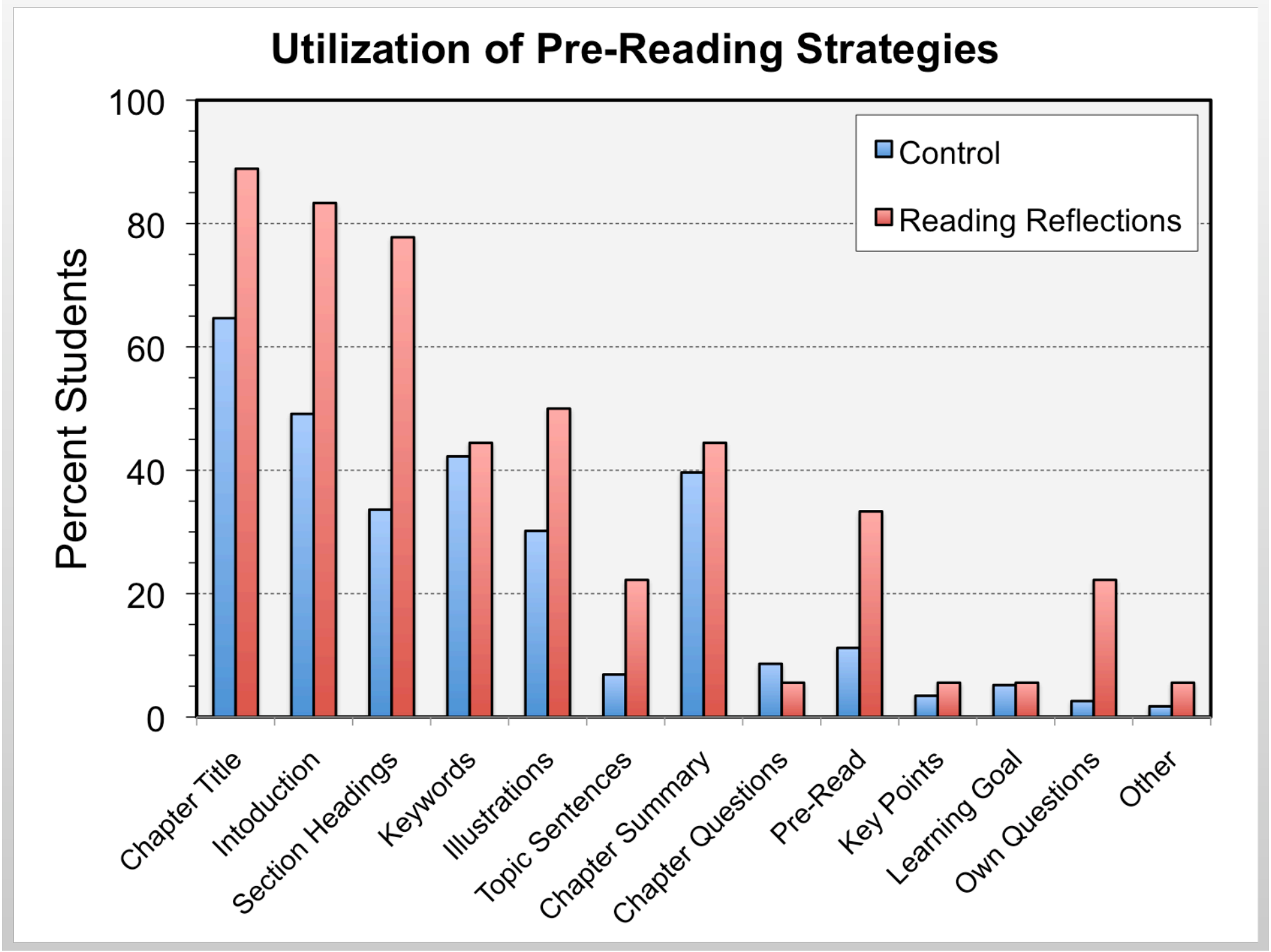
- depth of reading
- environmental conditions
- reading strategies

Analysis of Reading Reflections

- Reading reflection grade
- Analysis of quality of reflection (rubric)
- Statistical analysis (correlation; simple, multiple, and Shapley regression)


Depth of Reading
Control (n=5 classes; 144 students)
Percent Students
100
80
60
40
20
0
No Reading
Skim - No Read
Surface Read
Deep Read


Depth of Reading
Control (n = 144 students; 5 courses)
Reading Reflections (n = 18 students; 2 courses)
Percent Students
100
80
60
40
20
0
No Reading
Skim - No Read
Surface Read
Deep Read


Utilization of Pre-Reading Strategies
Percent Students
100
80
60
40
20
0
Control
Reading Reflections
Chapter Title
Intoduction
Section Headings
Keywords
Illustrations
Topic Sentences
Chapter Summary
Chapter Questions
Pre-Read
Key Points
Learning Goal
Own Questions
Other

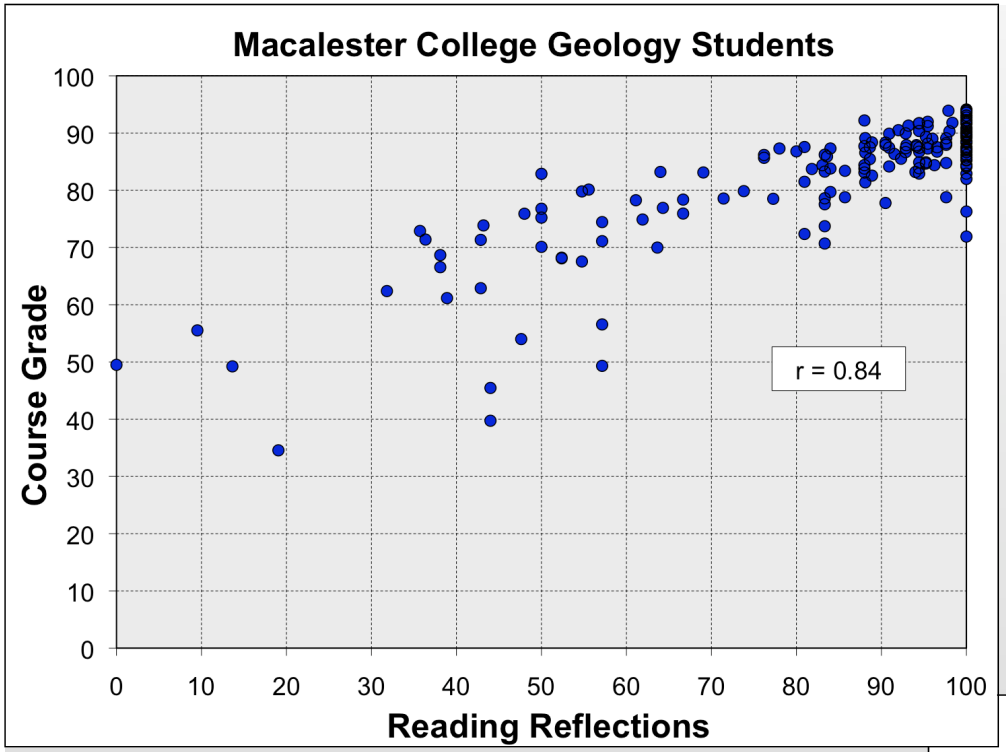
Reflection & Monitoring

Reading Reflections:

- Completed after each reading assignment
- Short responses to a few questions

  - What is the main point of this reading?
  - What did you find surprising? Why?
  - What did you find confusing? Why?

- Submitted online before class
- Credit awarded for “reflective” submissions

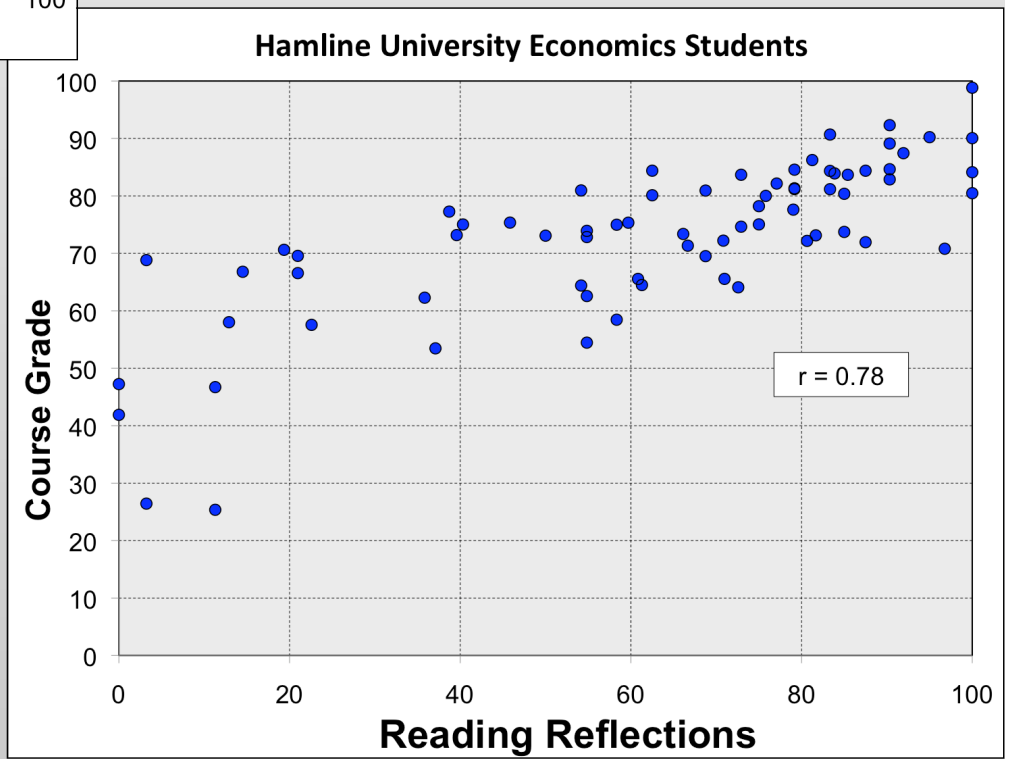


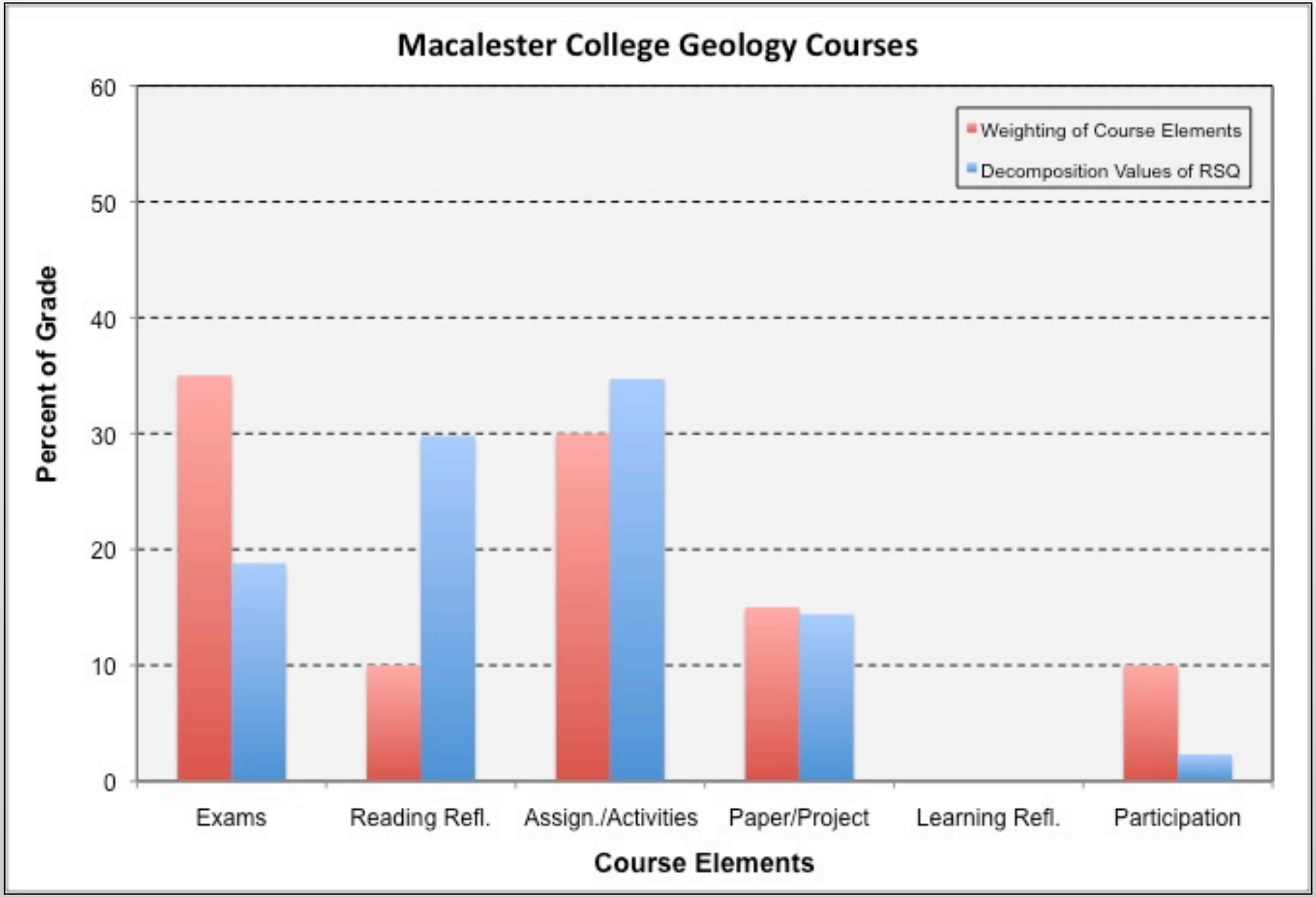
Correlation

Reading Reflections vs. Course Grades

MACALESTER GELOGY
Pearson = 0.842
p-value = <0.001

HAMLINE ECONOMICS
Pearson = 0.779
p-value = <0.001

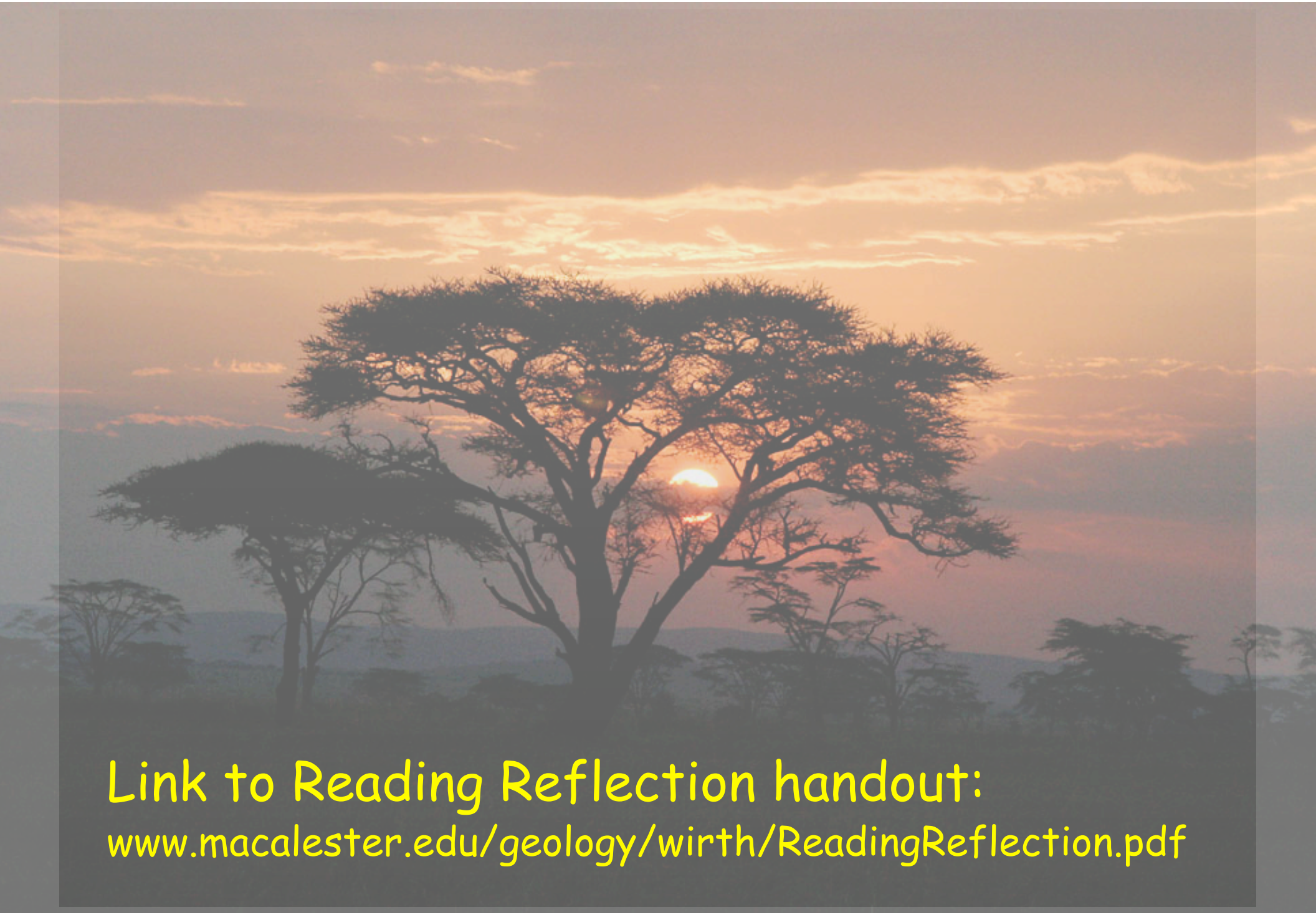



Macalester College Geology Courses
Percent of Grade
60
50
40
30
20
10
0
Weighting of Course Elements
Decomposition Values of RSQ
Exams
Reading Refl.
Assign./Activities
Paper/Project
Learning Refl.
Participation
Course Elements

Benefits of Reading Reflections

- Encourage reading before class
- Classroom activities guided by reflections
- Cultivate metacognitive knowledge & skills
- Encourage reflection

- Address affective domain
- Foster metacomprehension
- Promote deeper learning


Link to Reading Reflection handout:
www.macalester.edu/geology/wirth/ReadingReflection.pdf