

The Relationship between Science Teachers' Perception and Teaching Practice on Scientific Writing

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Background

Scientific Literacy

Hurd (1958)

Scientific literacy: its meaning for American schools

Miller (1983)

- ✓ The norms and methods of science
- ✓ cognitive science knowledge
- ✓ Attitudes toward organized science

Shamos (1995)

- ✓ Cultural scientific literacy
- ✓ Functional scientific literacy
- ✓ True scientific literacy

Scientific Literacy

linguistic & sociocultural perspective are highlighted since 1990.

Reading and writing is emphasized in science

learning (Glynn & Muth, 1994; Holliday et al., 1994; Key, 1999; Wellington & Osborne, 2001).

Westby and Torres-Velasquez(2000)

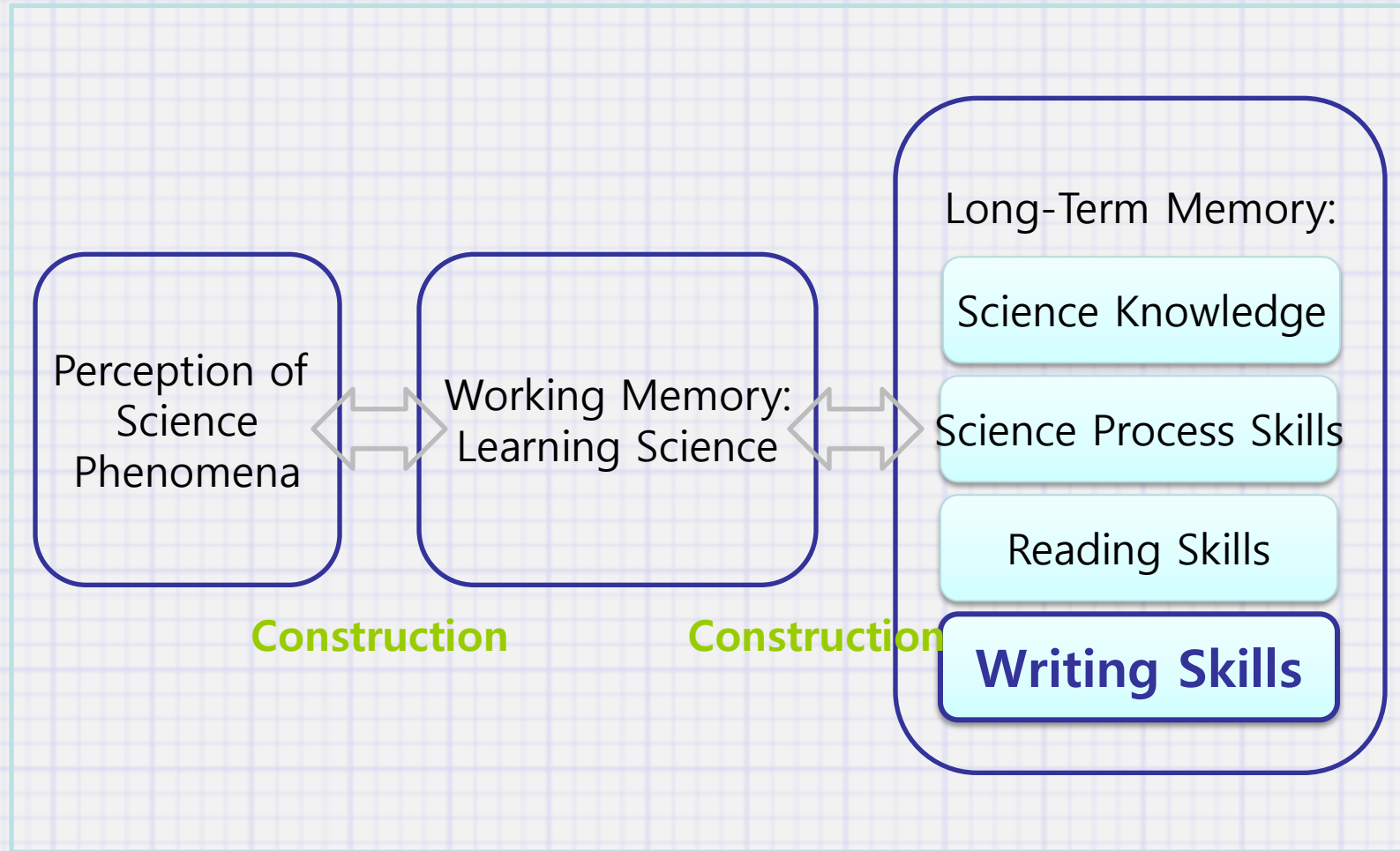
- ✓ Knowing Science, Doing Science, Talking Science, Scientific Habits of Mind

Norris and Phillips(2003)

- ✓ Reading and Writing is Not as simply tools for the storage and transmission of science.
- ✓ reading and writing are constitutive parts of science.

Learning Science (Glynn et al., 1994)

Metacognition



Metacognition

2007 revised science curriculum

Understanding concept of science

+

Scientific thinking & creative problem-solving



To enhance scientific literacy

2007 revised science curriculum

Critical features such as creativity, open inquiry, scientific writing, discussion and STS

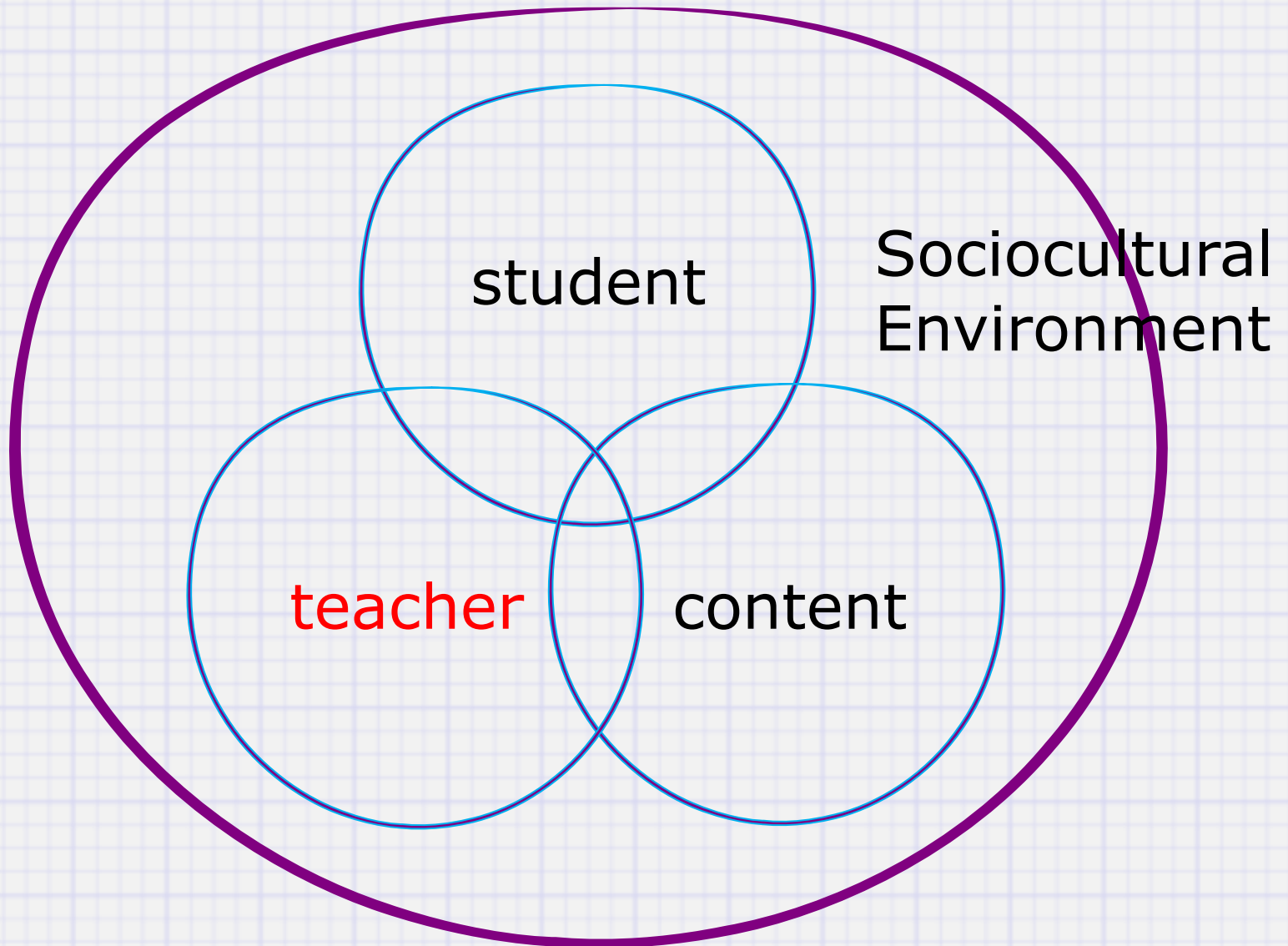
Teaching-learning strategy

- ✓ Plan class for scientific writing and discussion
- ✓ Instruct to promote scientific thinking, creative thinking and communications skills through writing and discussion

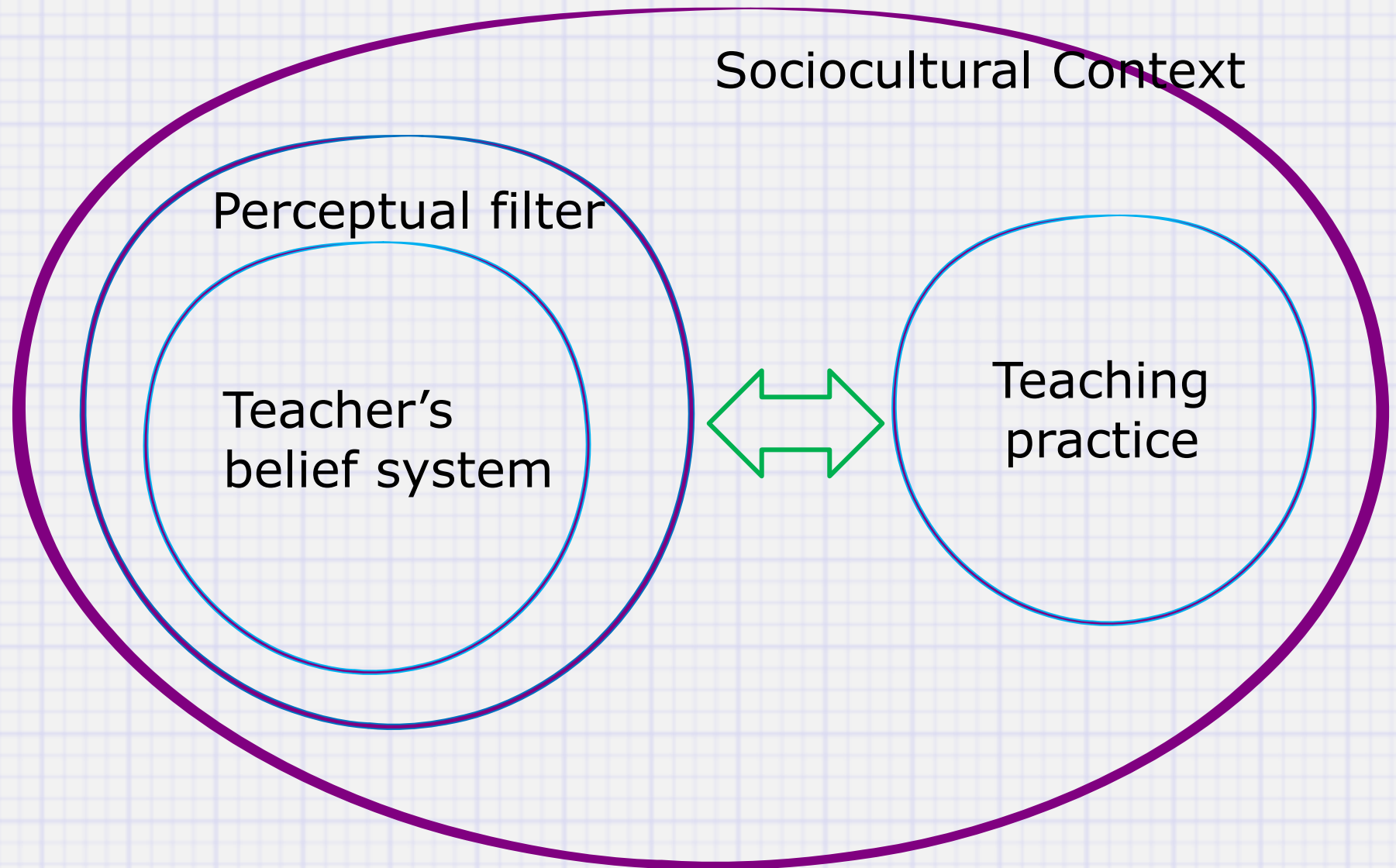
Assessment method

- ✓ Use a variety methods including write-out type, essay type, report check etc.

Science Teachers' Perception



Science Teachers' Perception



The study

Purpose of research

to examine intensively perceptions of preservice science teachers and inservice science teachers about scientific writing containing prior experiences and their background

to investigate the relationship perceptions and teaching practice of scientific writing

Questions of research

- (a) What is the perception of science teacher on scientific writing?
- (b) How is scientific writing implemented in the teaching practice?
- (c) What is the relationship between perception and teaching practice on scientific writing?

Methods

Participants

Preservice science teachers who had a 4-week teaching practice

Science teachers who teach middle school students.

Science teachers who have carried out the 2007 revised science curriculum in classes

Method

Design a questionnaire

- ✓ Pilot a survey
- ✓ Revise the questions
- ✓ Classify the teachers
- ✓ Select teachers who are interviewee

Think-aloud interview

Collect scientific writing materials