

Adaptation and validation of the revised two-factor Study Process Questionnaire (**R-SPQ-2F**) for tertiary English writing courses in Japan

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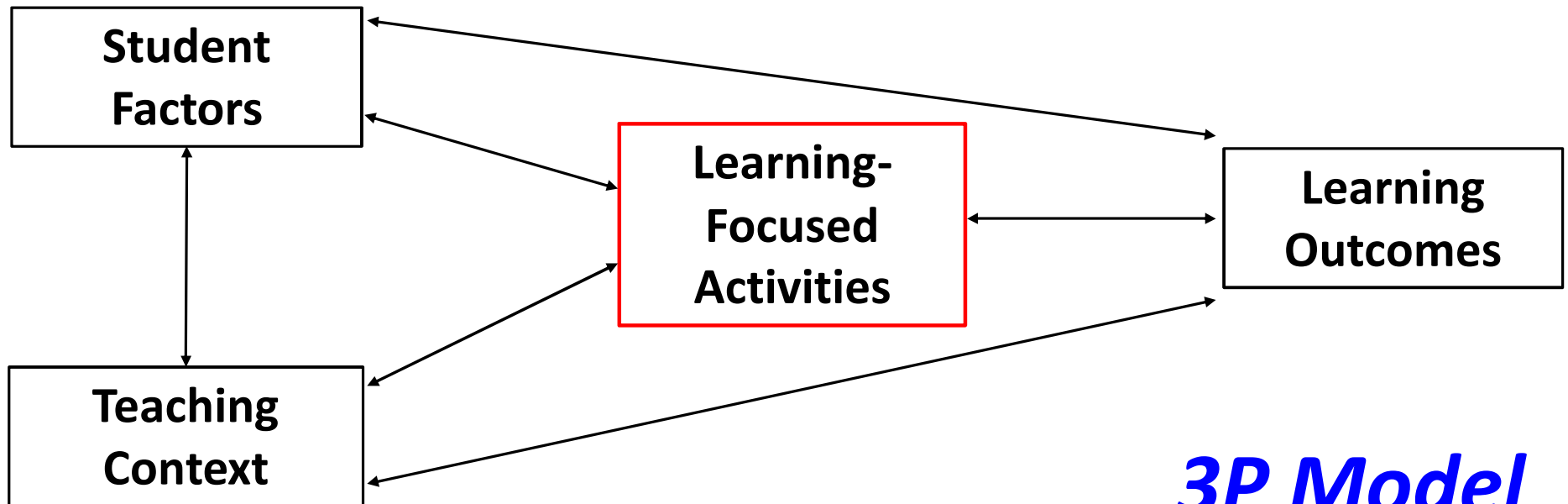
Student Approaches to Learning

(Biggs, 1993; Entwistle & Waterston, 1988)

Presage

Process

Product



Student Approaches to Learning

Deep Approach:

**seeking meaning
& connections**

Vs.

Surface Approach:

rote learning

Student Approaches to Learning

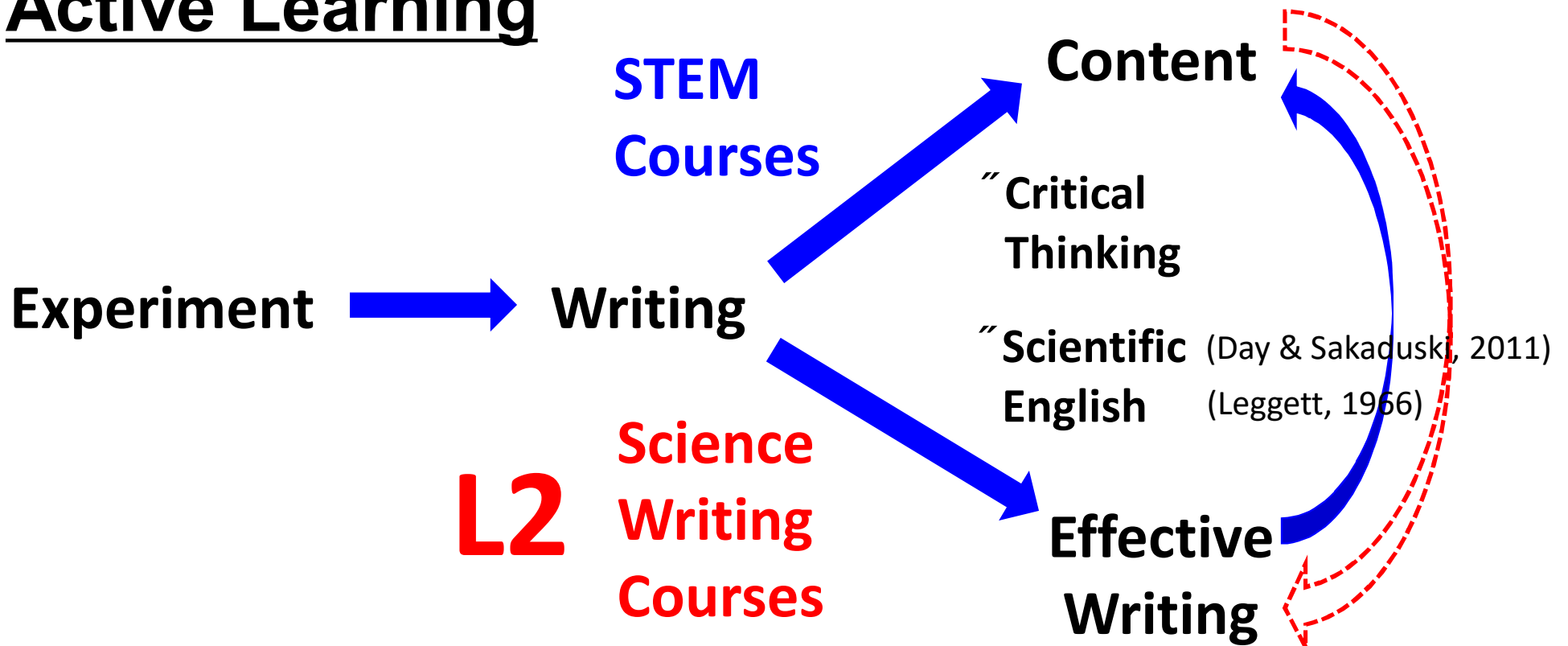
Active Learning

Deep Approach:

**seeking meaning
& connections**

Student Approaches to Learning

Active Learning



Active **L**earning of **E**nglish for **S**cience **S**tudents

- ” Compulsory course
- ” 1st year university students
- ” Scientific communication course

Experiment



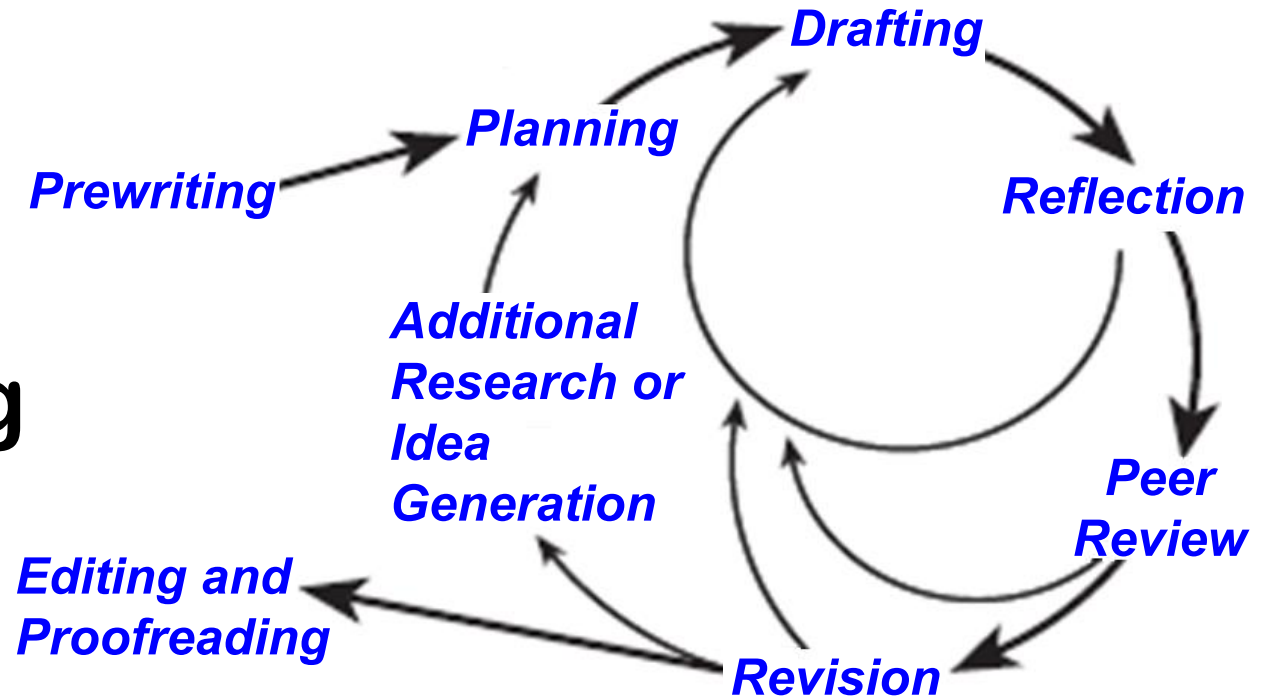
50%

Writing



20%

Presentation



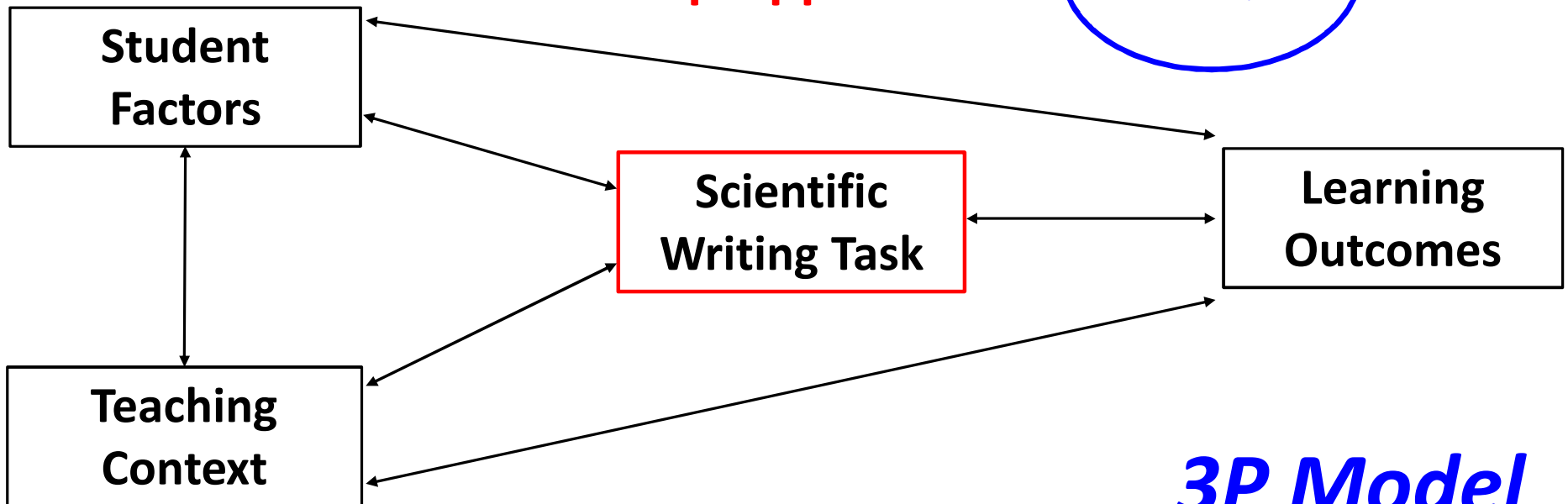
Modified from the writing process of Coffin et al. (2003).

Student Approaches to Learning

Trait → Grit-S

Interest → SMQ II

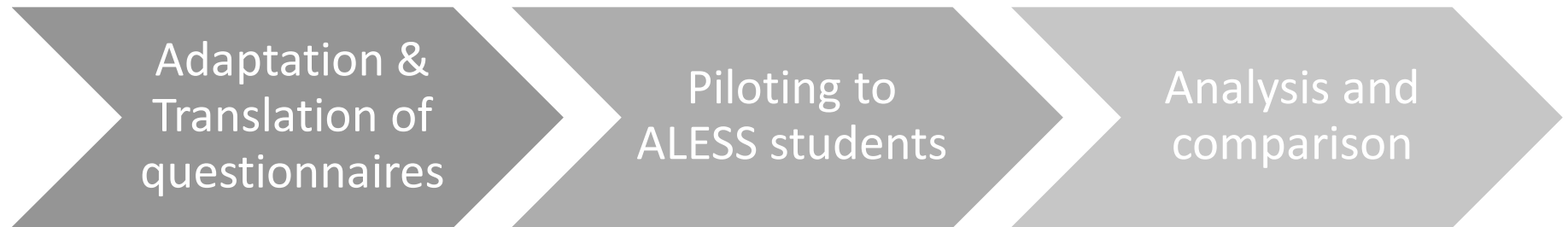
Deep Approach? → R-SPQ-2F



Goal

Adapt and validate a tool for measuring students' approach to learning scientific writing.

Methodology



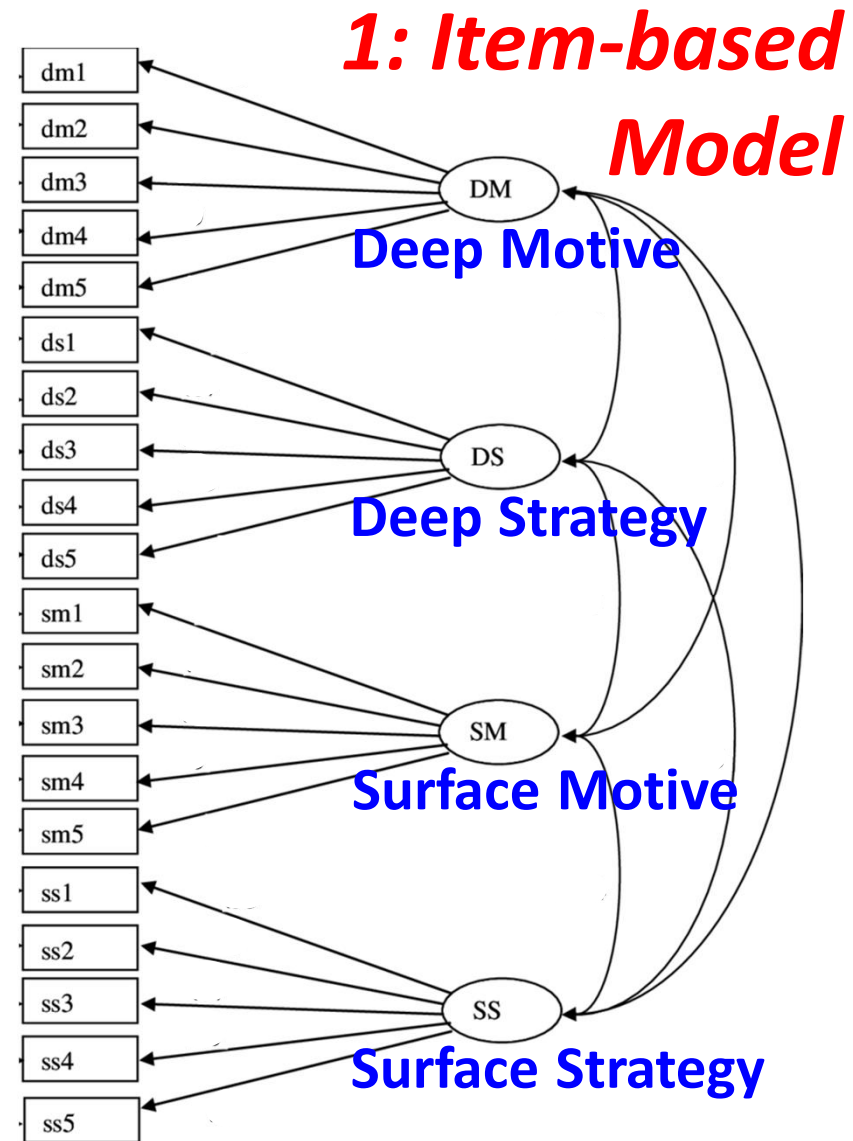
“Task of Scientific Writing
“Translation to Japanese

“N = 210
“Freshmen in Science Path
“L2 English Speakers

“Reliability = Chronbach's alpha
“Validity = CFI, RMSEA, SRMR

Tool for measuring Study Approach

- “ R-SPQ-2F (Biggs, 2001)
- “ Deep & surface approach
- “ Each approach composed of motive and strategy



Defining items of the Task-adapted R-SPQ-2F

DEEP APPROACH

Deep Motive

1. I find that at times writing the report using scientific English gives me a feeling of deep personal satisfaction.
5. I feel that writing virtually any research report using scientific English can be highly interesting once I get into it.

Deep Strategy

2. I find that I have to do enough work on writing the report using scientific English so that I can form my own arguments before I am satisfied.
18. I make a point of looking at many references to write the report.

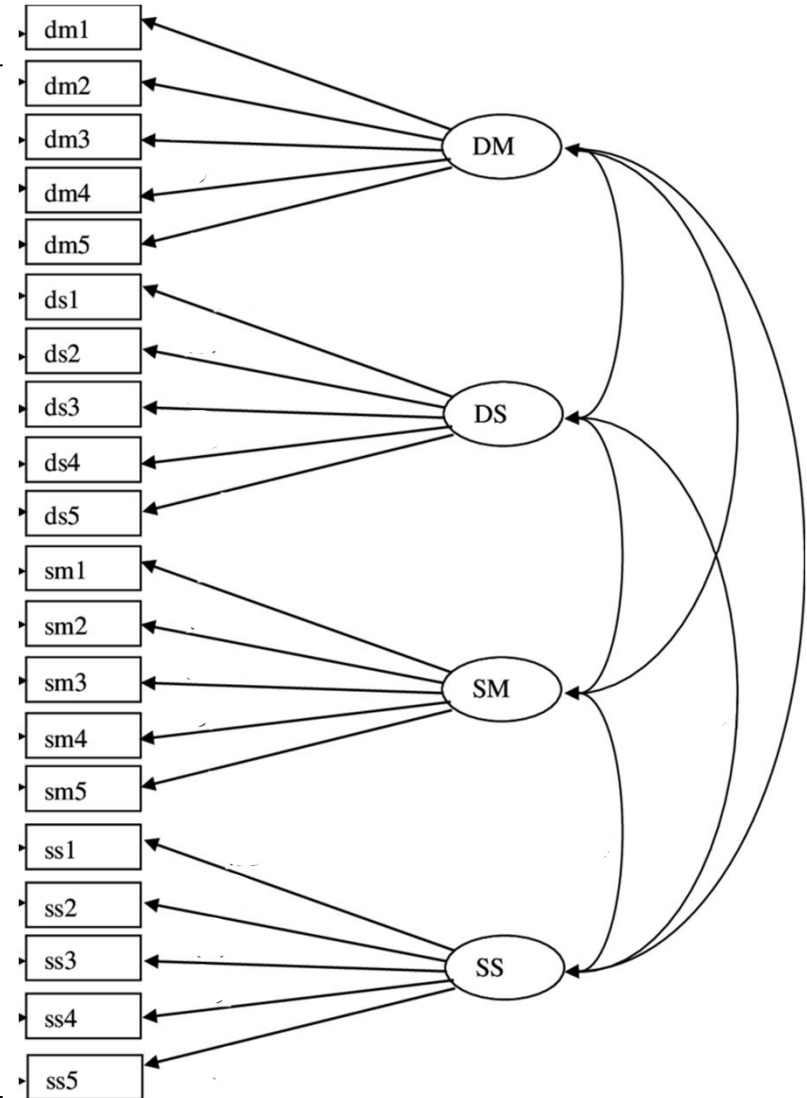
SURFACE APPROACH

Surface Motive

3. My aim is to write the report while doing as little work as possible.
11. I find I can get by in the assessment by just writing in any way rather than trying to write the report using scientific English.

Surface Strategy

8. I blindly follow some of the rules for writing the report using scientific English and don't even bother trying to understand them.
16. I believe that teachers shouldn't expect students to spend significant amounts of time writing a report using scientific English since we do not need such skill in the near future anyway.



Tool for measuring Study Approach

2: Scale-based Model

“ R-SPQ-2F (Biggs, 2001)

“ Deep & surface approach

“ Each approach composed of motive and strategy

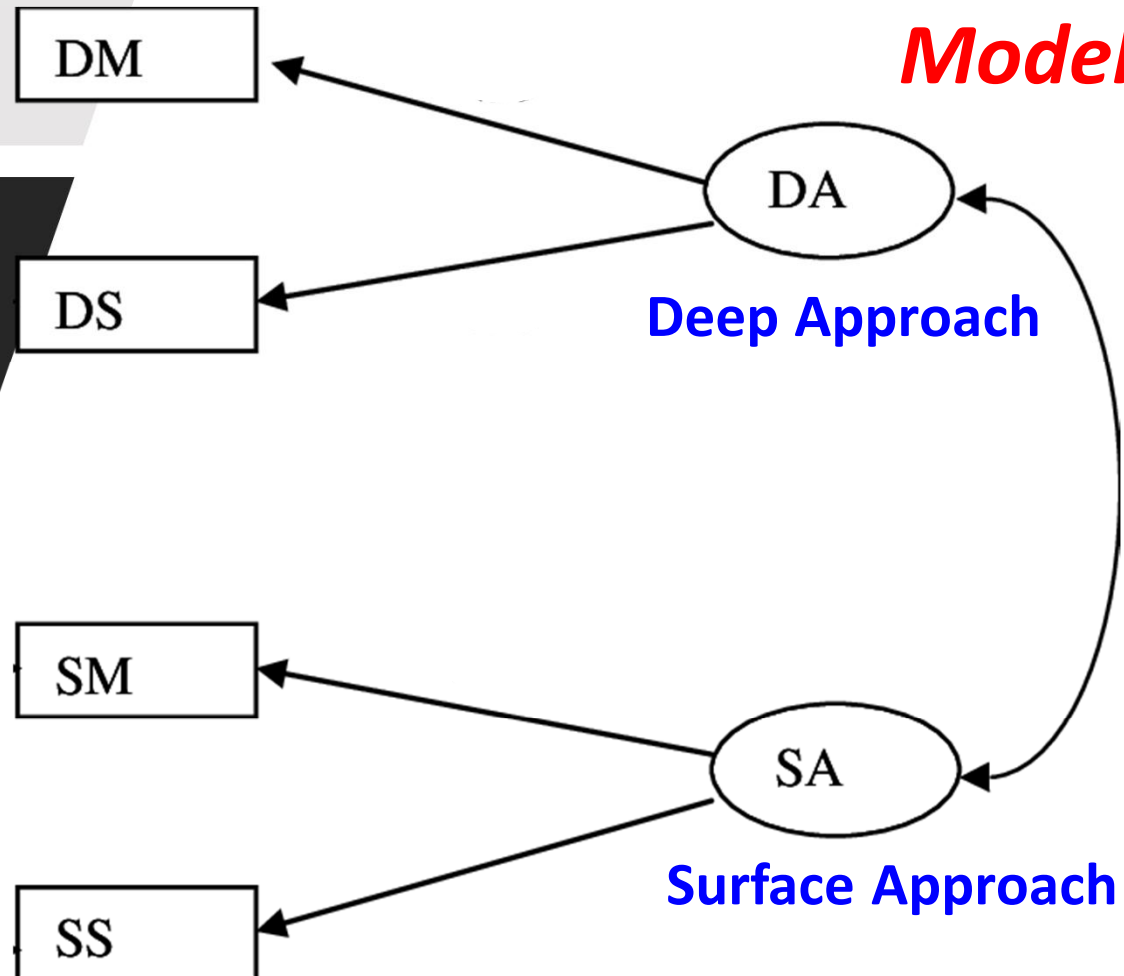


Table 1. Task-adapted R-SPQ-2F displayed acceptable internal consistency

Scale	No. of Items	Cronbach's Alpha	Biggs et al.	Fryer et al.
Deep Motive (DM)	5	0.74	0.62	0.56
Deep Strategy (DS)	5	0.83	0.63	0.66
Surface Motive (SM)	5	0.82	0.72	0.45
Surface Strategy (SS)	5	0.79	0.57	0.36
<i>Deep Approach (DM+DS)</i>	10	0.88	0.73	0.76
<i>Surface Approach (SM+SS)</i>	10	0.90	0.64	0.60

Note: Biggs et al. (2001); Fryer et al. (2012)

Table 2. Goodness-of-fit to the hypothesized model (item- & scale-based). Comparison to indices reported by Biggs et al. (2001) and Fryer et al. (2012).

<i>Model</i>	<i>CFI</i>			<i>RMSEA</i>		<i>SRMR</i>
	Present Study	Biggs et al.	Fryer et al.	Present Study	Fryer et al.	Biggs et al.
Item-based	0.825	0.904	0.78	0.10	0.063	0.058
Scale-based	1	0.998	1	0	0	0.015

Note: CFI = comparative fit index; RMSEA = Root Mean Square Error of Approximation; SRMR = standardized root mean squared residual

Table 3. Goodness-of-fit to the hypothesized model at the item level).

Scale	CFI	SRMR
Deep Motive (DM)	0.983	0.0314
Deep Strategy (DS)	0.994	0.0236
Surface Motive (SM)	0.806	0.0931
Surface Strategy (SS)	0.988	0.0301

Note: CFI = comparative fit index; SRMR = standardized root mean squared residual

Summary

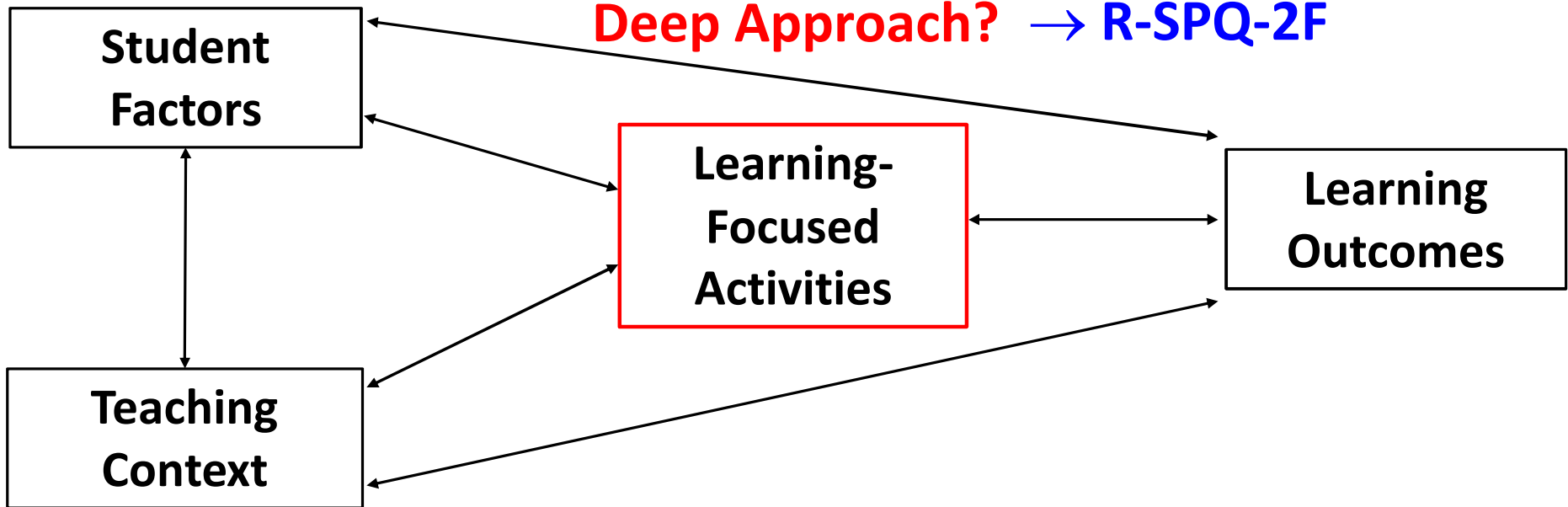
The psychometric indices of the task-adapted and translated R-SPQ-2F suggests applicability for assessing the study approach of students in a writing task.

Student Approaches to Learning

Trait → Grit-S

Interest → SMQ II

Deep Approach? → R-SPQ-2F



Future Work

Correlate R-SPQ-2F scores to OVIs (i.e. quality of students' output) and student factors (i.e. trait & motivation)

Application

By applying these questionnaires we can:

- “ Have indicators as basis for adjusting class activities,
- “ Understand the learning preference of students, and
- “ Modify teaching approaches accordingly