

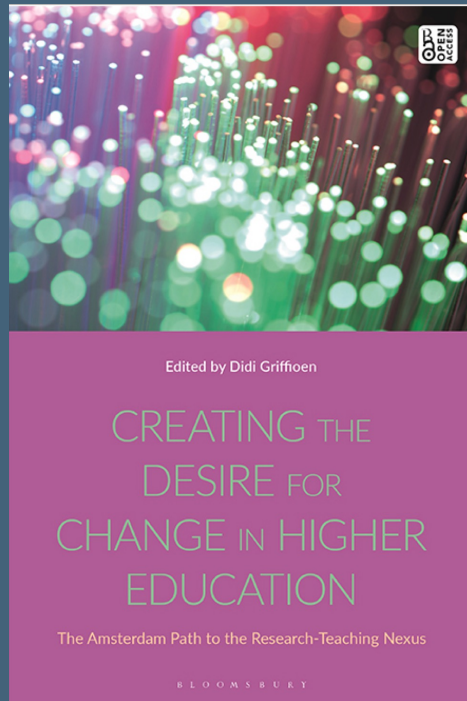


DEVELOPING  
THE RESEARCH-INTEGRATION  
AND THE „DESIRE FOR CHANGE IN  
HIGHER EDUCATION“

*Prof. Dr. Ines Langemeyer (Karlsruhe Institute of Technology)*

*Amsterdam, Nov. 28, 2022*

# THE DESIRE FOR CHANGE AND RESPONSIBILITY





“TO SEE CHANGE MAKES WANTING TO BE IN  
CHANGE.” (P. 201)  
INSTITUTIONAL AND ORGANISATIONAL PERSPECTIVE OF CHANGE



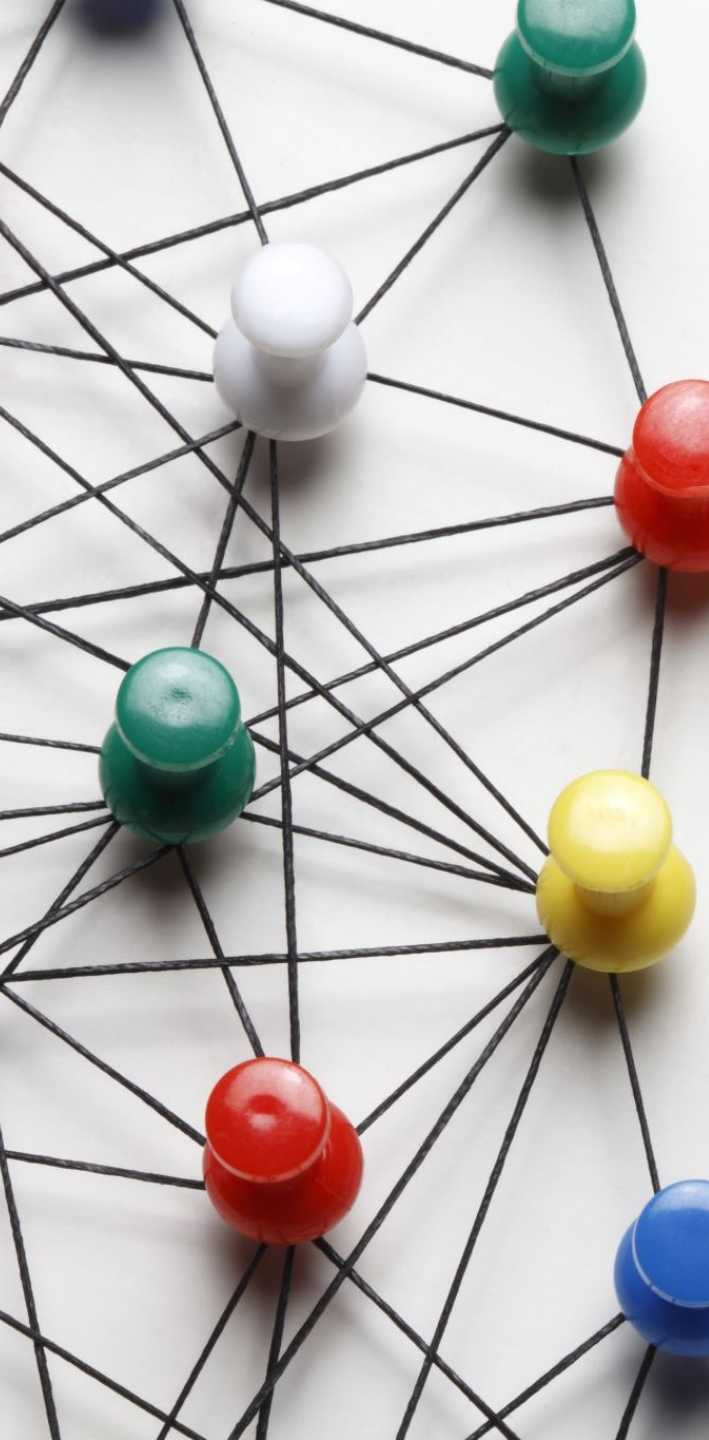
TO BE THE OBJECT AND BECOME THE SUBJECT OF  
*CHANGE*

## TWO GOALS OF SIX

Each bachelor's programme has formulated a grounded **rationale (or vision) for research** in its related profession and therefore in the curriculum (ideally halfway through the programme).

In line with their new rationale, the position of research in the curriculum of bachelor's programmes is (re)considered (ideally halfway through the programme).

...goals 4 to 6...  
(p. 47)

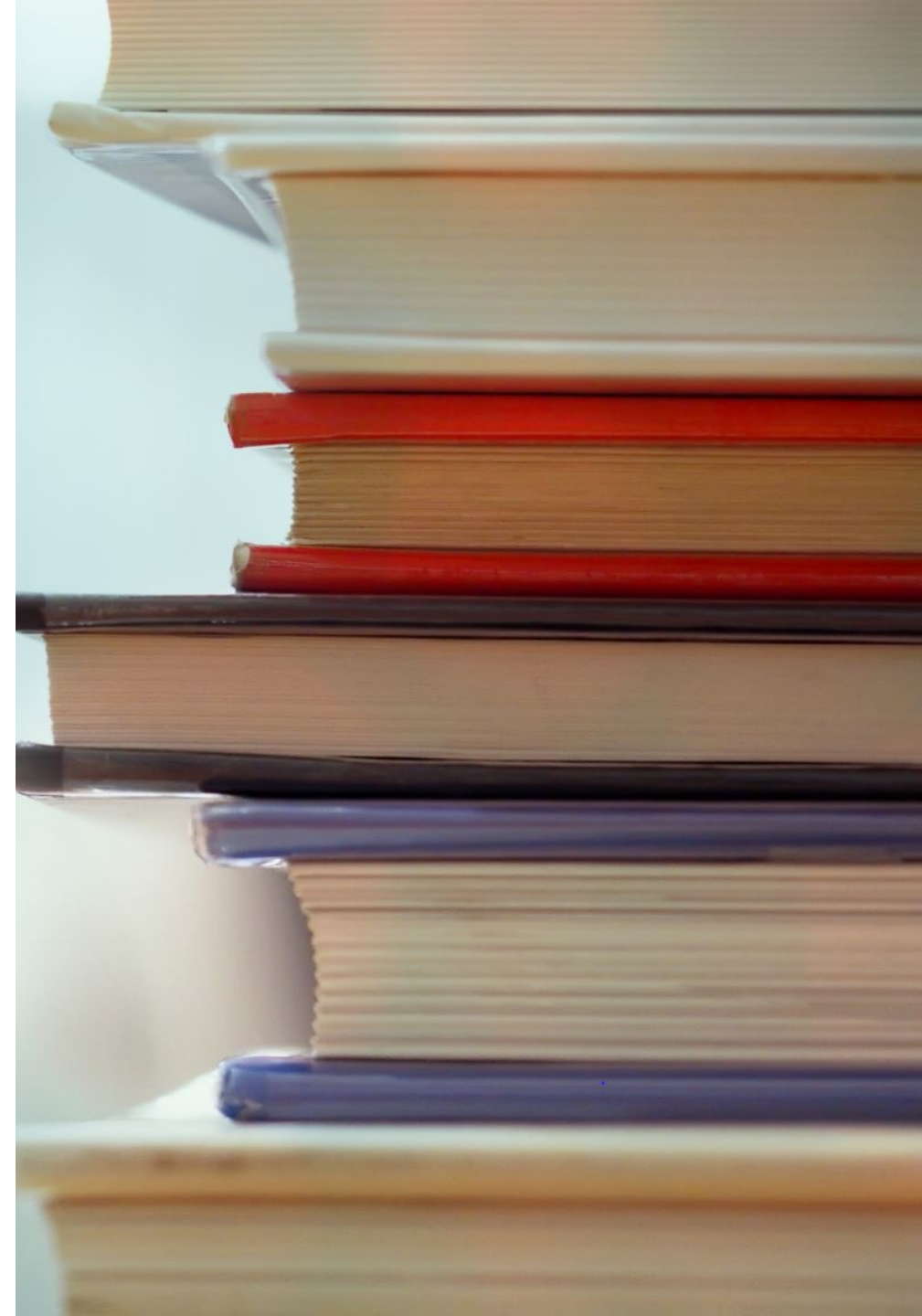


# INQUIRY

- *Inquiry* means the systematic gathering of examples, which can be practical examples and theoretical ones. (p. 74)

# SCHOLARSHIP

- *scholarship* implies that a question asked can be answered through handling secondary sources, such as articles and books, but also videos and audio recordings. Scholarship can be extended to keeping up with a field, thus reading journals and going to conferences. (p. 74)





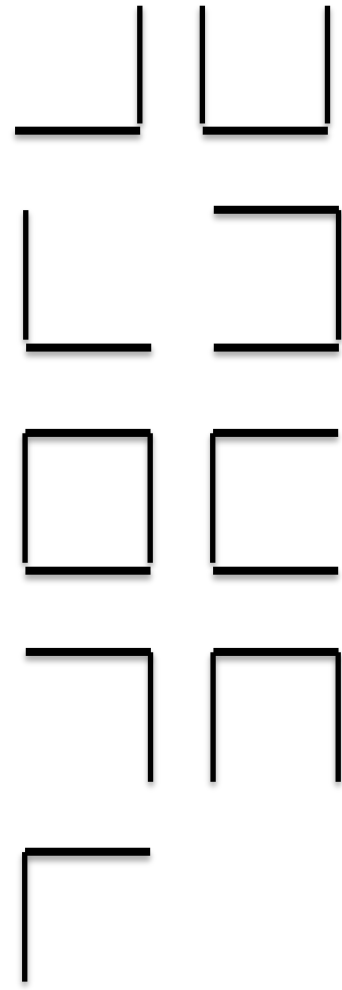
## RESEARCH

- *Research* is the systematic gathering of data along a prescribed research design that includes a question and a systematic method of working. Research also implies systematic procedures for data analysis and reporting. Further, research is chosen when a new combination of information is needed because the current information is not similar enough. (p. 74)





LACK OF EMPIRICAL RESEARCH ON EFFECTS OF  
THE CURRICULUM DESIGN AND INTENDED  
LEARNING GOALS (P. 151).





# WHAT KIND OF EXPERIENCE IS RELEVANT IN THE HE-CURRICULUM?

The "shift of emphasis away from teaching a discipline as a body of knowledge toward an exclusive emphasis **on learning a discipline by experiencing the processes and the procedures of a discipline**" would have resulted in a devaluation of instruction and teaching and a valorization of hands-on experience (Kirschner et al. 2006, 78).

Langemeyer, I. (2022). Epistemologie und Didaktik als Grundbestimmung der Wissenschaftsdidaktik. In: G. Reinmann, R. Rhein (Hg.). Wissenschaftsdidaktik (Bd.1). transcript-Verlag

# WHAT KIND OF EXPERIENCE IS RELEVANT IN THE HE-CURRICULUM?

The epistemology with which research is done is not the same as the constructivism of learning when a novice or beginner acquires a new field (Kirschner et al. 2006, 78). Such didactics would simply **confuse 'doing science' with 'learning science' and 'learning about science'** (Kirschner et al. 2004, 21)

"As a consequence of this **confusion, educators also confuse projects and practical work and their purpose in education with projects or experiments and their purpose during research.**" (Kirschner et al. 2004, 21)

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# CRITIQUE OF THE SHIFT FROM TEACHING TO LEARNING

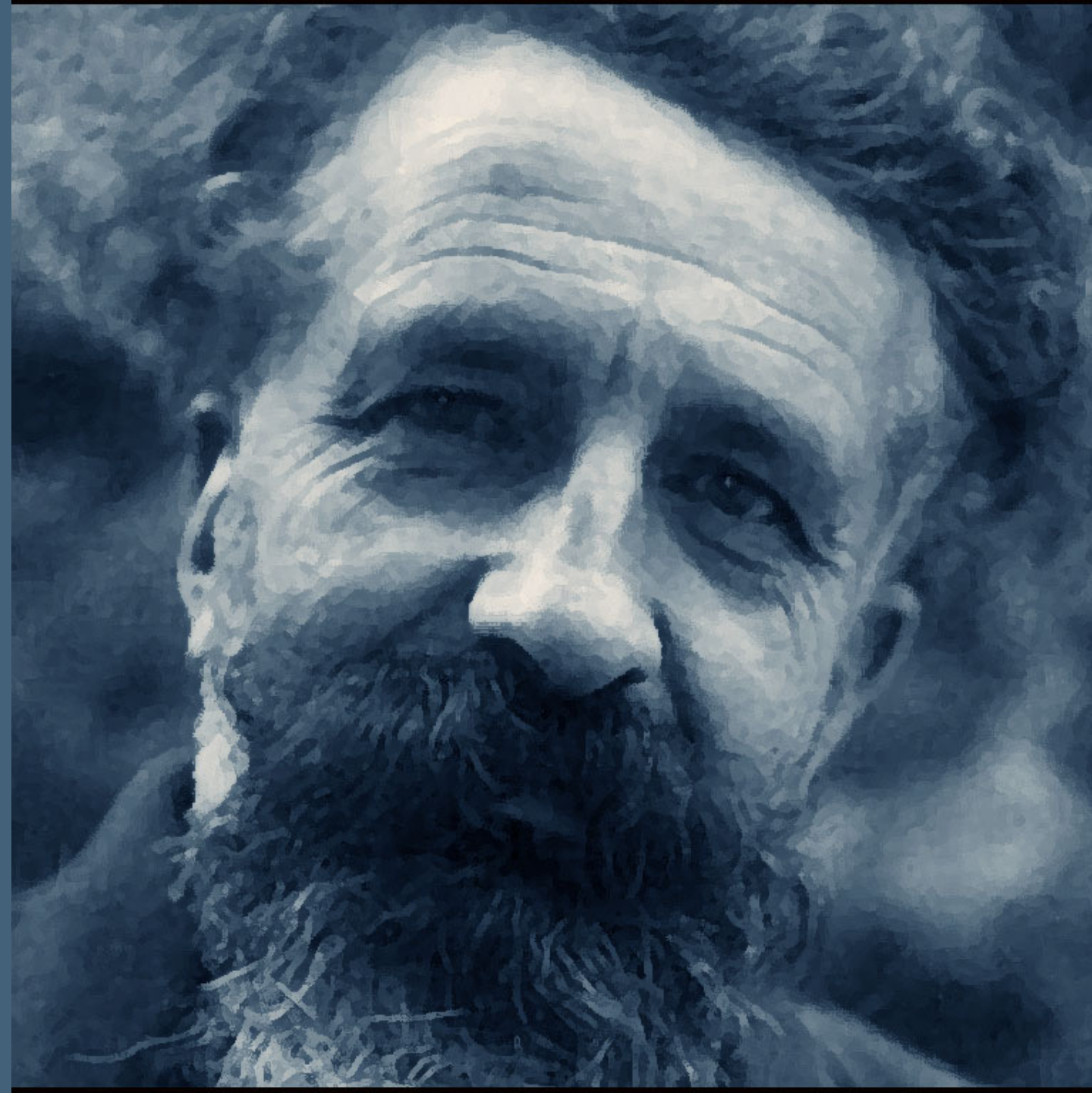
According to Bereiter (2016), in the prevailing teaching practice, constructivists lack a comprehensive theoretical reflection on scientific cognitive processes. This could be seen, for example, in the fact that students as well as pupils often write their own texts along the lines of encyclopedia articles or that they interpret epistemological processes along the **"how-it-works' narrative"** (582). Learning does not simply lack teaching, **but teaching embodies a false philosophy about the cognitive process.**

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DIDACTICS  
ACCORDING  
TO THE  
PHILOSOPHY  
OF 'NO'

*Gaston Bachelard (1940  
[1980])*

"A scientific experience" is  
indispensably "an experience  
that contradicts habitual  
experience." (p. 44)

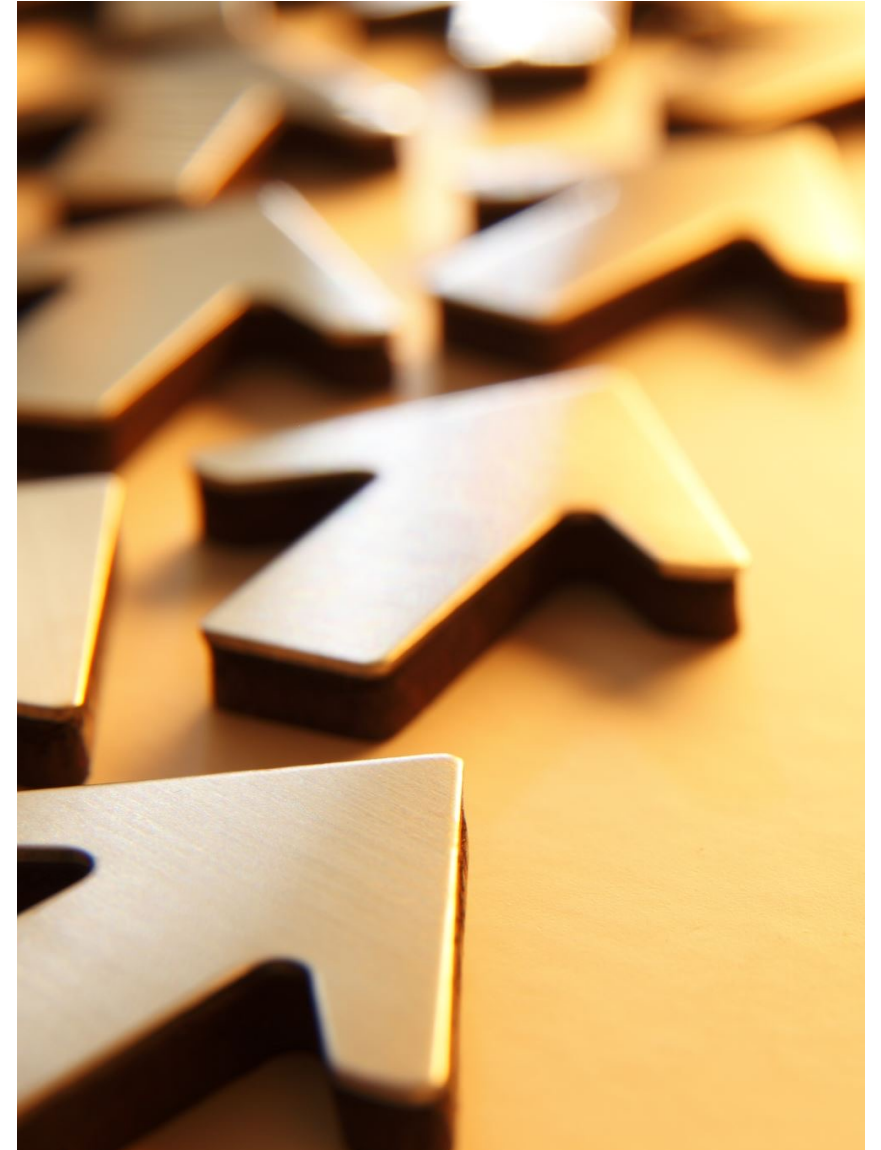


# SENSE-MAKING

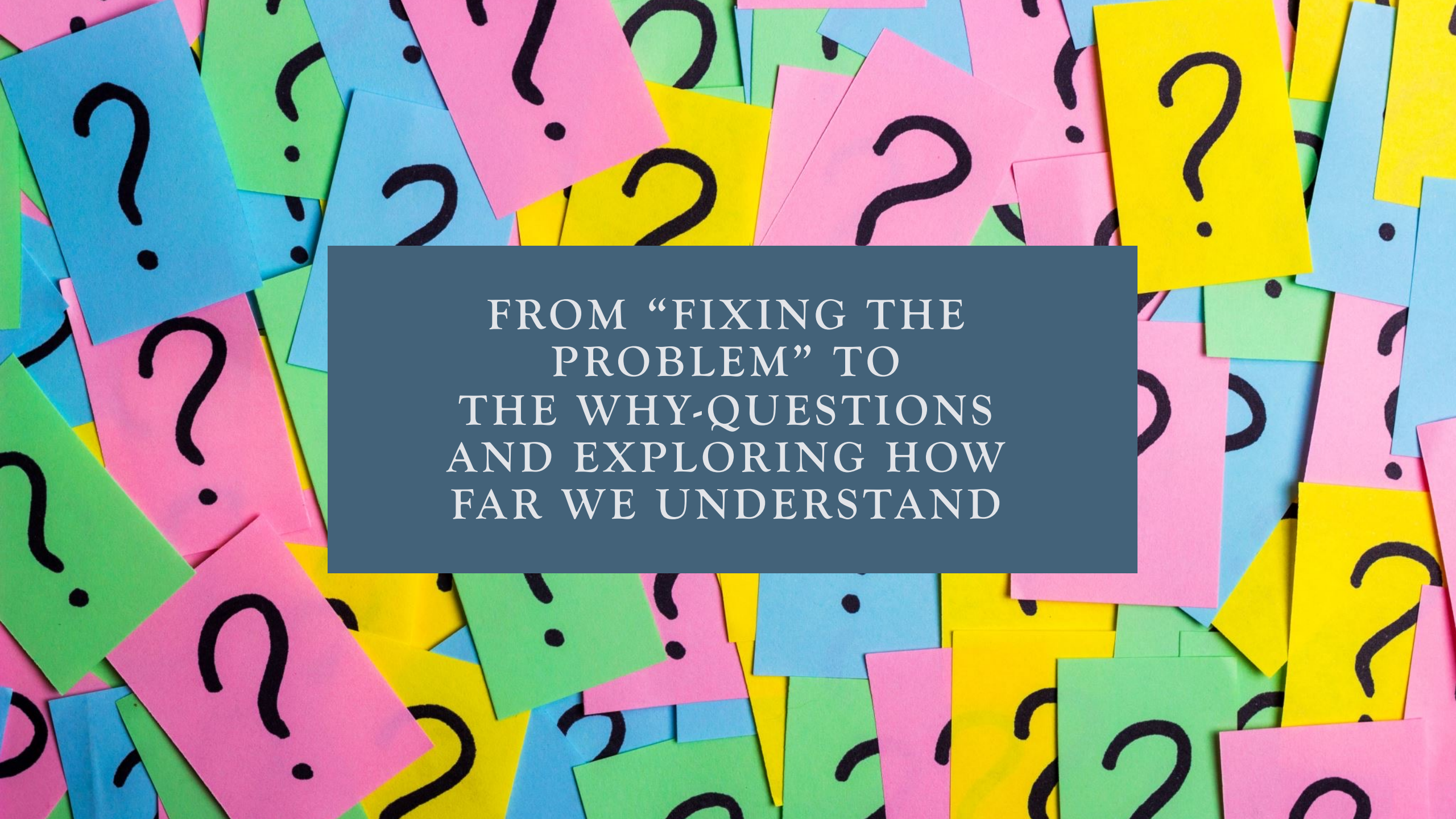
„The process of sensemaking can happen in two ways:

- individuals attach new meanings to familiar concepts and ideas,
- or individuals develop new language and concepts that describe changed practices (Kezar, 2018).“

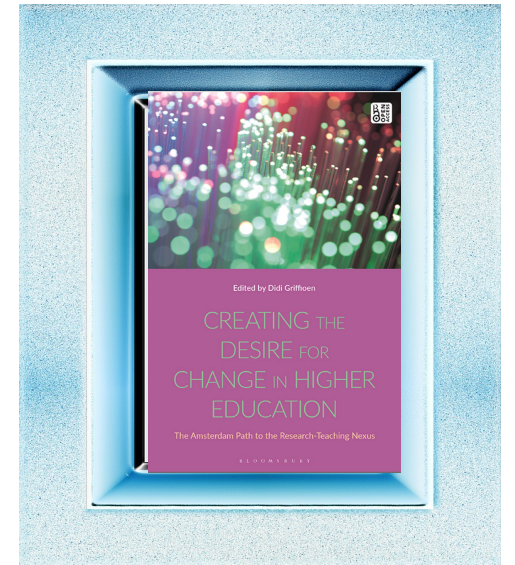
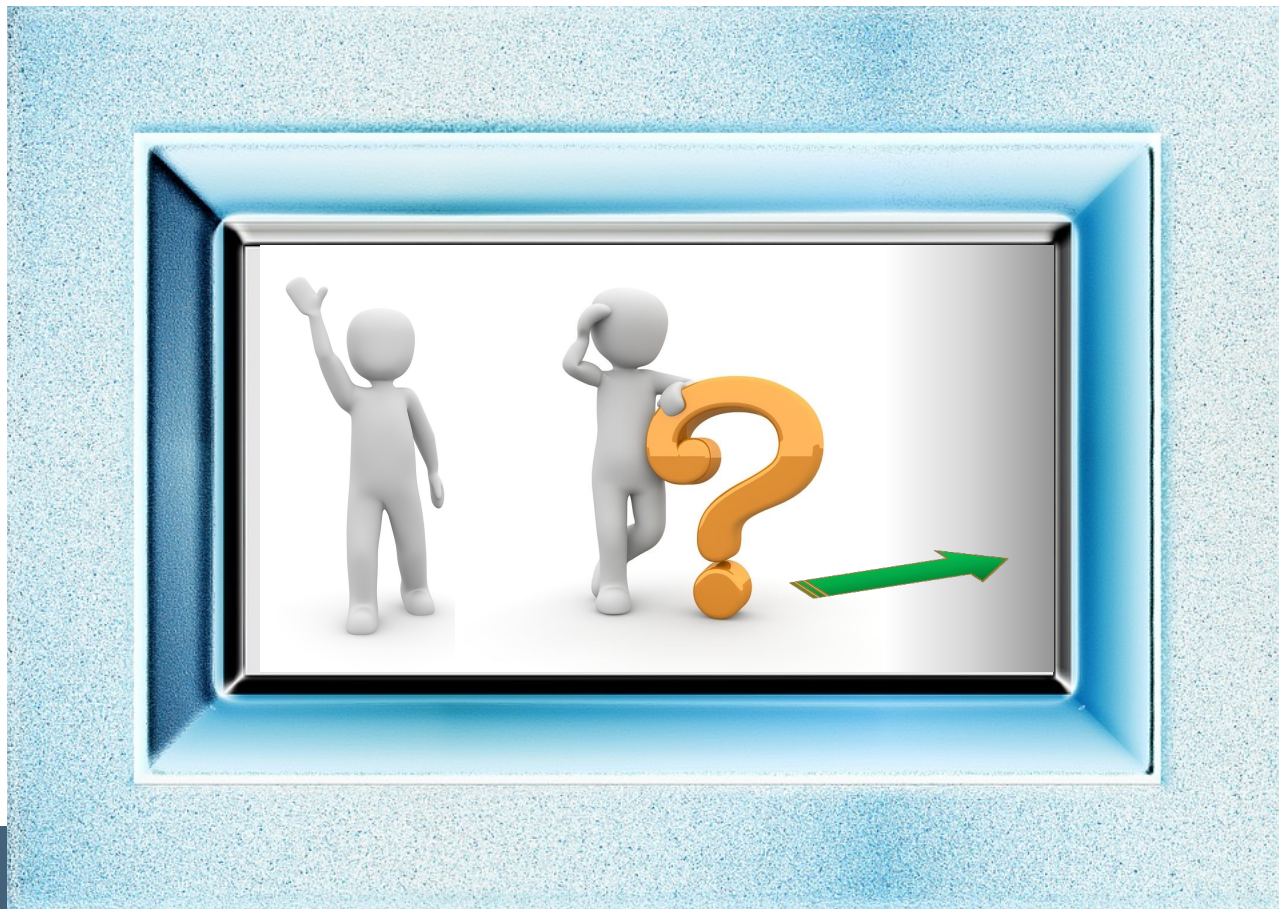
(Griffioen, Chapter 2: Mechanisms of Change, p. 56-57)



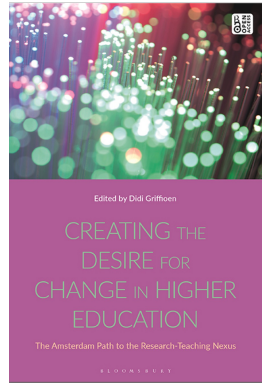




FROM “FIXING THE  
PROBLEM” TO  
THE WHY-QUESTIONS  
AND EXPLORING HOW  
FAR WE UNDERSTAND



# SENSE-MAKING AS REFRAMING THE ACTION

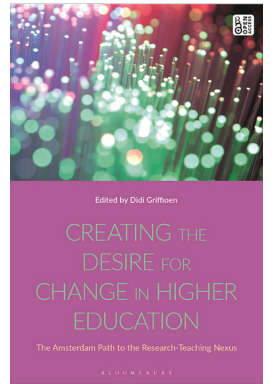


# STUDENTS' CONCERNS

- Students expressed concerns about the lack of constructing a 'research learning trajectory' (p. 106)
- Many students called or implied these research projects 'superficial' (p. 109)
- Students' perceptions focused mainly on the function of research for their work as future professionals (p. 111)
- Motivation is very important in doing research. (p. 113) Many students understand that they need to know how to conduct research. But I am not sure if they also think it is important to do so. (p. 113)

# TEACHERS' CONCERNS

- Many researchers are not interested in didactics, and 'hard core' lecturers are not interested in the research done at [Amsterdam] UAS. Barely anyone is able to build bridges between the two. (p. 112)
- Students only come into contact with research groups when lecturers actively bring them into contact with each other. (p. 111)
- Knowledge is important [...] yet lecturers should have the time and enthusiasm to develop and keep up their own knowledge. (p. 112)
- It should be a choice. (p. 114)
- the 'target audience' of higher professional education: To some, studying at an applied university was a conscious choice not to do research. (p. 116)



# PREVIOUS RESEARCH FOR A SURVEY AT THE KIT ON RESEARCH INTEGRATION

- Prosser, M., & Trigwell, K. (2006). Confirmatory factor analysis of the approaches to teaching inventory. *British journal of educational psychology*, 76(2), 405-419.
- Visser-Wijnveen, G. J., van der Rijst, R. M., & van Driel, J. H. (2016). A questionnaire to capture students' perceptions of research integration in their courses. *Higher Education*, 71(4), 473-488.
- Griffioen, Didi M. (2020/2022). A questionnaire to compare lecturers' and students' higher education research integration experiences. *Teaching in Higher Education*, 1-16.
- Healey, Mick J./Jenkins, A. (2009): *Developing undergraduate research and inquiry*. Heslington, York, England: Higher Education Academy.

# The samples

Teachers – The course is part of the:

		Frequ.	Per cent	Valid	accumulated
Valid	1.-3. semester Bachelor	62	18,1	18,1	18,1
	4.-6. semester Bachelor	72	21,0	21,0	39,1
	1.-2. semester Master	149	43,4	43,4	82,5
	3.-4. semester Master	60	17,5	17,5	100,0
	Total	343	100,0	100,0	

Students – The course is part of the:

		Frequ.	Per cent	Valid	accumulated
Valid	1.-3. semester Bachelor	171	24,4	24,4	24,4
	4.-6. semester Bachelor	183	26,1	26,1	50,5
	1.-2. semester Master	214	30,5	30,5	81,0
	3.-4. semester Master	133	19,0	19,0	100,0
	Total	701	100,0	100,0	

How many students are in the course?

		Frequ.	percent	valid	accumulated
Valid	1-20 P.	172	50,1	50,1	50,1
	21-60 P.	82	23,9	23,9	74,1
	61-100 P.	31	9,0	9,0	83,1
	> 100 P.	58	16,9	16,9	100,0
	Total	<b>343</b>		100,0	100,0

How many students are in the course?

		Frequ.	percent	valid	accumulated
Valid	1-20 P.	190	27,1	27,1	27,1
	21-60 P.	168	24,0	24,0	51,1
	61-100 P.	102	14,6	14,6	65,6
	> 100 P.	241	34,4	34,4	100,0
	Total	<b>701</b>		100,0	100,0

# EXPLORATIVE FACTOR ANALYSIS - ITEMS:

*Elements of research integration in  
a course/teaching*

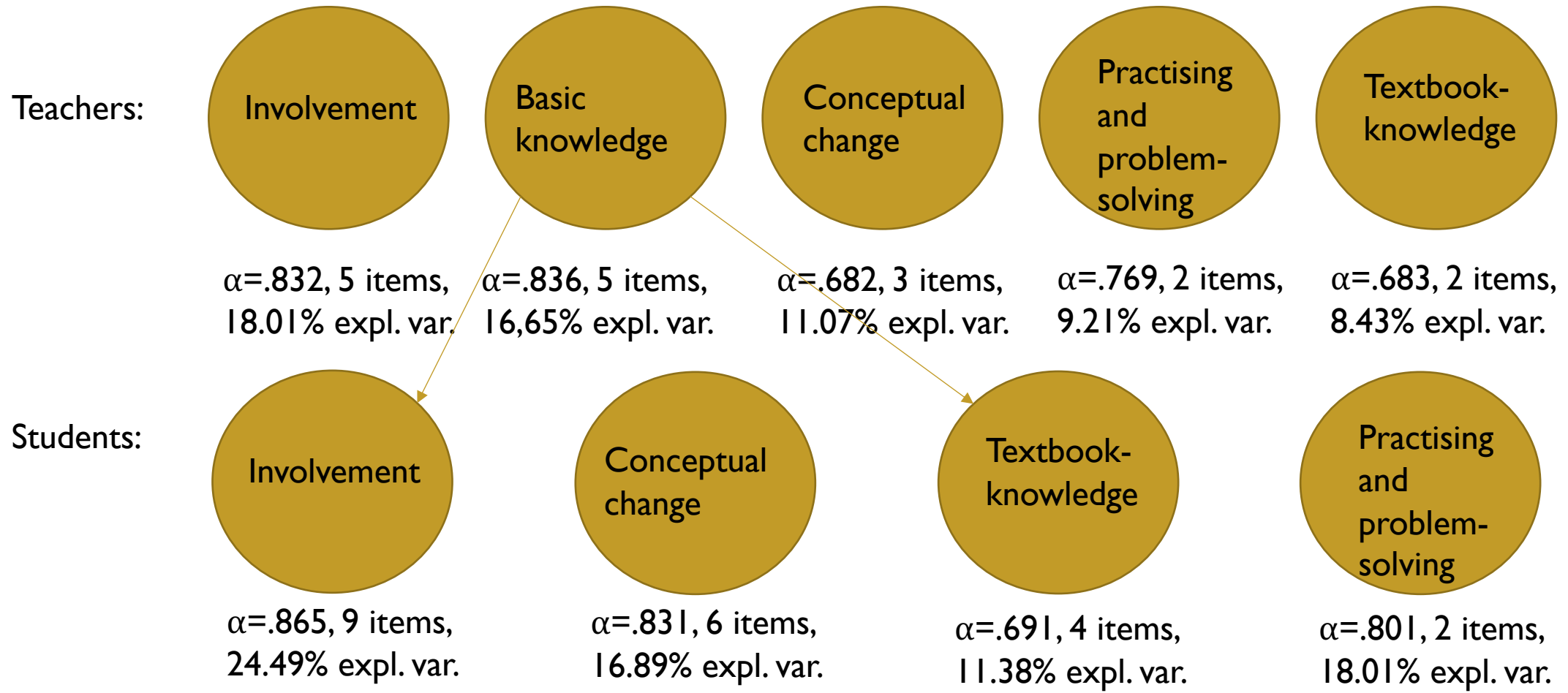
*Expectations towards research  
integration*

*(among others)*

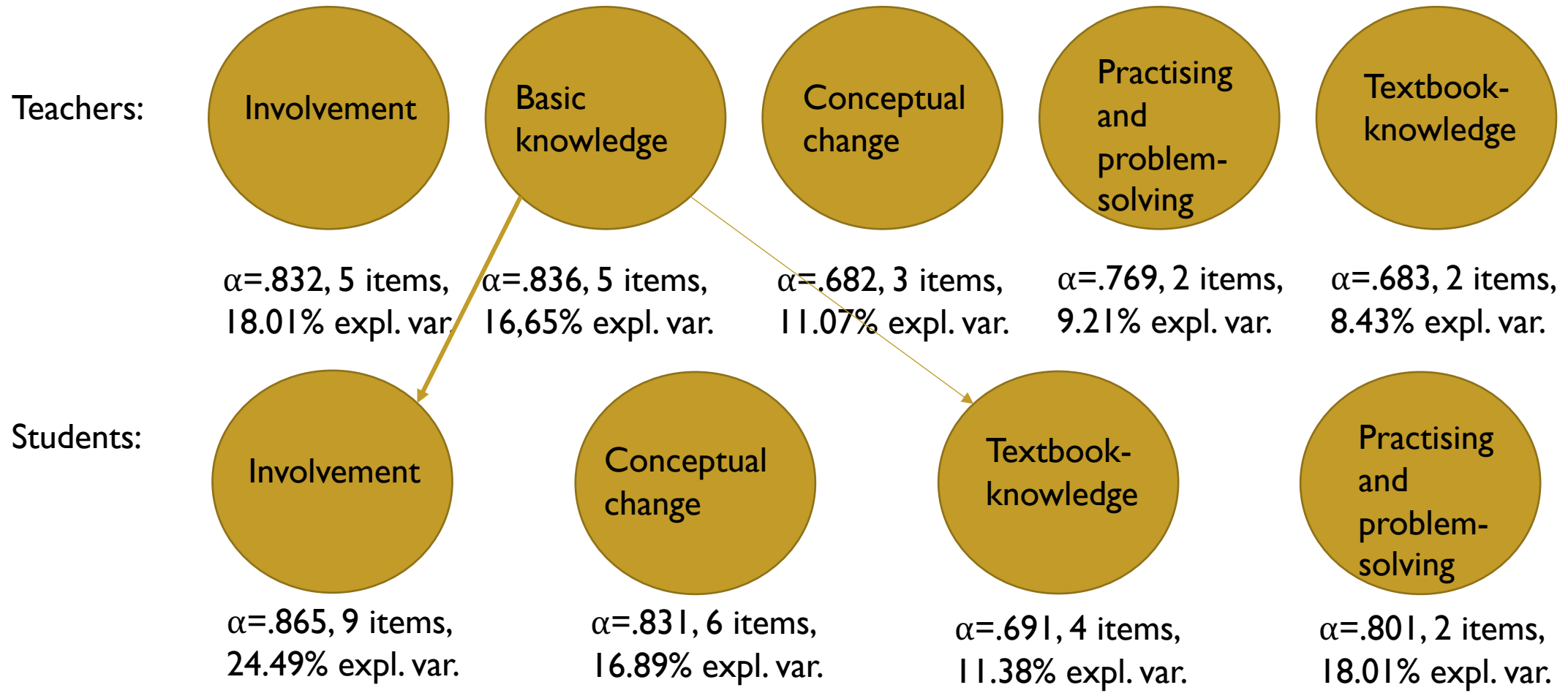


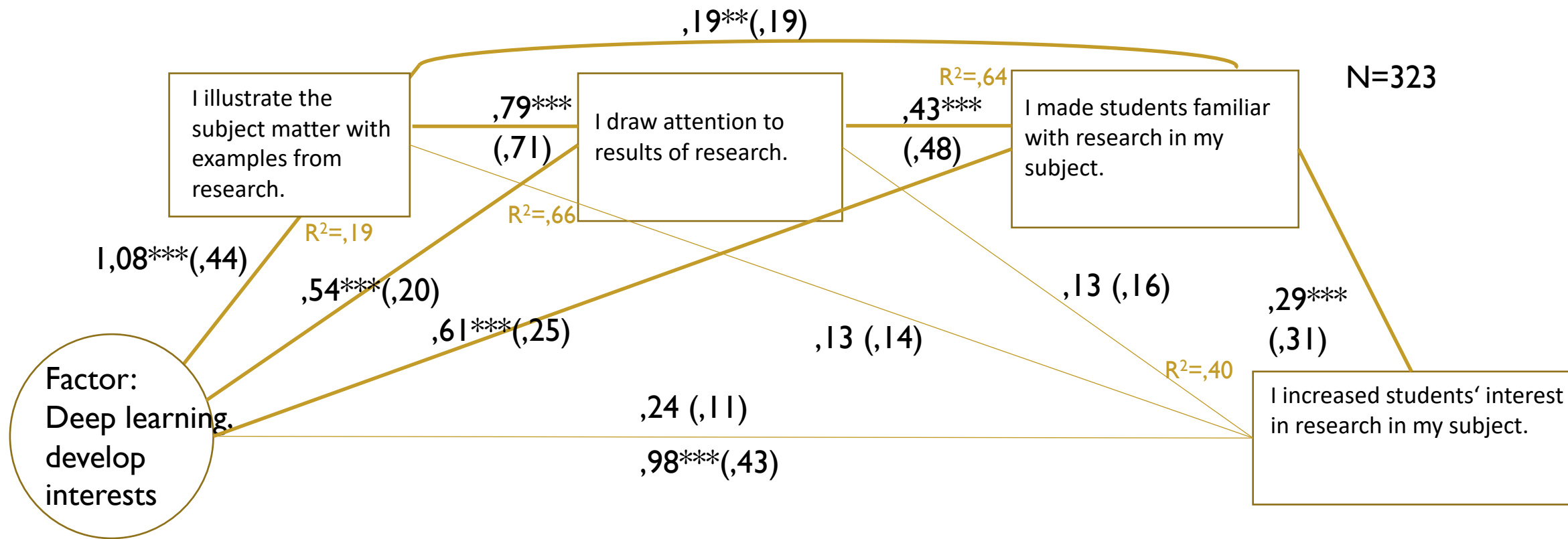


# FACTOR SOLUTIONS: DIDACTIC ELEMENTS OF RESEARCH-DRIVEN TEACHING



# FACTOR SOLUTIONS: EXPECTATIONS- WHAT IS IMPORTANT?

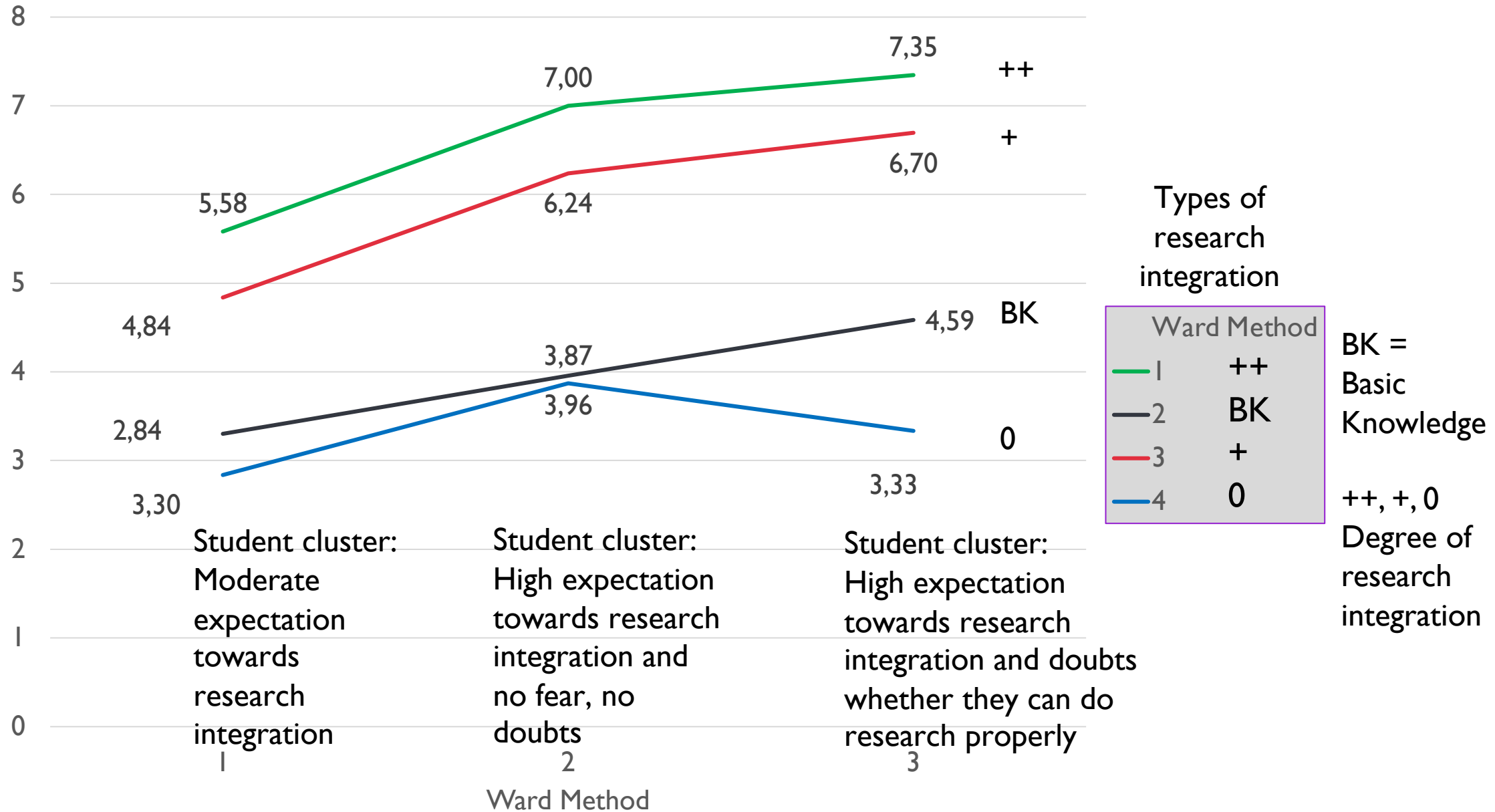




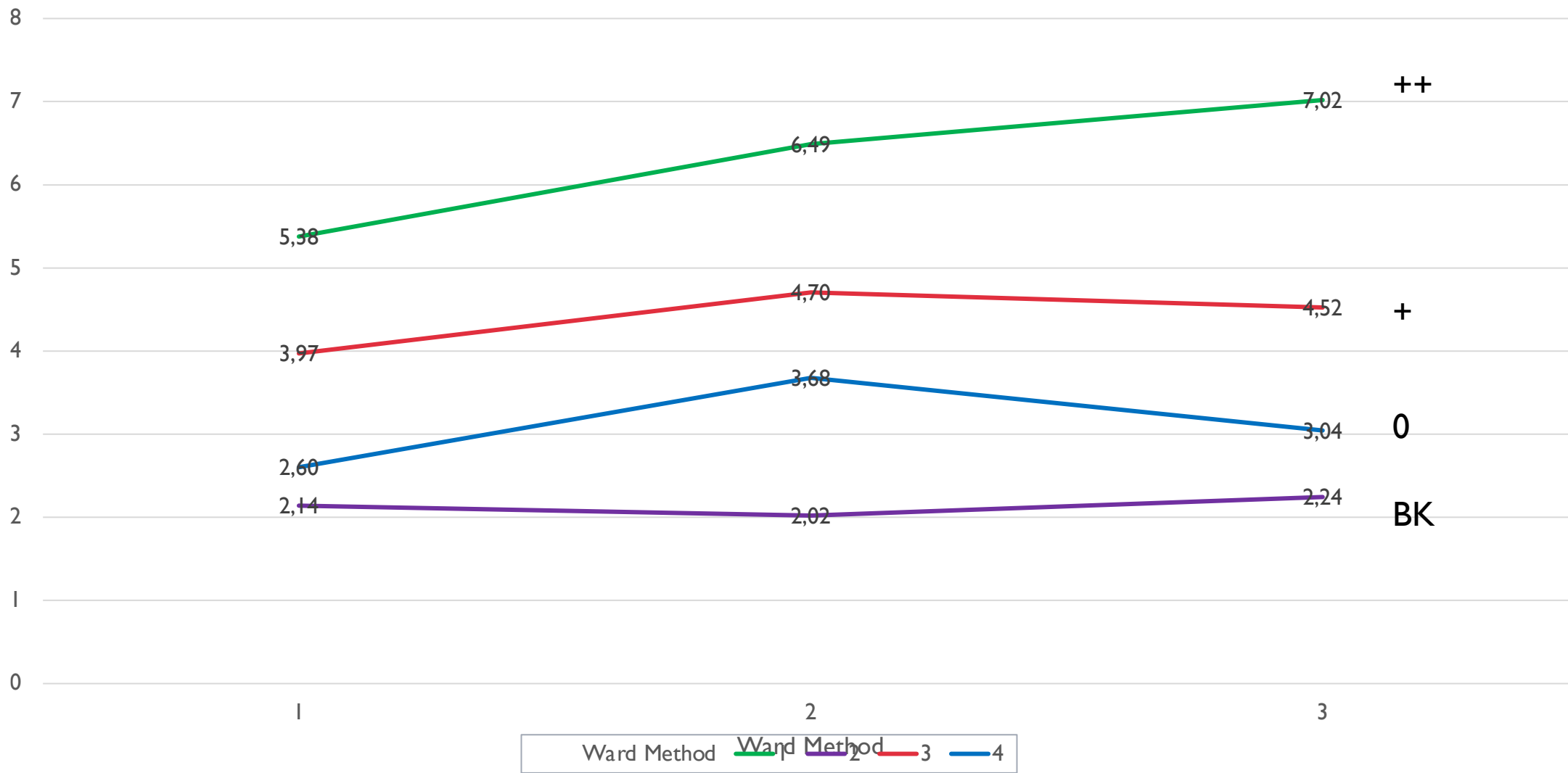
Analysis with PROCESS in SPSS: For the 3 mediators the indirect effect is .74 (standardised: .32),  $t(321)=6,88$ ;  $p < 0,001$ ;  $R^2 = .19$

Confirmatory factor analysis: 4 Items: I think it is important that students go deeper into special issues of my subject; ... that they become interested in the subject; ... that they learn to use information resources critically, ...that they get familiar with the culture of my subject. P-value (Chi-square) = 0.807; Robust Comparative Fit Index (CFI) = 1.000; RMSEA = 0.000

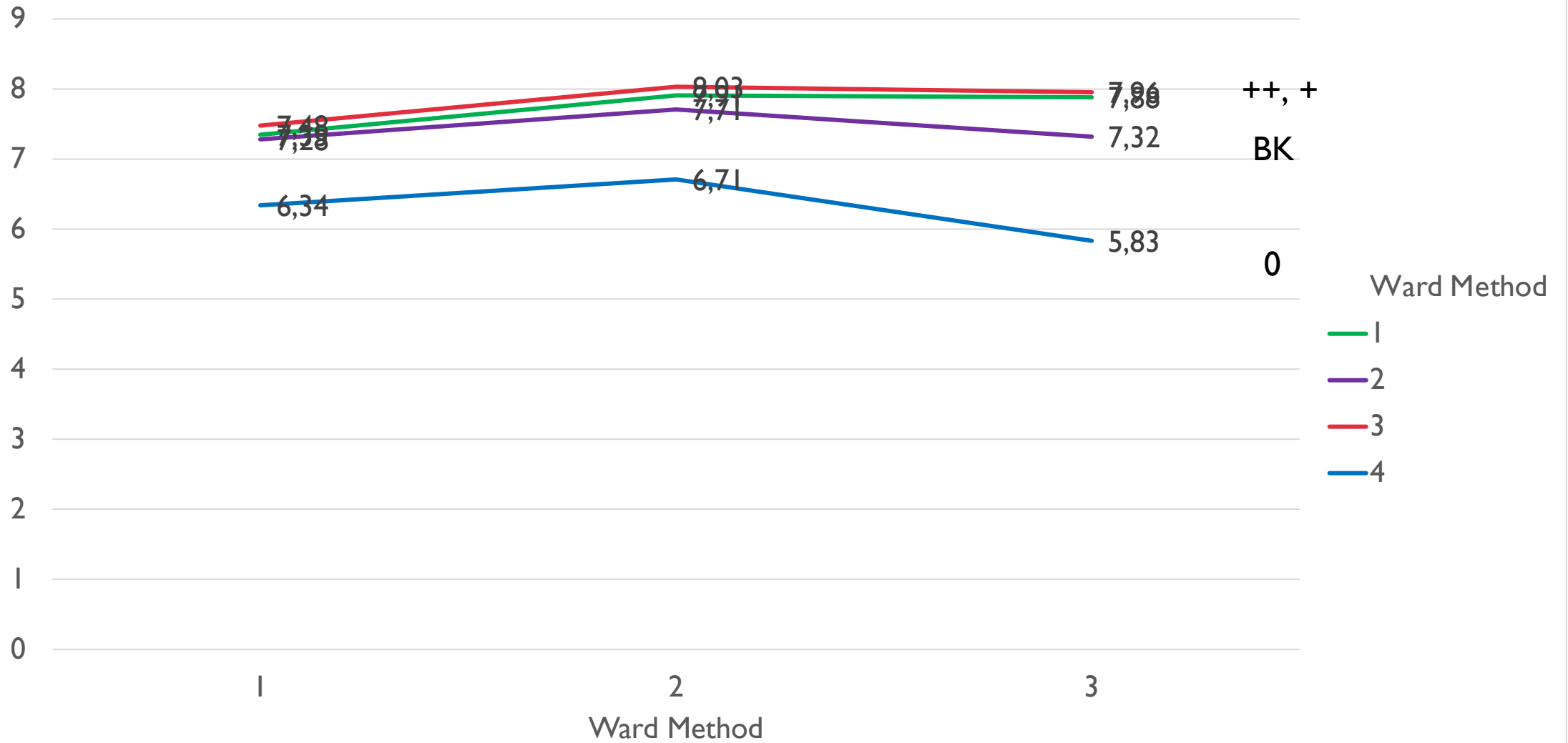
# My interest in the research of my subject has been raised/fostered



# I was stimulated to critically examine research literature



My understanding of basic concepts and basic knowledge has increased.





RESULT: NO MATCHING!  
RESEARCH INTEGRATION HAS POSITIVE  
EFFECTS ON STUDENTS REGARDLESS OF  
THEIR EXPECTATIONS OR PREFERENCES

THANK YOU FOR YOUR  
ATTENTION

