



Achieving Excellence in Research-led Teaching

Keith Trigwell

Institute for Teaching and Learning

I am very interested
in the universe – I am
specialising in the
universe and all that
surrounds it.

Peter Cook

Structure

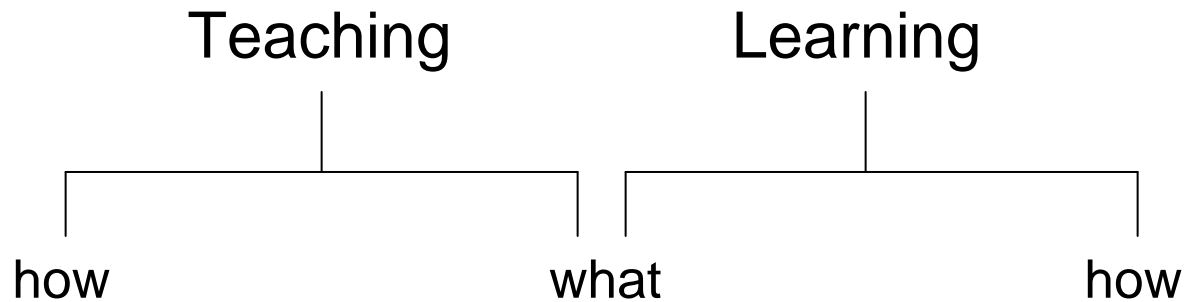
Forms of research-led teaching

Excellence - scholarship

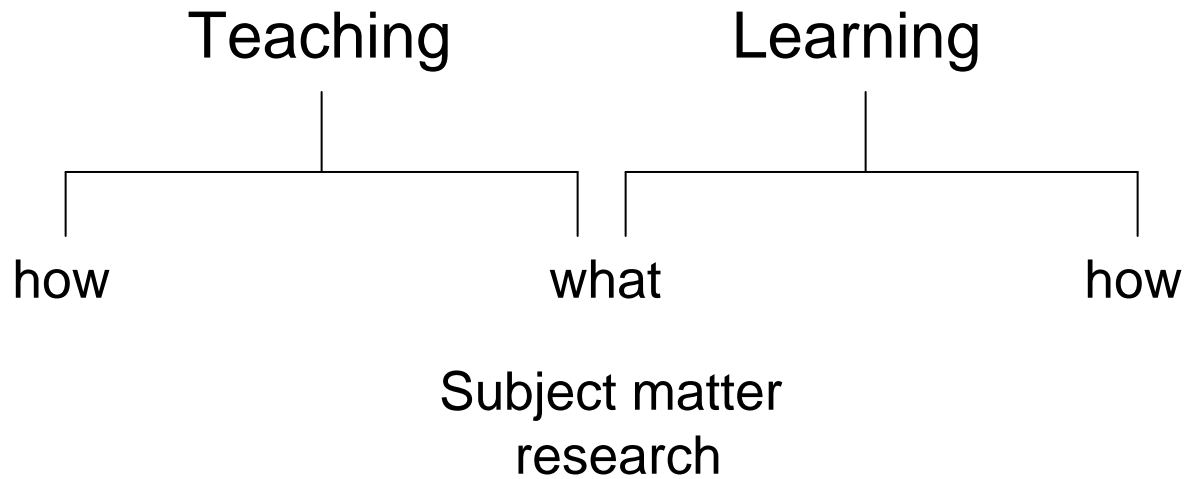
Excellence - relations between teaching & learning

Excellence in research-led teaching

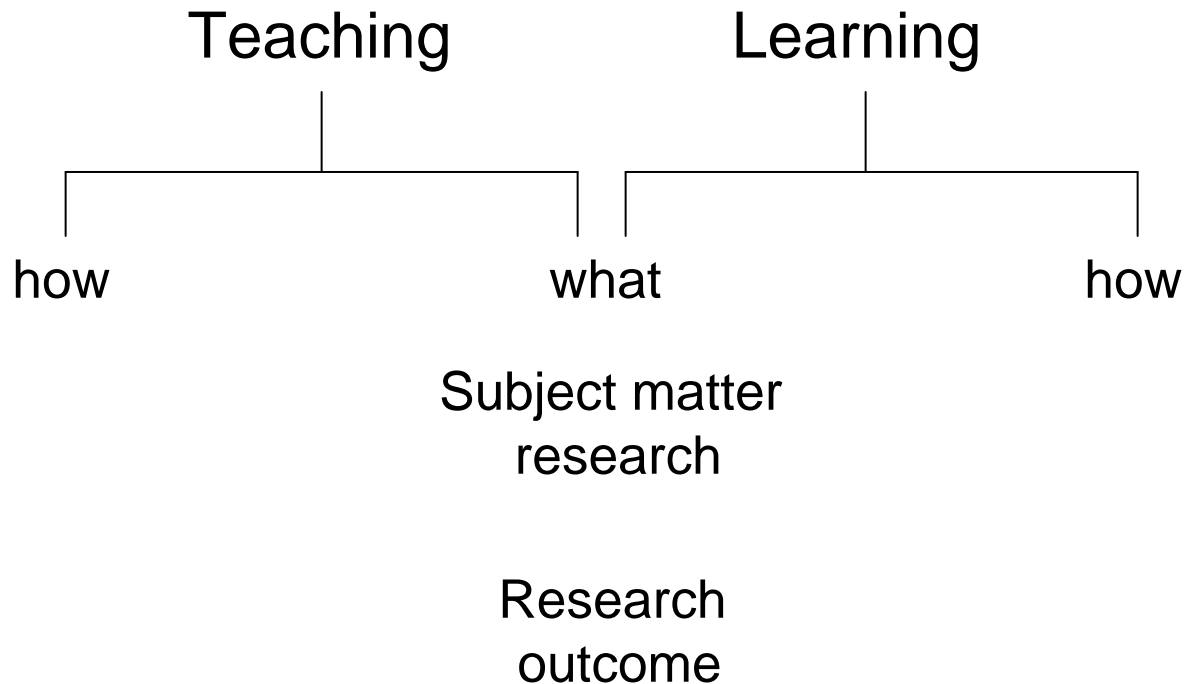
Forms of research-led teaching



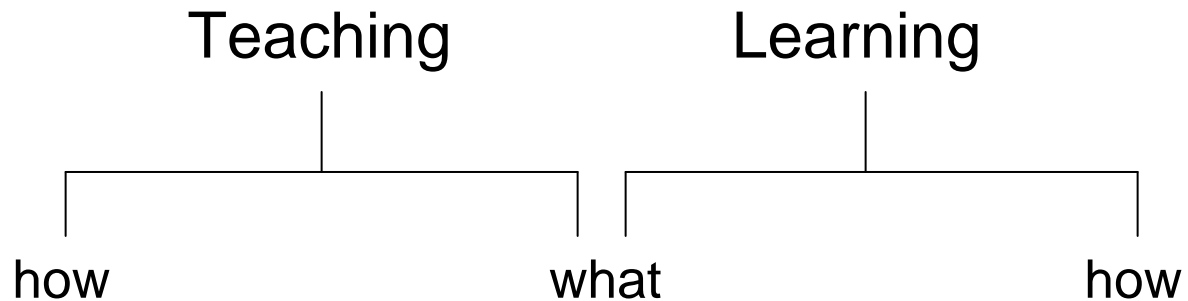
Forms of research-led teaching



Forms of research-led teaching



Forms of research-led teaching

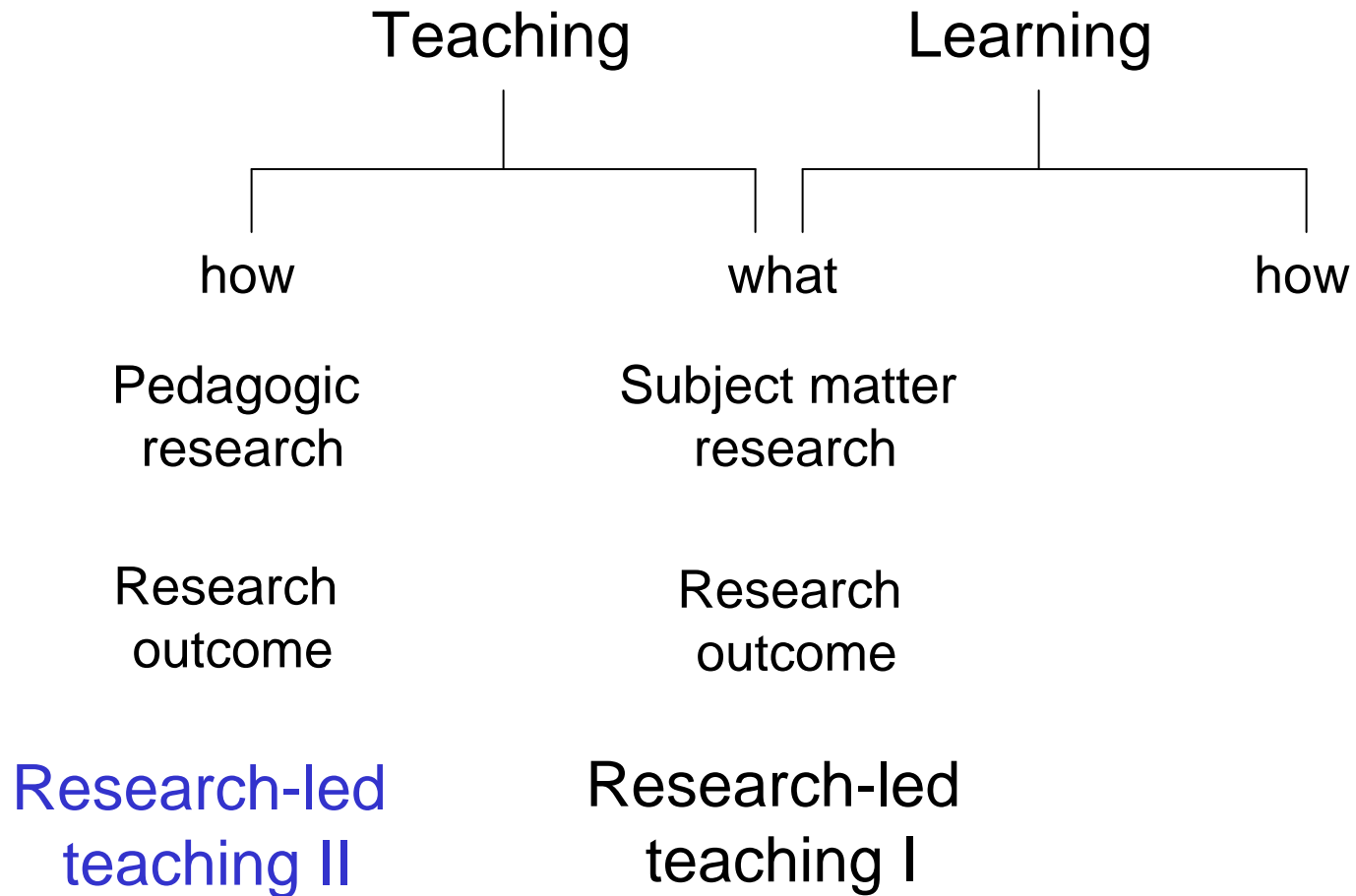


Subject matter
research

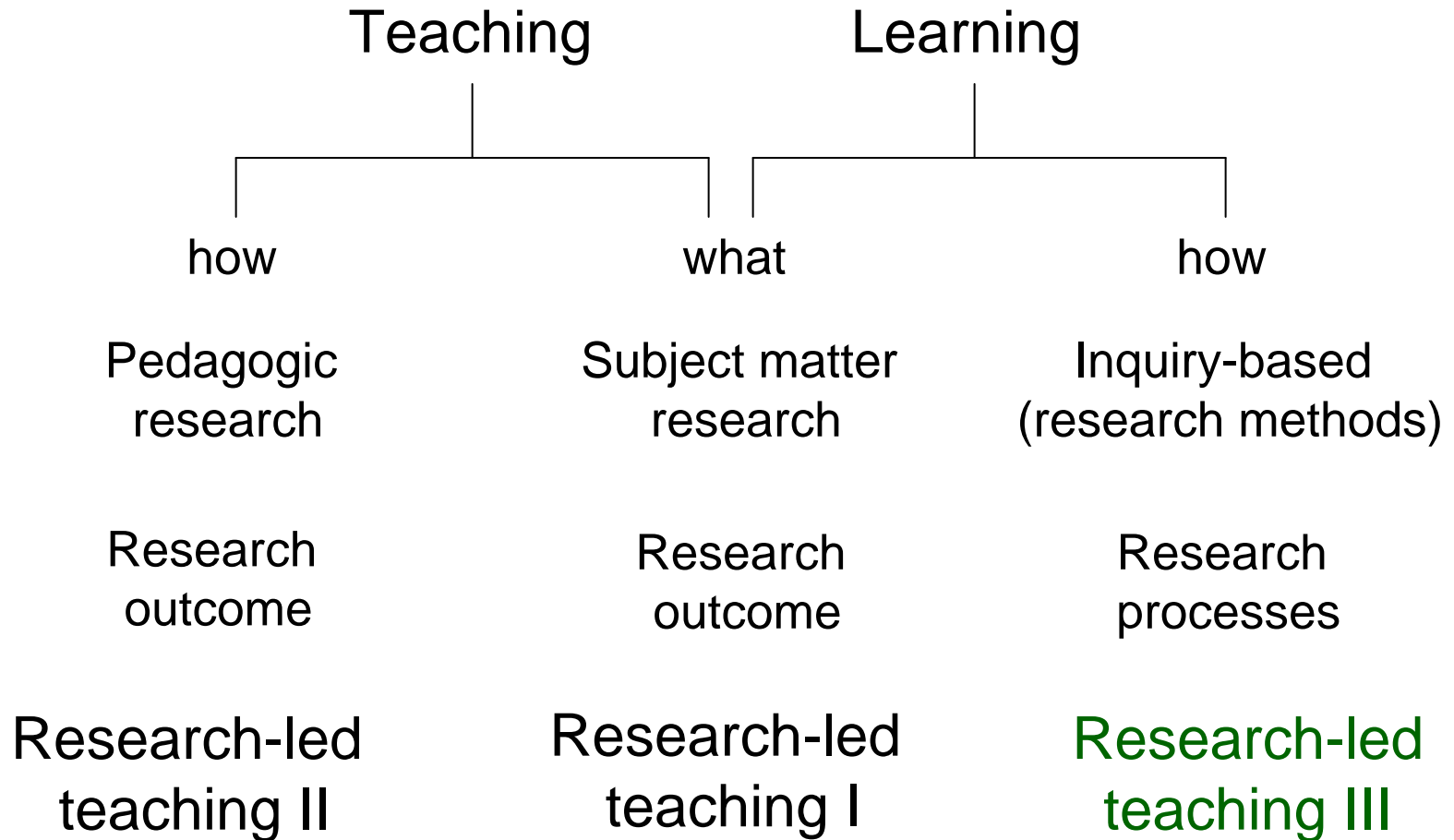
Research
outcome

Research-led
teaching I

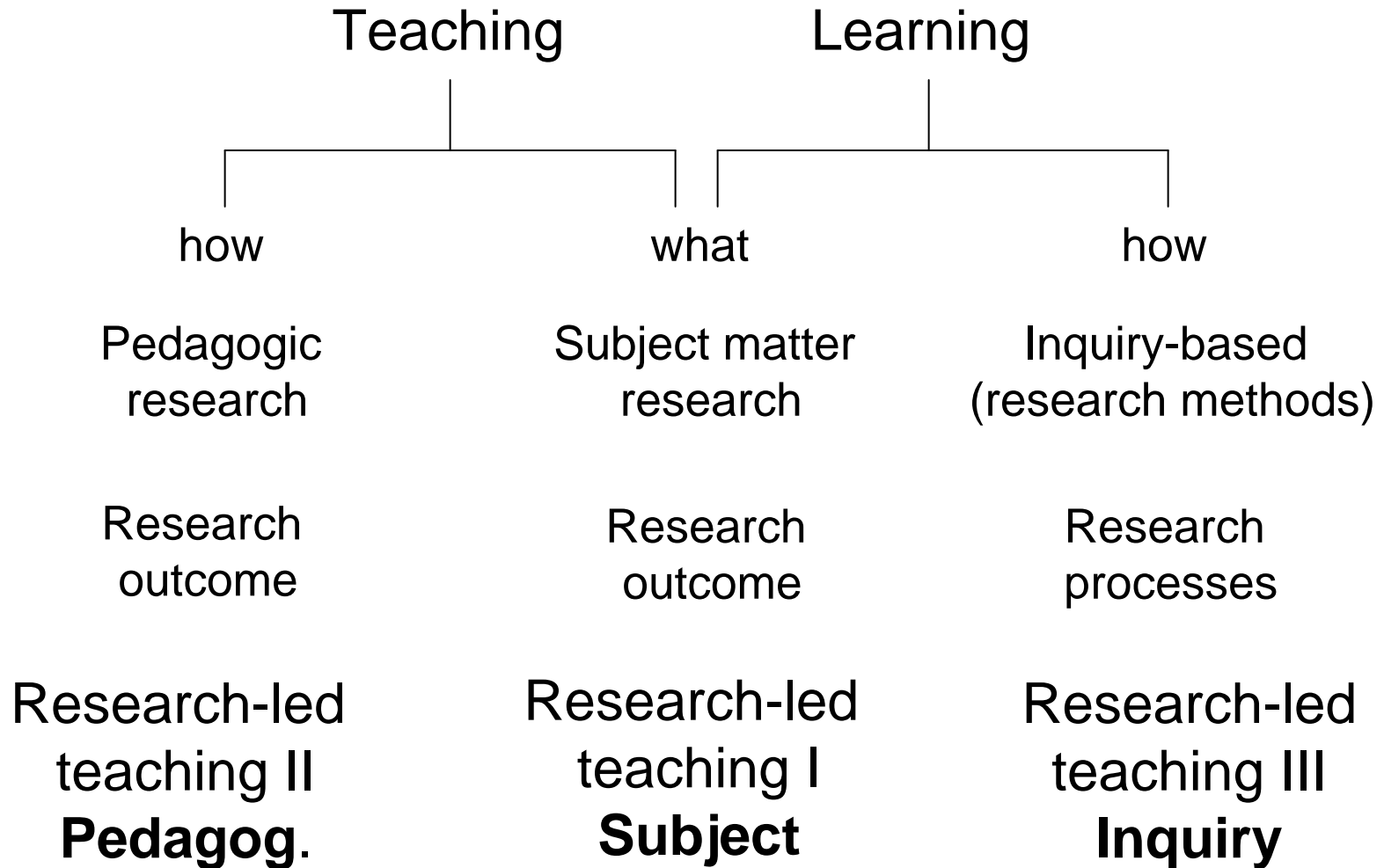
Forms of research-led teaching



Forms of research-led teaching



Forms of research-led teaching



Thank you for the
manuscript; I shall
lose no time
in reading it.

Disraeli

Structure

Forms of research-led teaching

Excellence - scholarship

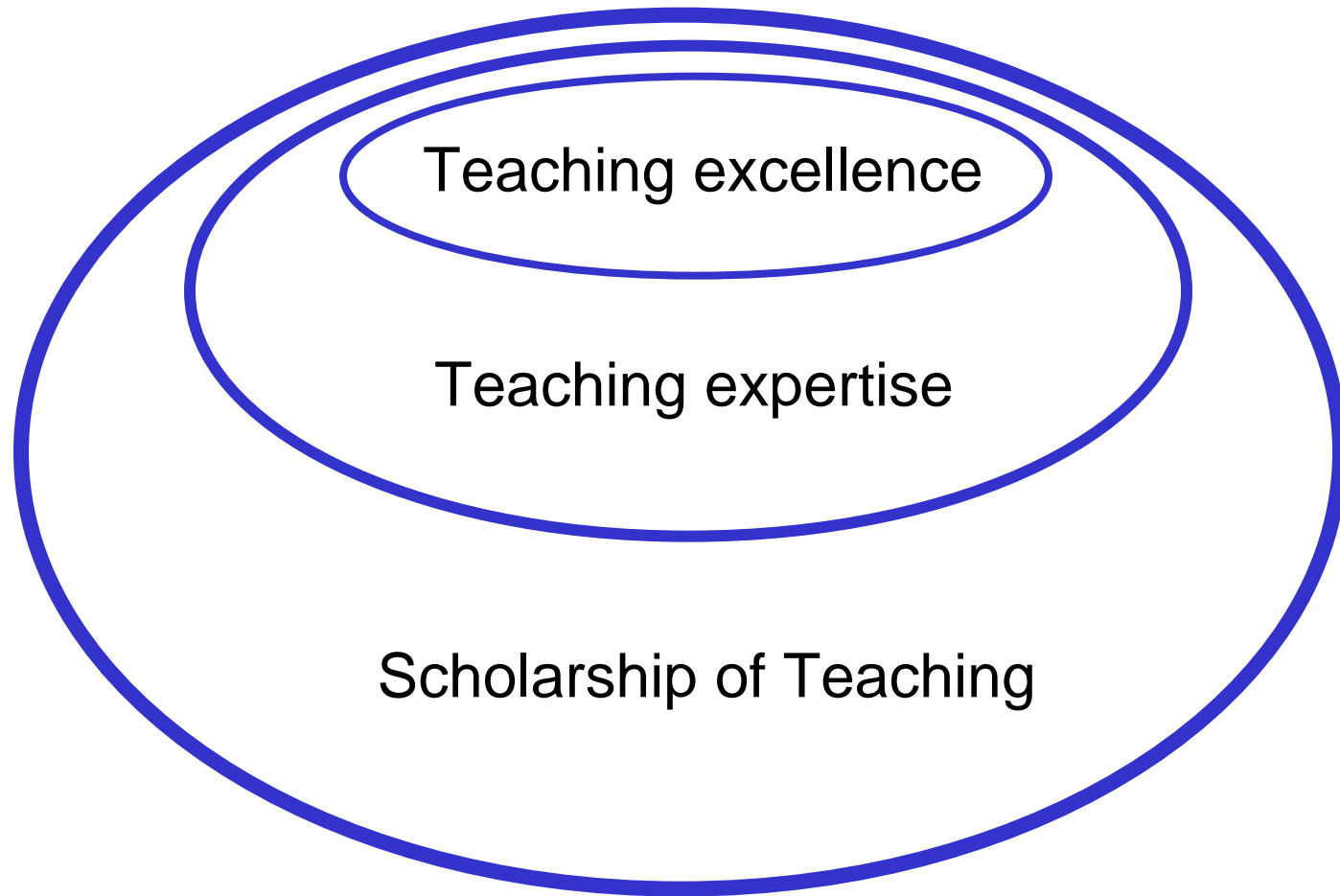
Excellence - relations between teaching & learning

Subject research and teaching

Pedagogic research and teaching

Inquiry learning and teaching

Excellence & scholarship



Structure

Forms of research-led teaching

Excellence - scholarship

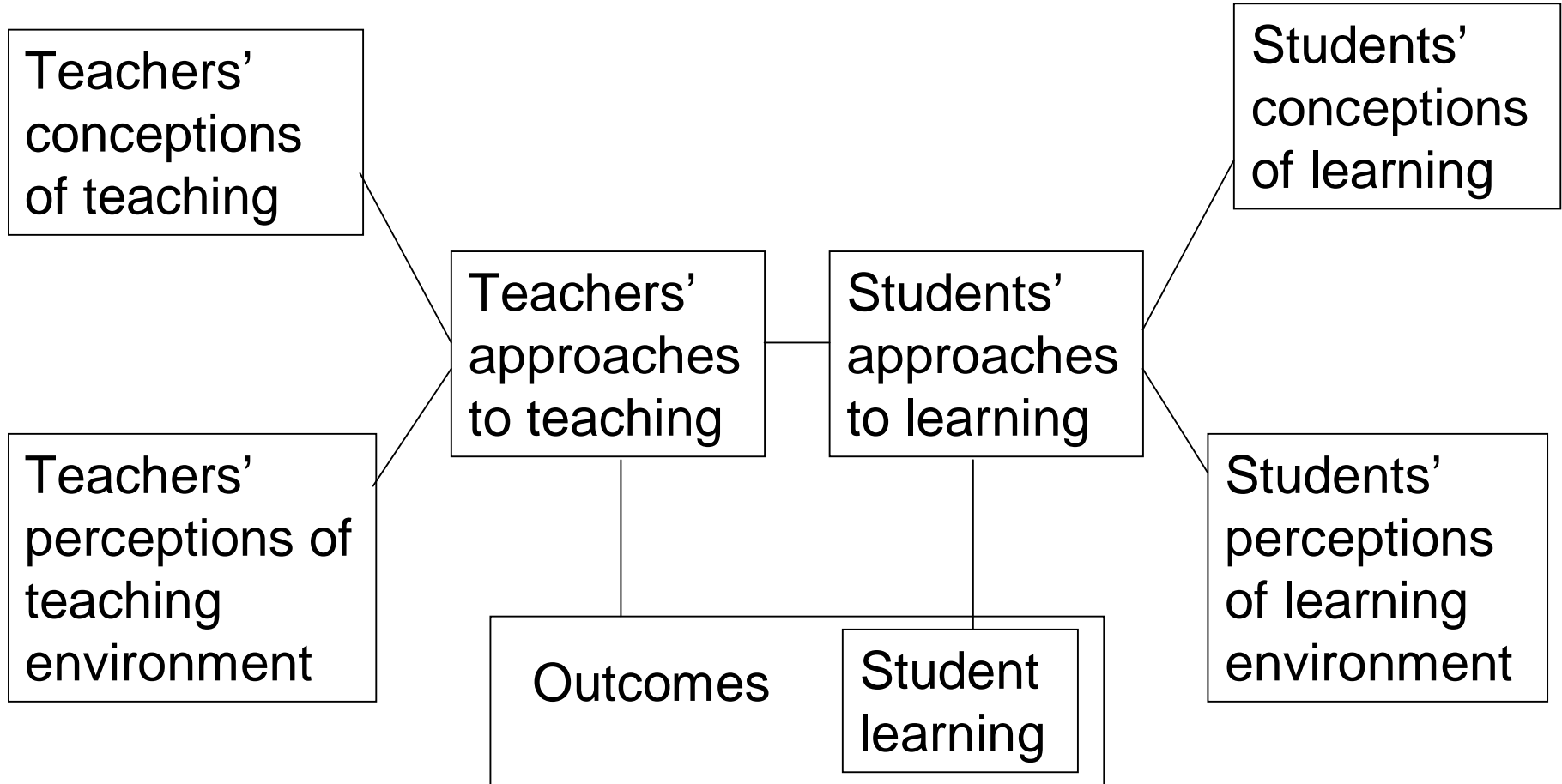
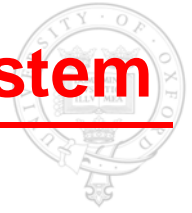
Excellence - relations between teaching & learning

Subject research and teaching

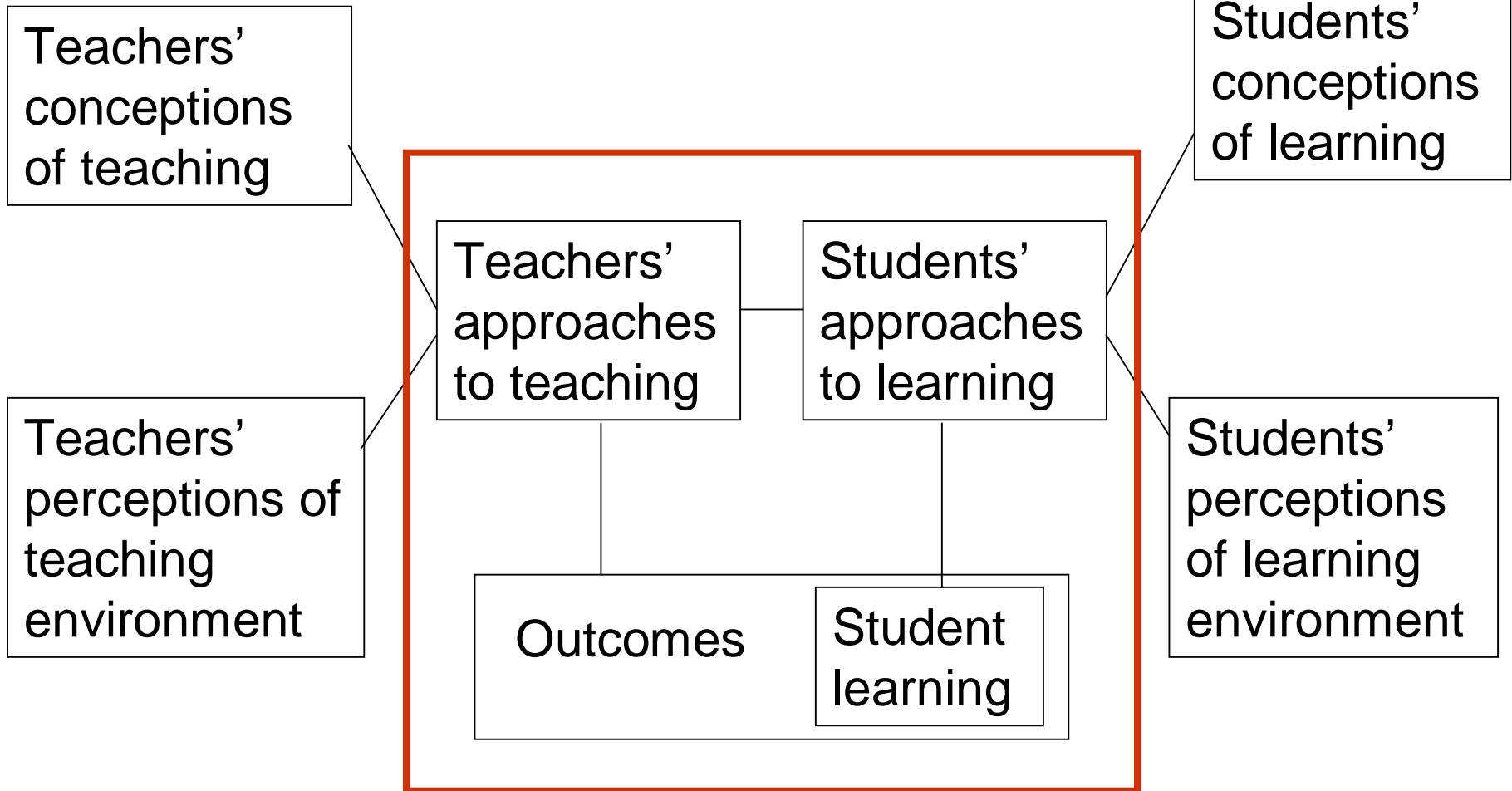
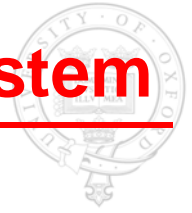
Pedagogic research and teaching

Inquiry learning and teaching

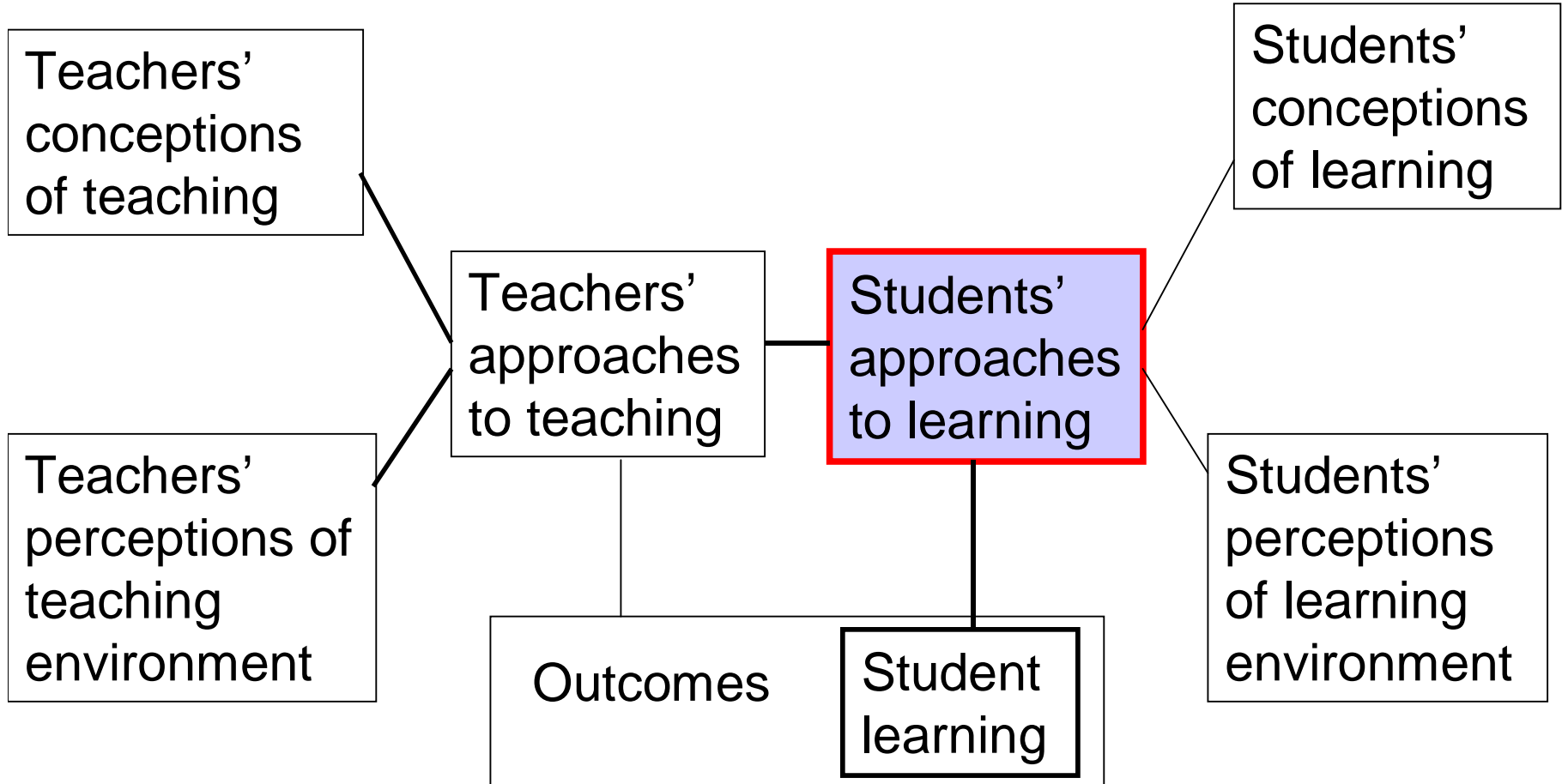
Relational model of teaching/learning system



Relational model of teaching/learning system



Model of teaching/learning system



Approaches to learning

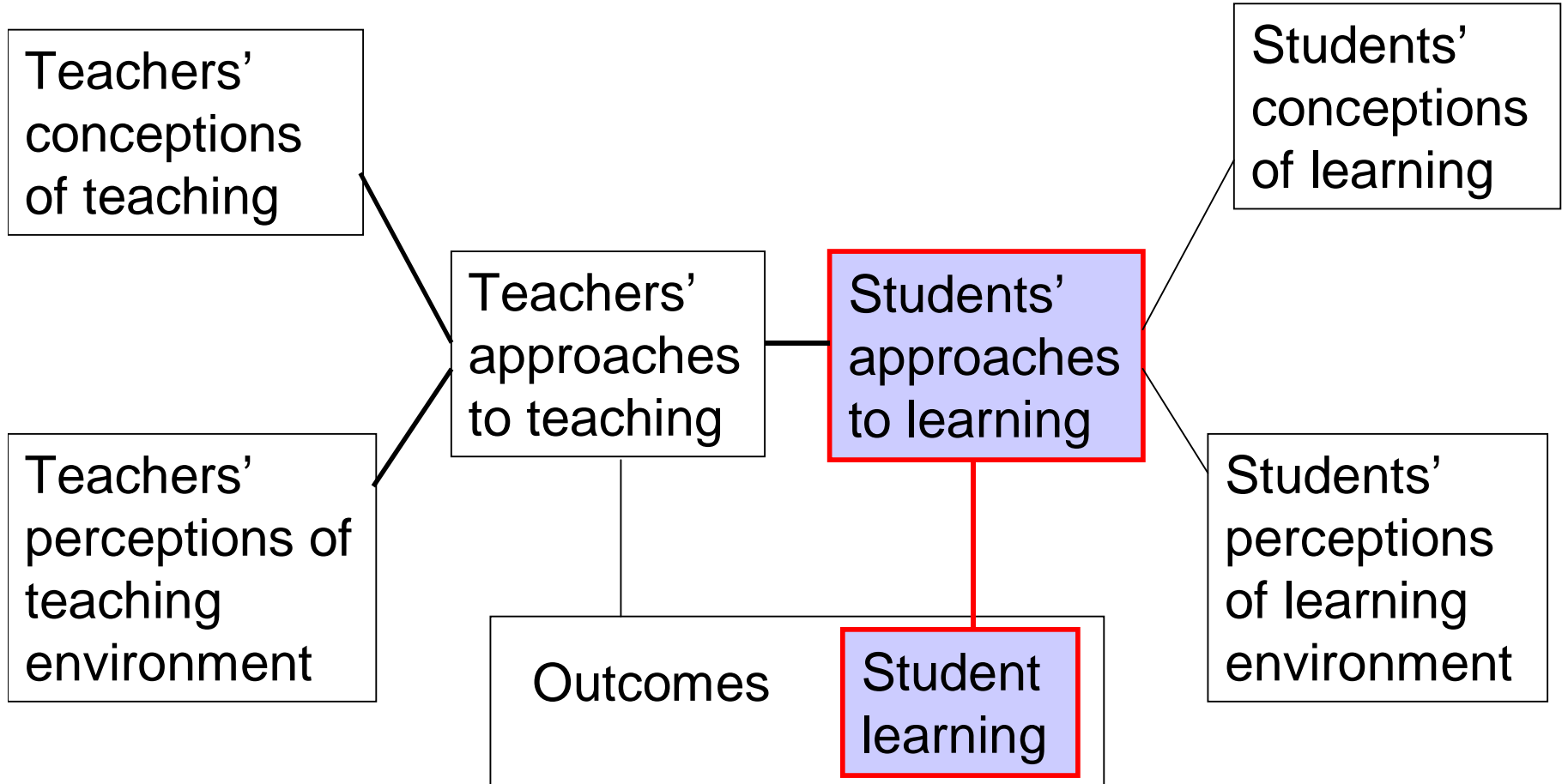
Deep approach

Students focus their attention on the overall meaning or message in a class session, text or situation. They attempt to relate ideas together and construct their own meaning, possibly in relation to their own experience.

Surface approach

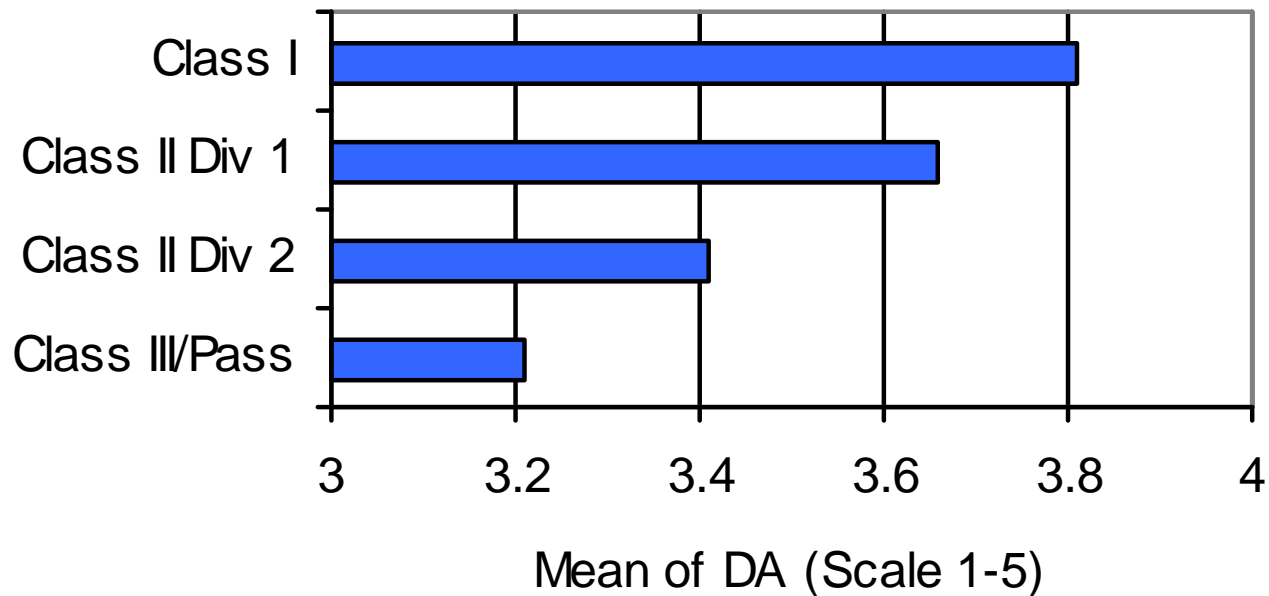
Students focus their attention on the details and information in a class session or text. They are trying to memorise these individual details in the form they appear in the class or text or to list the features of the situation in order to pass the examinations.

Model of teaching/learning system



Approaches to learning & outcomes

Degree Class by Deep Approach Scale

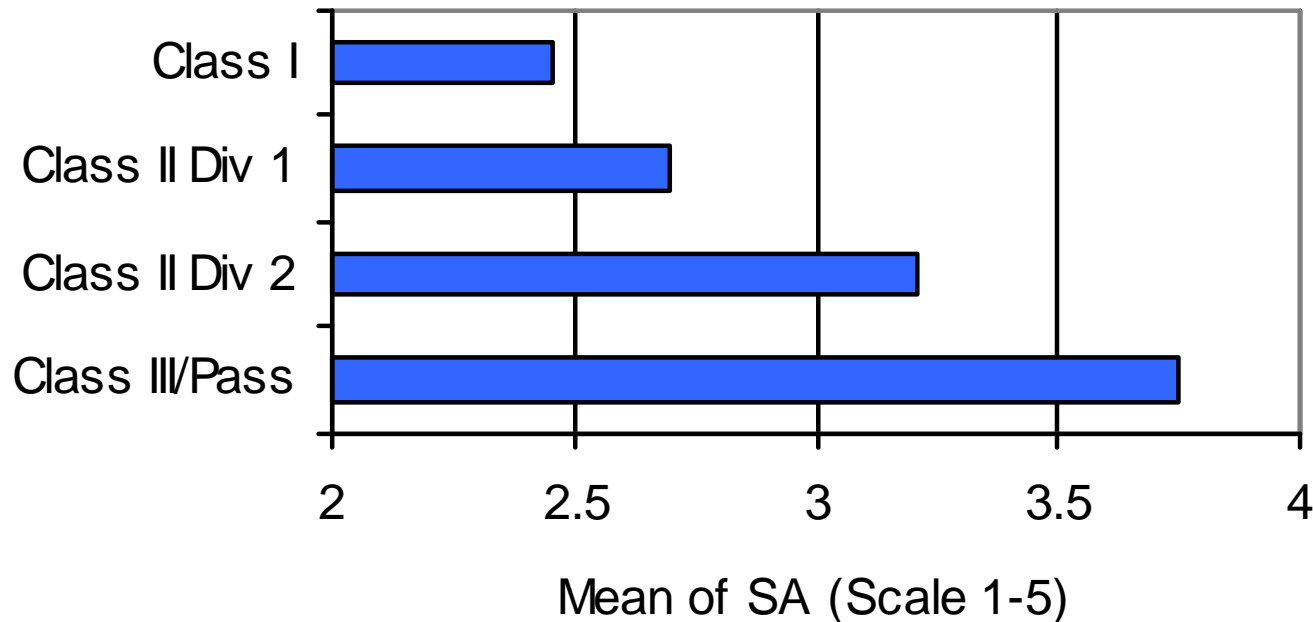


N = 740 University of Oxford, 2004

Trigwell and Ashwin, 2003

Approaches to learning & outcomes

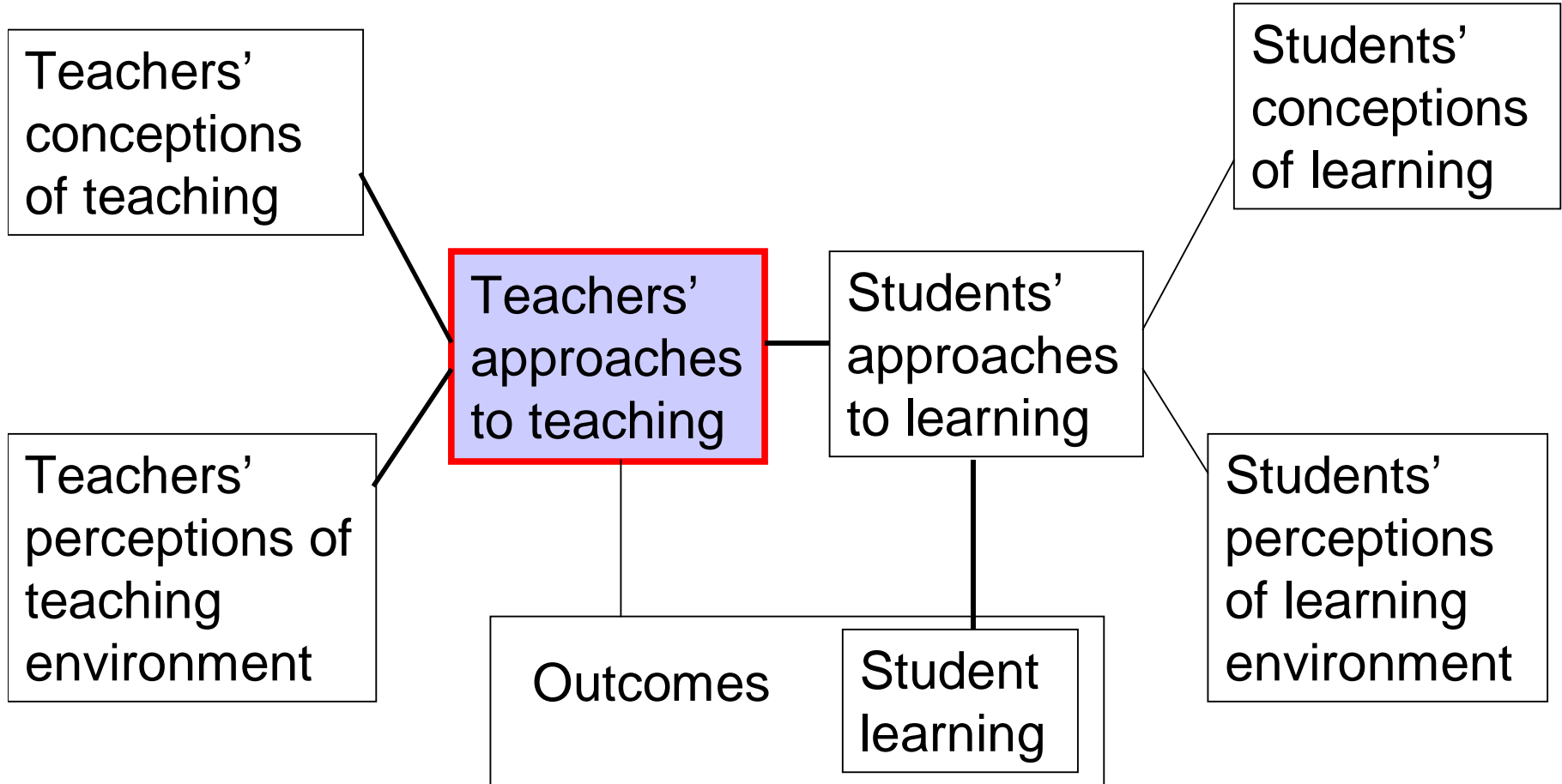
Degree Class by Surface Approach Scale



N = 740 University of Oxford, 2004

Trigwell and Ashwin, 2003

Model of teaching/learning system



Approaches to teaching

Phenomenographic study conducted in 1989

24 teachers of first year science

5 qualitatively different ways of experiencing teaching.

- transmission of teacher knowledge
- transmission for concept acquisition
- student-teacher interaction
- student-centred for development
- student- centred for change

Approaches to teaching

Information Transmission/Teacher-focused (ITTF)

Staff focus their attention on what *they* do (forward planning, good management skills, an armoury of teaching competencies, use of the literature, ability to use IT ...).

They attempt to transmit the information about the curriculum on the assumption that students will learn from that process. That information is often complex and requires organisation and presentation skill.

Approaches to teaching

Conceptual Change/Student-focused (CCSF)

Staff focus their attention on the students and monitor their perceptions, activity and understanding. Transmission is seen to be not enough.

They assume students construct their own knowledge, and the task of the teacher is to involve the student, and challenge current ideas through questions, discussion and presentation.

Includes mastery of techniques, including those associated with transmission, but this is an empty display without learning.

Relational approaches to teaching

I find that I struggle when I am faced with an overloaded and technically complex area of the syllabus. I feel extremely pressurised to get through the material and sometimes **find myself emulating a transfer theory of teaching** whereby I simply repeat some of the rules and theories outlined in the lectures, simplifying them and **ensuring that students have received all the information**. It is a far more prescriptive and authoritative form of teaching than I am happy with. Within this format, and with demanding time pressures, there is little **space for the discussion that I deem so valuable**. I thus leave the class with a sense of dissatisfaction.

A CCSF approach
includes elements
of an ITTF
approach, but
not *vice versa*

Using buzz groups in a lecture theatre

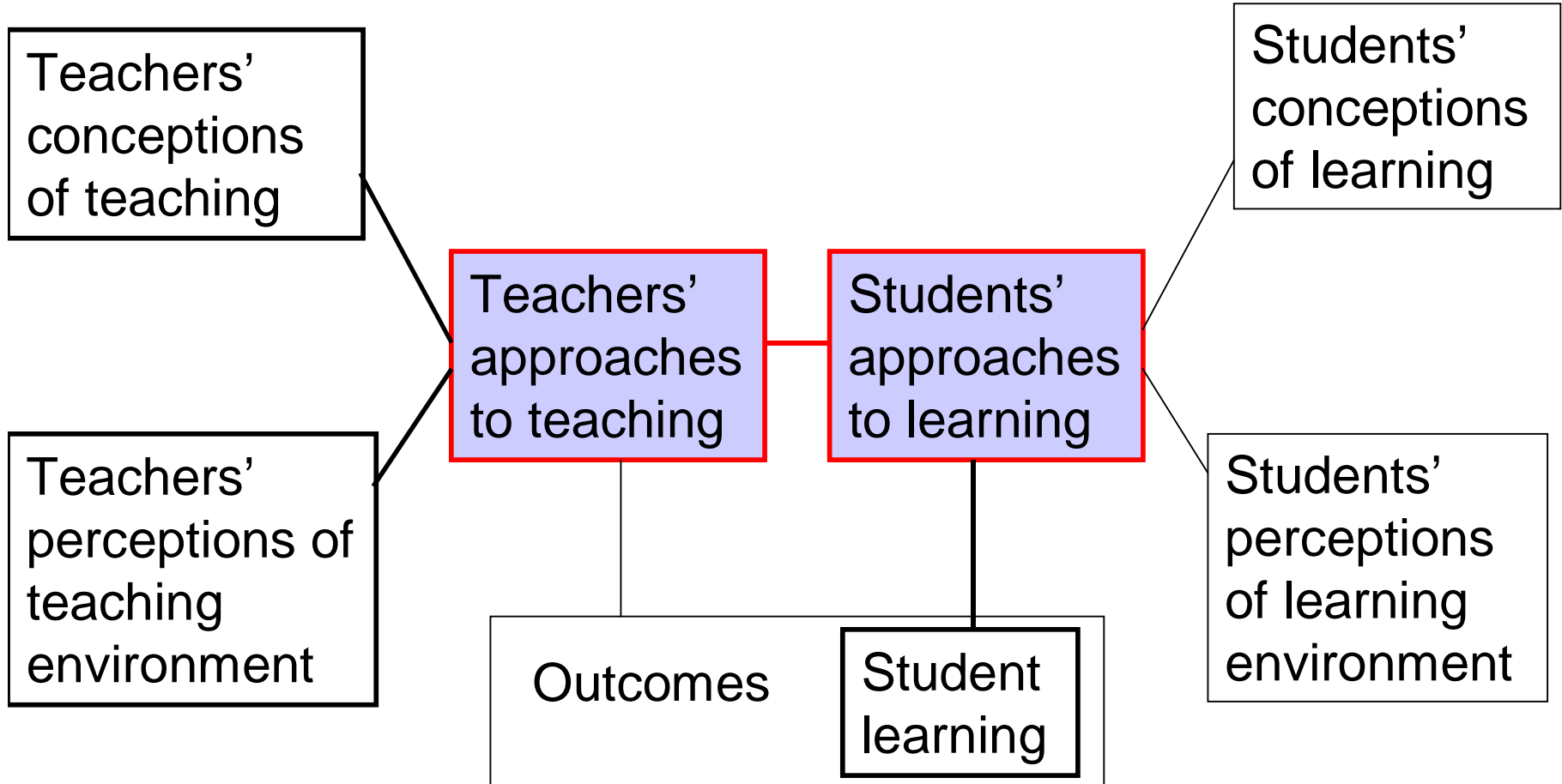
A teacher-focused approach

“Buzz groups give me and the students a break. Research shows students lose concentration if there are no breaks in a one-hour lecture.”

A student-focused approach

“Buzz groups are a means by which students can try out their understanding, and in so doing also give me an awareness of that understanding.”

Model of teaching/learning system



Approaches to teaching & learning

Variable	Variable		
	DA	ITTF	CCSF
Surface Approach (SA)	-.21	.37**	-.46**
Deep Approach (DA)		-.14	.34*
Inform. Transm./Teacher-focus (ITTF)			-.23
Conceptual Change/Student-focus (CCSF)			-

N = 55

Trigwell, Ramsden, Prosser, Martin, 1998

**Statistics will
prove anything,
even the truth**

Moynihan

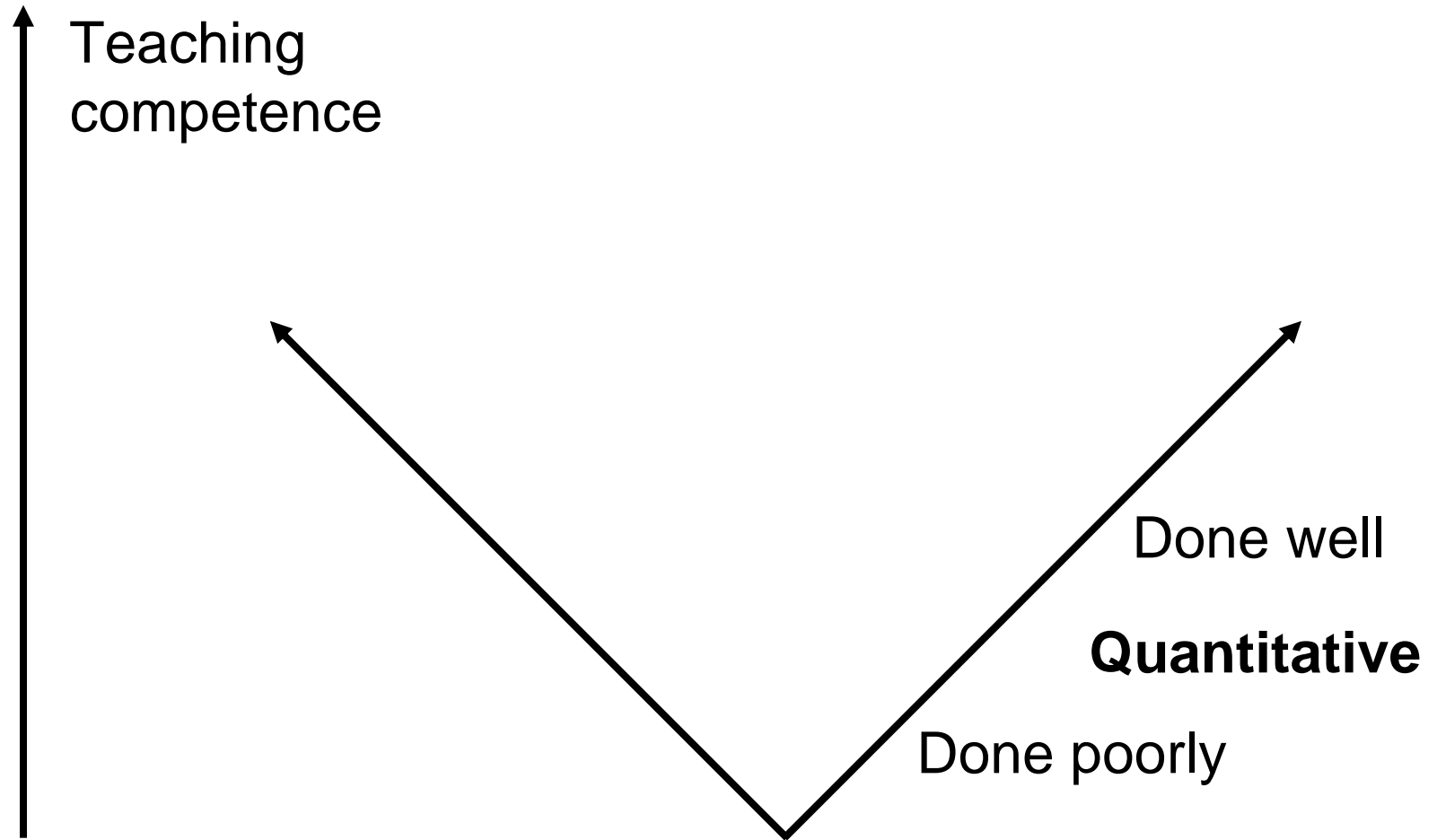
Judging teaching excellence

↑ Teaching
competence

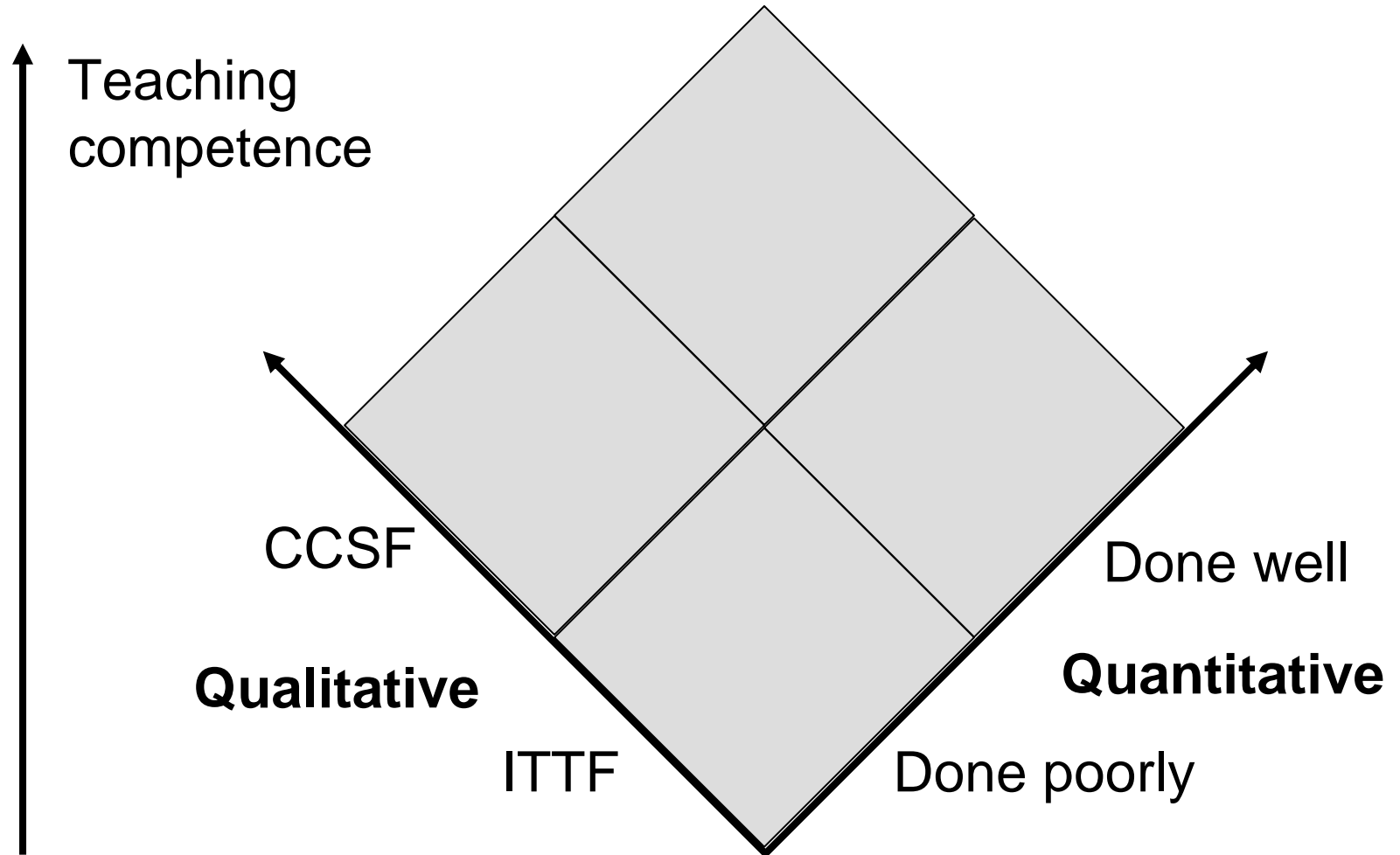
↑ Done well

Done poorly

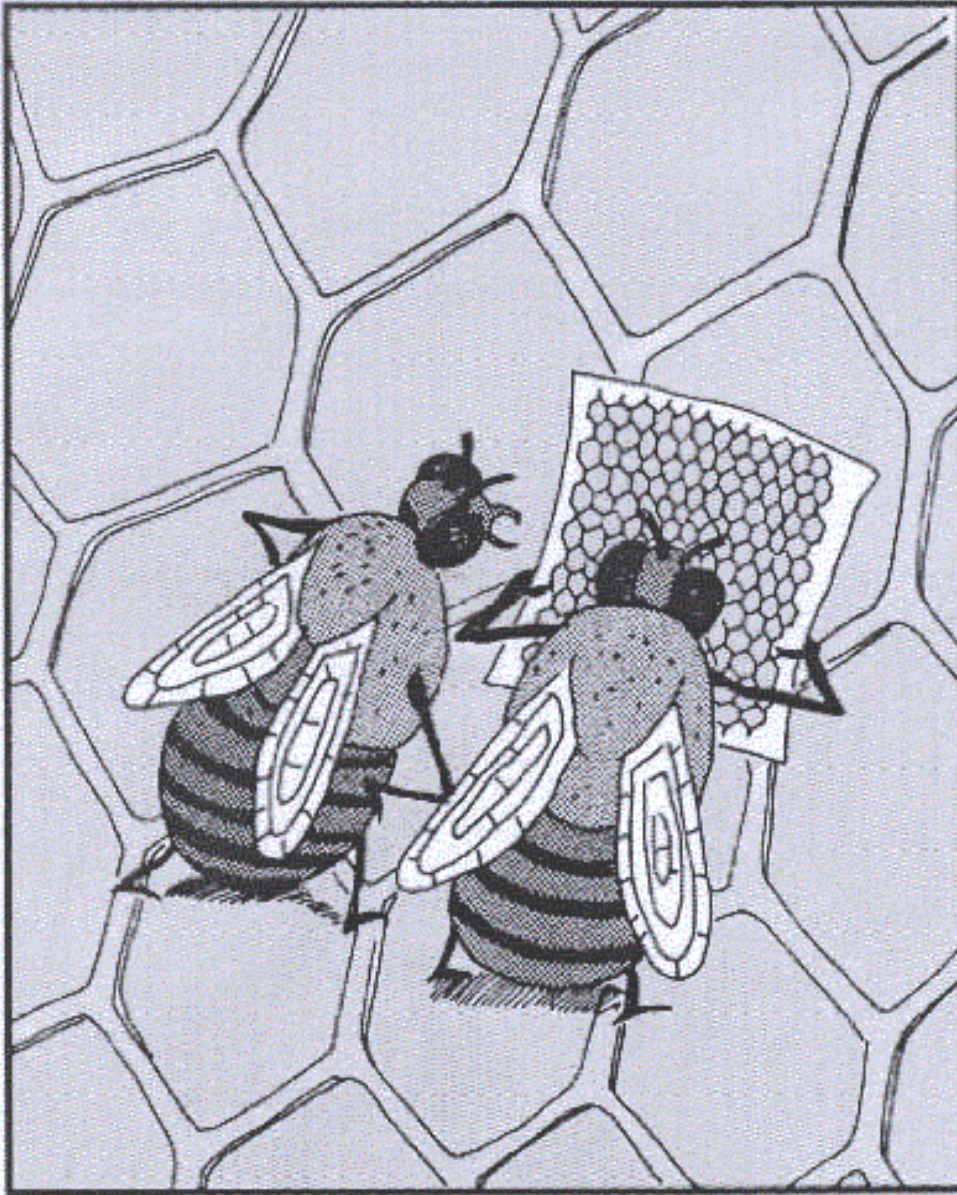
Judging teaching excellence



Judging teaching excellence



Variation in
approaches to
teaching
is related to
variation in
student learning



So, where
are we
exactly?

Structure

Forms of research-led teaching

Excellence - scholarship

Excellence - relations between teaching & learning

Subject research and teaching

Pedagogic research and teaching

Inquiry learning and teaching

Subject research and teaching

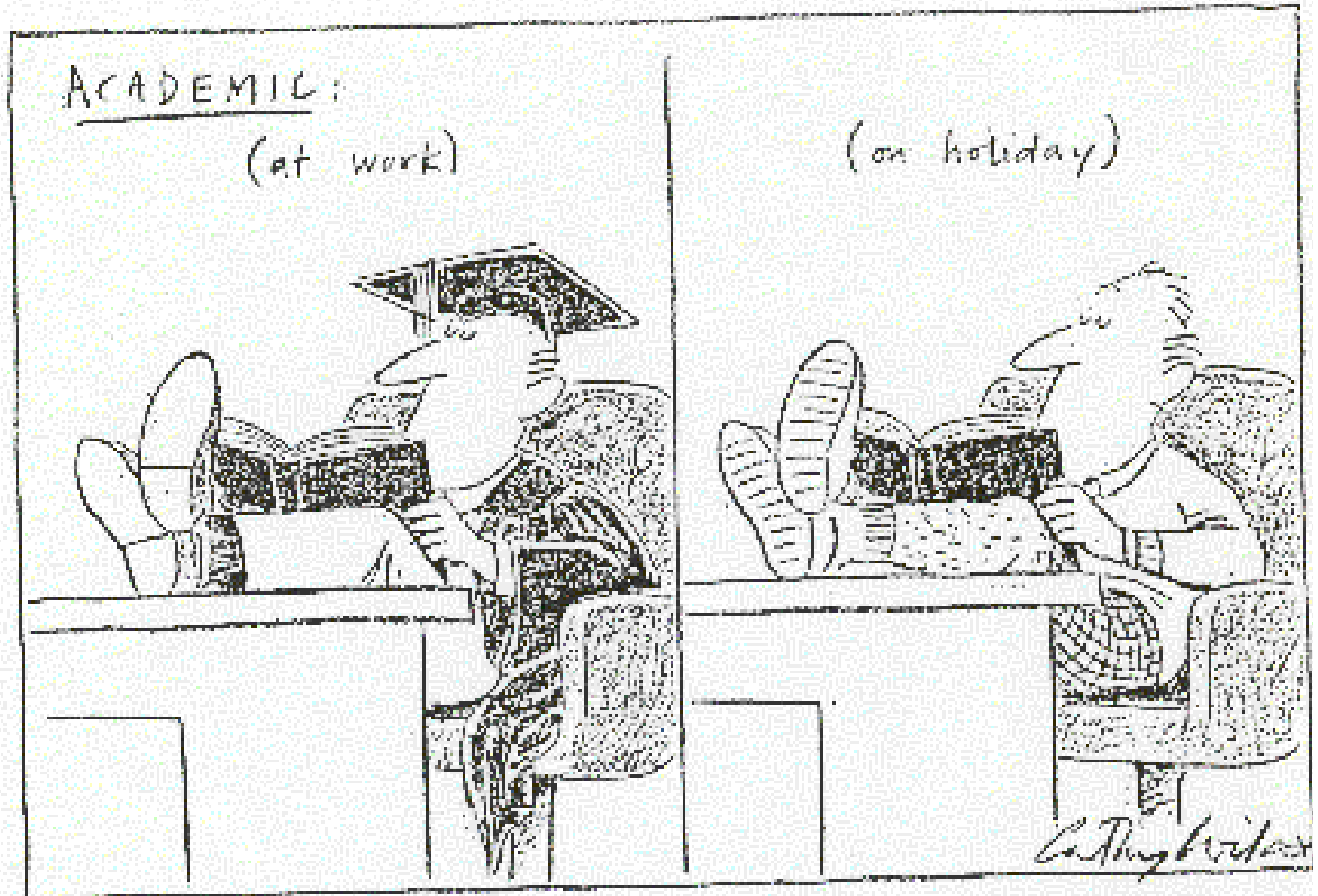
Bringing data from research into the curriculum

Undergraduate students interview teachers about their research

Research-teaching relations

Research-learning relations

Variation in conceptions



Teaching-research relations

Teaching

Parts

Parts-Wholes

Wholes

Teaching-research relations

Teaching Research	Parts	Parts-Wholes	Wholes
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Parts

Parts-
Wholes

Wholes

Teaching-research relations

Teaching Research	Parts	Parts-Wholes	Wholes
Parts	6	2	0
Parts-Wholes	7	6	5
Wholes	1	3	10

Teaching-research relations

ITTF

CCSF

Teaching Research	Parts	Parts-Wholes	Wholes
Parts	6	2	0
Parts-Wholes	7	6	5
Wholes	1	3	10

Relations between research and learning

	Deep approach	Surface approach	Learning outcome
Learning benefit from research-stimulated teaching environment	0.39	– 0.33	0.22

N=309

I feel I benefit from being in contact with active researchers
The research culture in this department has been of benefit to my learning
My learning has benefited from teaching that is well informed by research

Just imagine,
for a moment,
if there were no
hypothetical
situations

Structure

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Levels of pedagogic investigation

Level	Purpose of investigation	Evidence gathering processes will be	Investigation results in
1	To inform oneself	Verified by self	Personal knowledge

Levels of pedagogic investigation

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1	To inform oneself	Verified by self	Personal knowledge
2	To inform a group within a shared context	Verified by those within the same context	Local knowledge

Levels of pedagogic investigation

Level	Purpose of investigation	Evidence gathering processes will be	Investigation results in
1	To inform oneself	Verified by self	Personal knowledge
2	To inform a group within a shared context	Verified by those within the same context	Local knowledge
3	To inform a wider audience	Verified by those outside of that context	Public knowledge

Structure

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Inquiry learning and teaching

Research processes and inquiry learning

Discovery, inquiry, ... (e.g. problem-based learning)

Conceptions of research

External (e.g. conferences, networking, posters, teamwork, ...)

Internal (e.g. methodology, interpreting data,...)

Inquiry learning

E.g. Glasgow Caledonian University

Second-year undergraduate geography students have the option of submitting coursework in the form of a briefing paper based on a small-scale study of the local community. They can elect to have their report 'refereed' by a local resident, usually a Royal Scottish Geographical Society's Regional Centre member, and in some cases reports are published.

Learning on final-year projects

Knowledge of the discipline

Knowledge about the discipline

- Methods of inquiry (e.g. problem solving)

- Relations between knowledge claims and data (e.g. potential for multiple interpretations of data)

- Culture of research (e.g. role of journals, support)

General skills (e.g. creative thinking, communication)

Excellence in
inquiry-led teaching
requires the use of
a student-focused
approach to teaching

Sources

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