

Engineering Education Research: An Overview of Methods in a Unified Framework for Scholarly Investigation of Learning

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- The nature of Disciplinary Education Research?
- Scholarly educational practice
- A framework and its applications
- Conclusions and discussion



Disciplinary Education Research

- To define the role of Disciplinary Education Research it is useful to first discuss the nature of scholarship.
- Boyer [1990] has had considerable influence, defining four scholarships
 - Discovery – traditional conception of research
 - Integration – multi/inter-disciplinary research
 - Application – moving beyond discovery
 - Teaching – inspiring future generations



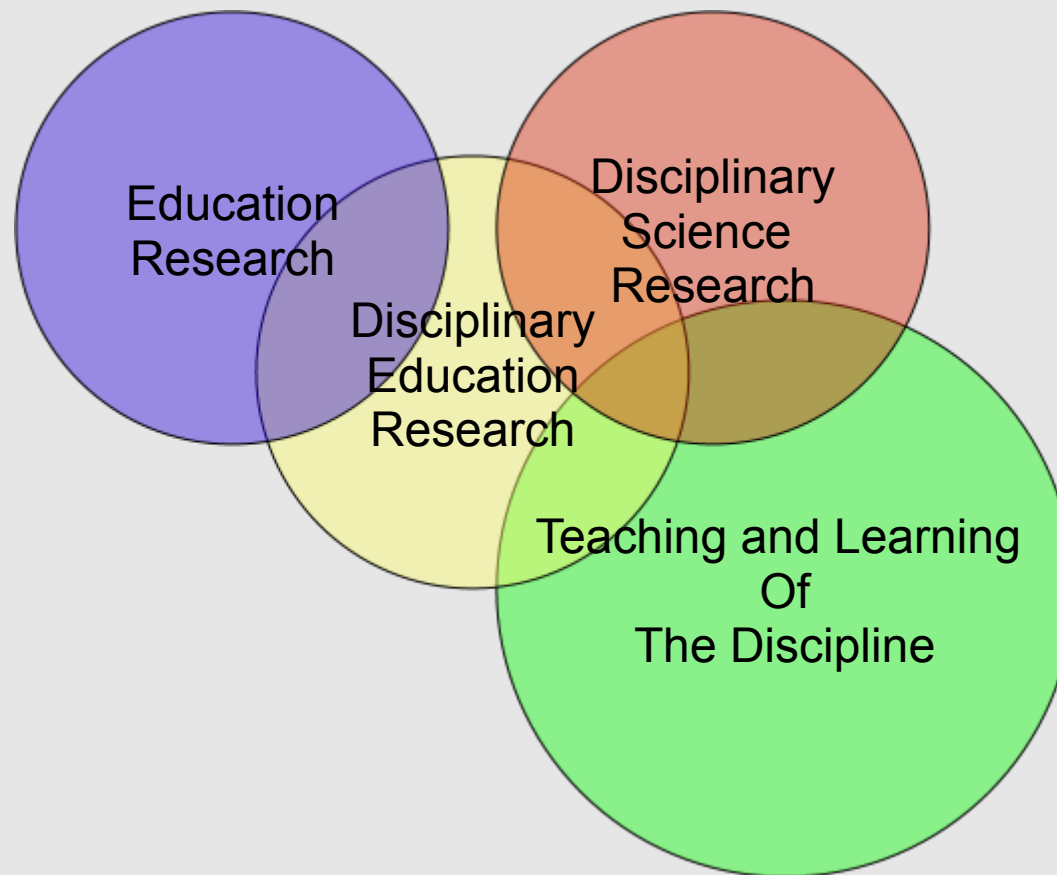
Defining Scholarship

Significant Results - The scholar's work contributes consequentially to the field. The scholar's work opens up additional areas for further exploration.

Effective Presentation - The scholar uses appropriate forums to communicate the work to its intended audiences. The scholar presents her message with clarity and integrity.

Reflective Critique - The scholar critically evaluate his own work? Does the scholar use evaluation to improve the quality of future work?

Disciplinary Education Research





What is our goal?

Introspection

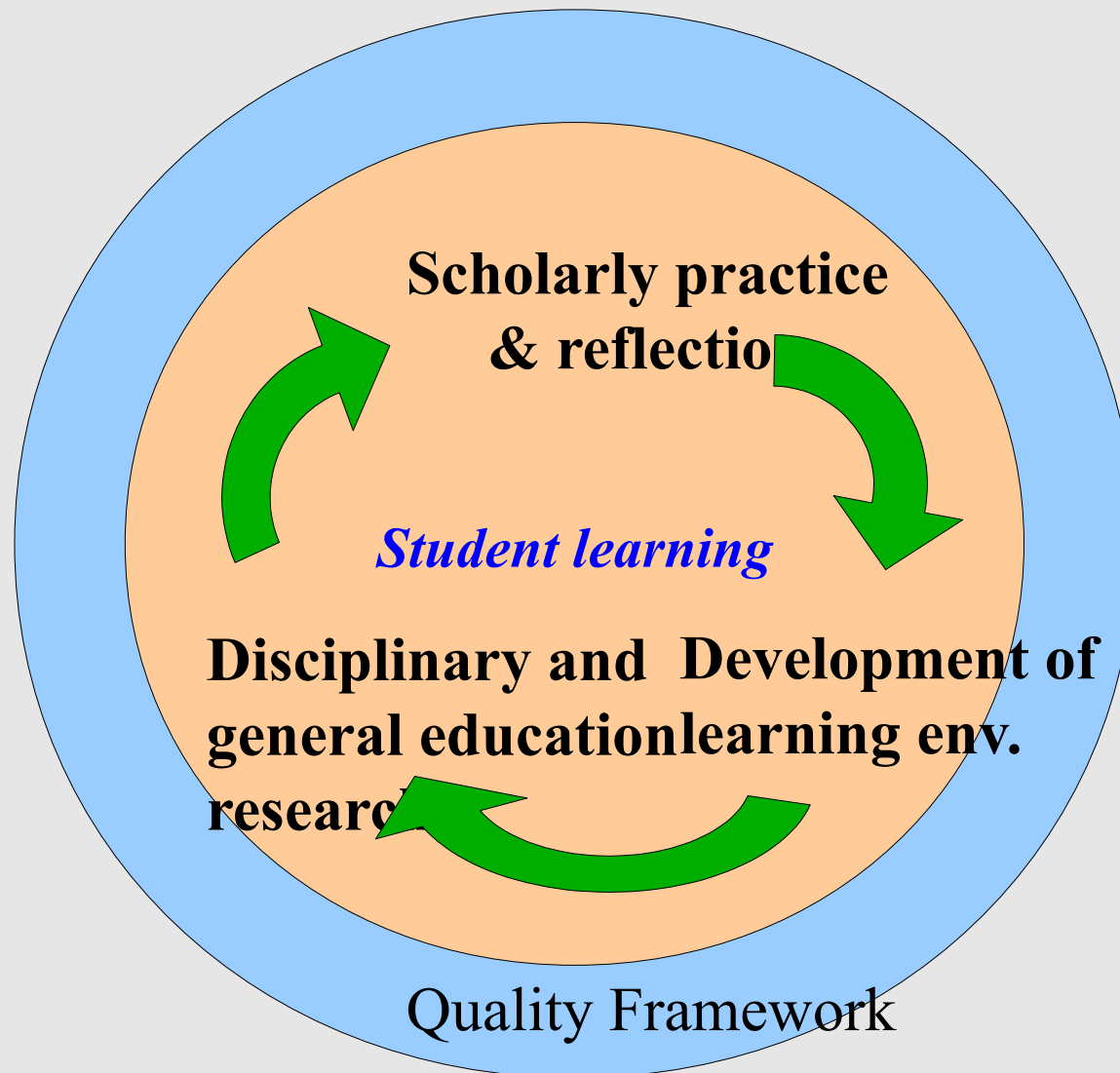
Scholarly discourse

Intuition

Teaching Practice in our Discipline

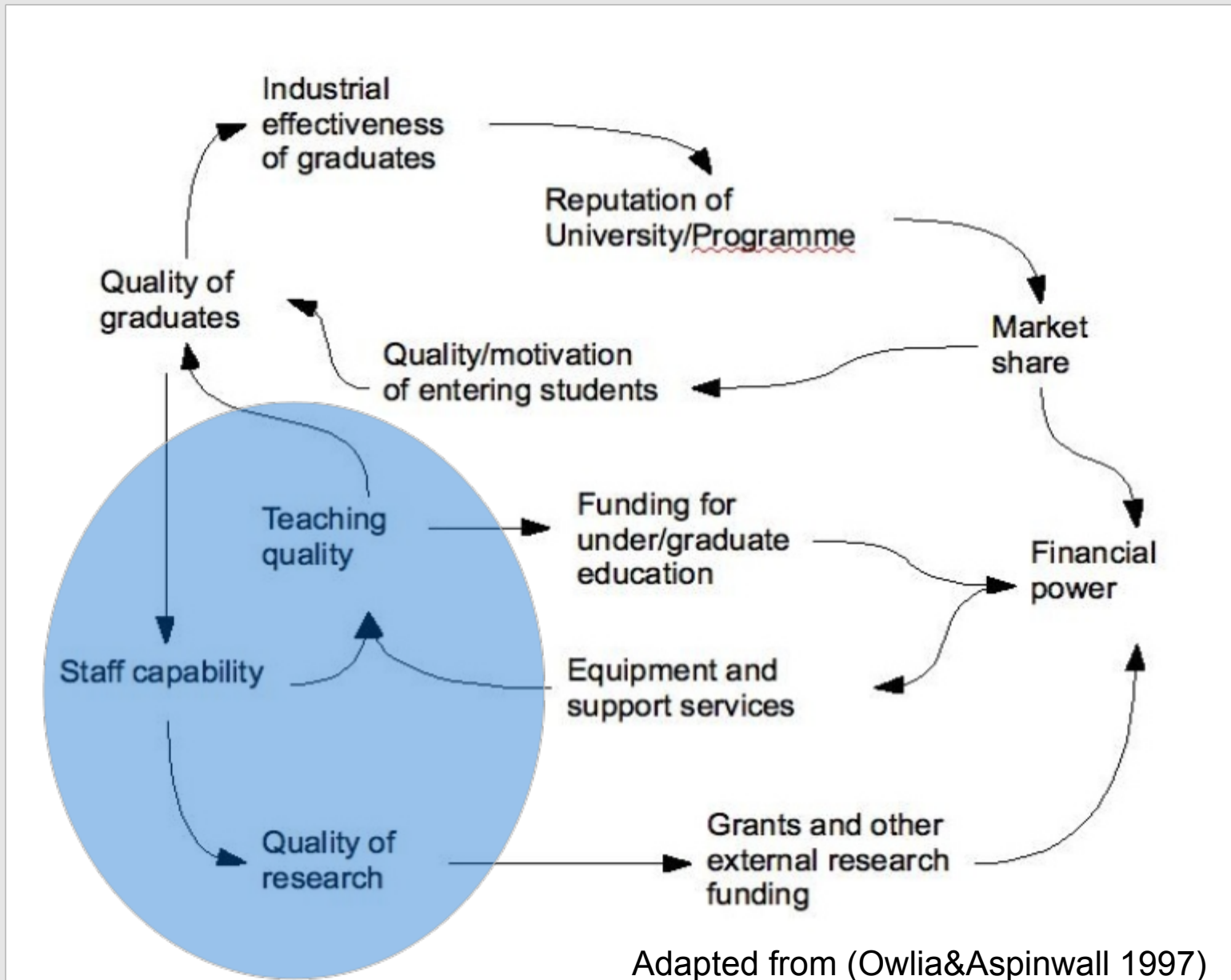
Evidence

Evidence Based Reflective Practice



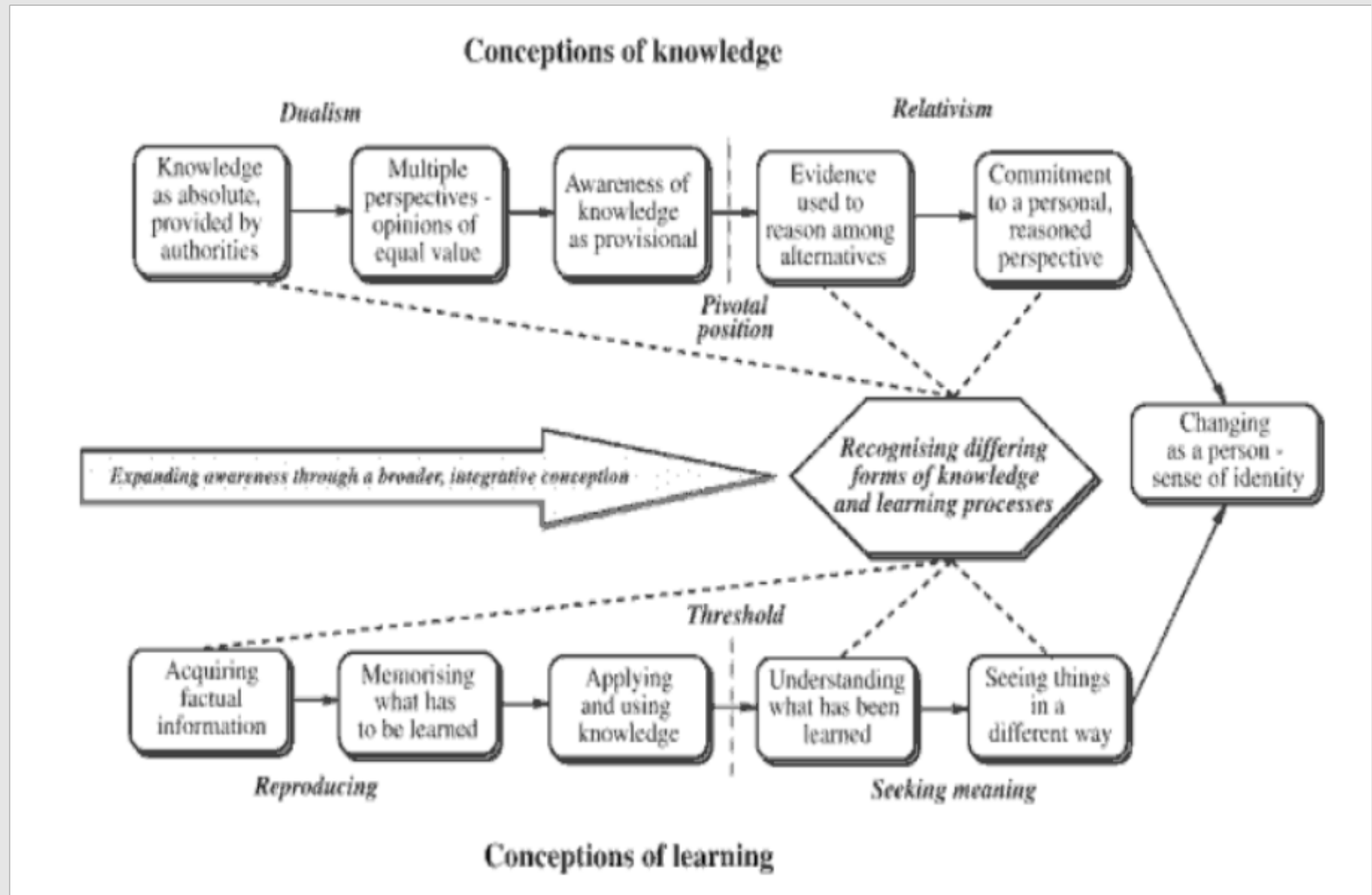


Quality and Sustainability



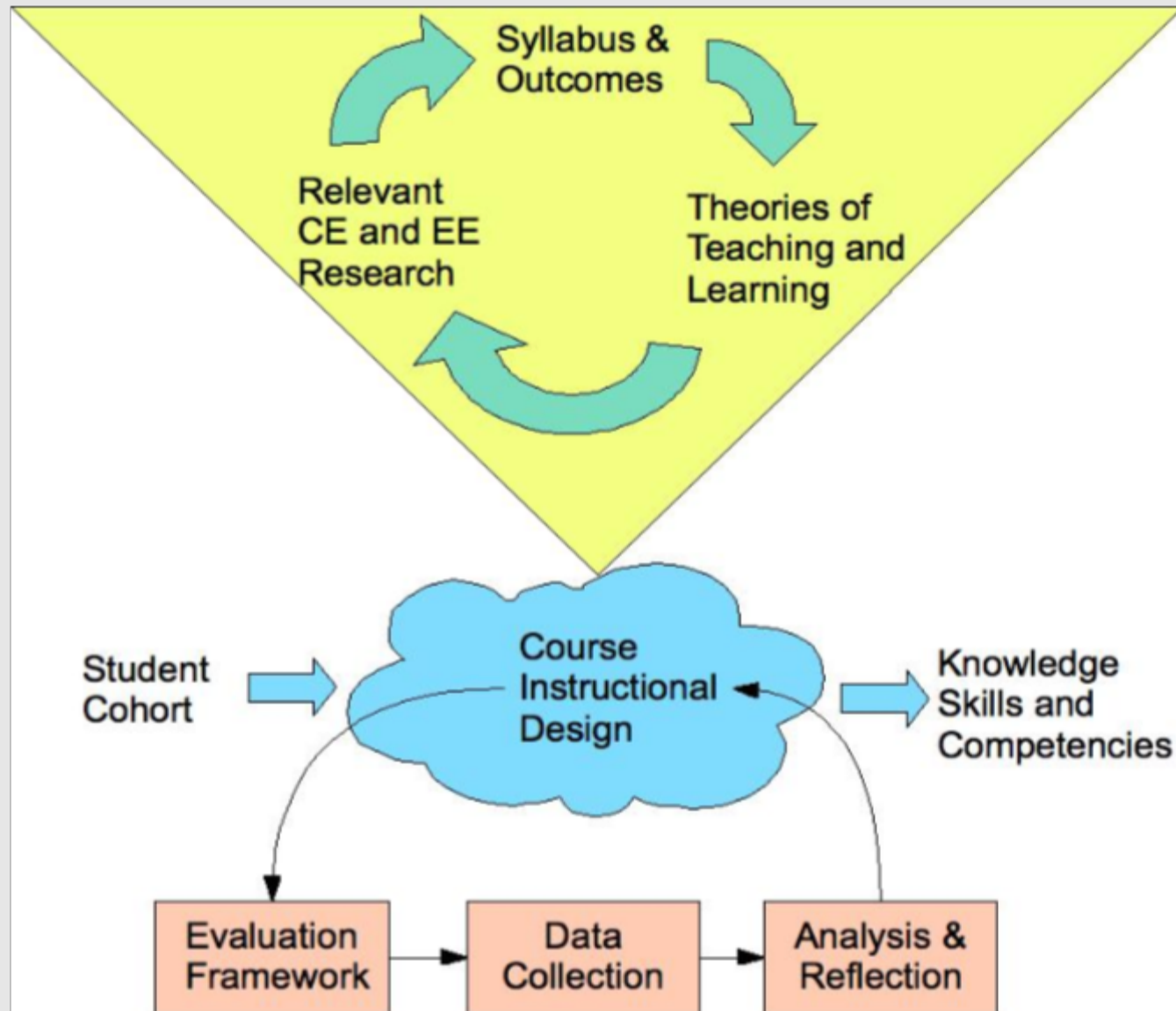


Learner Development



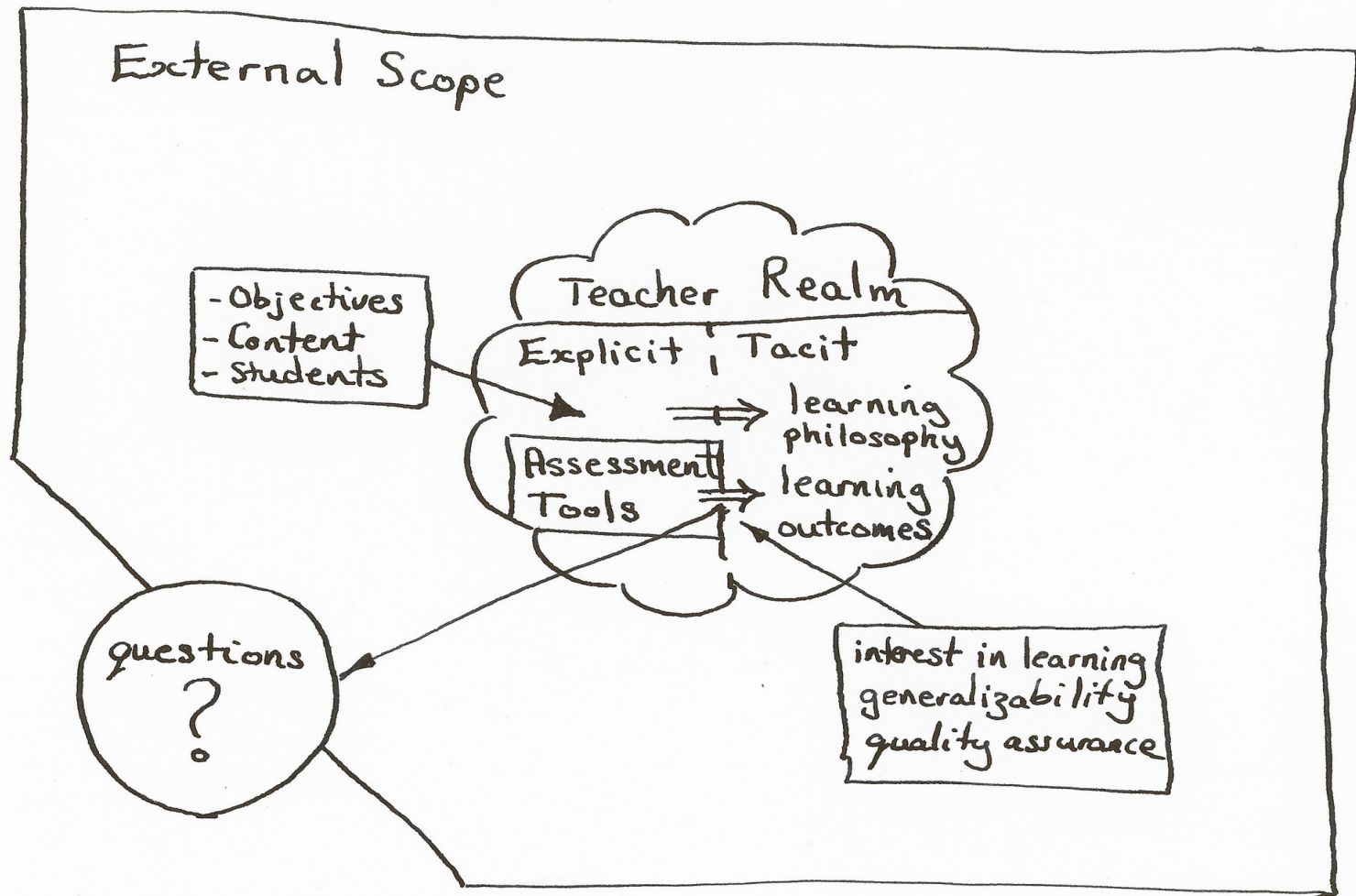


Modelling Reflective Practice



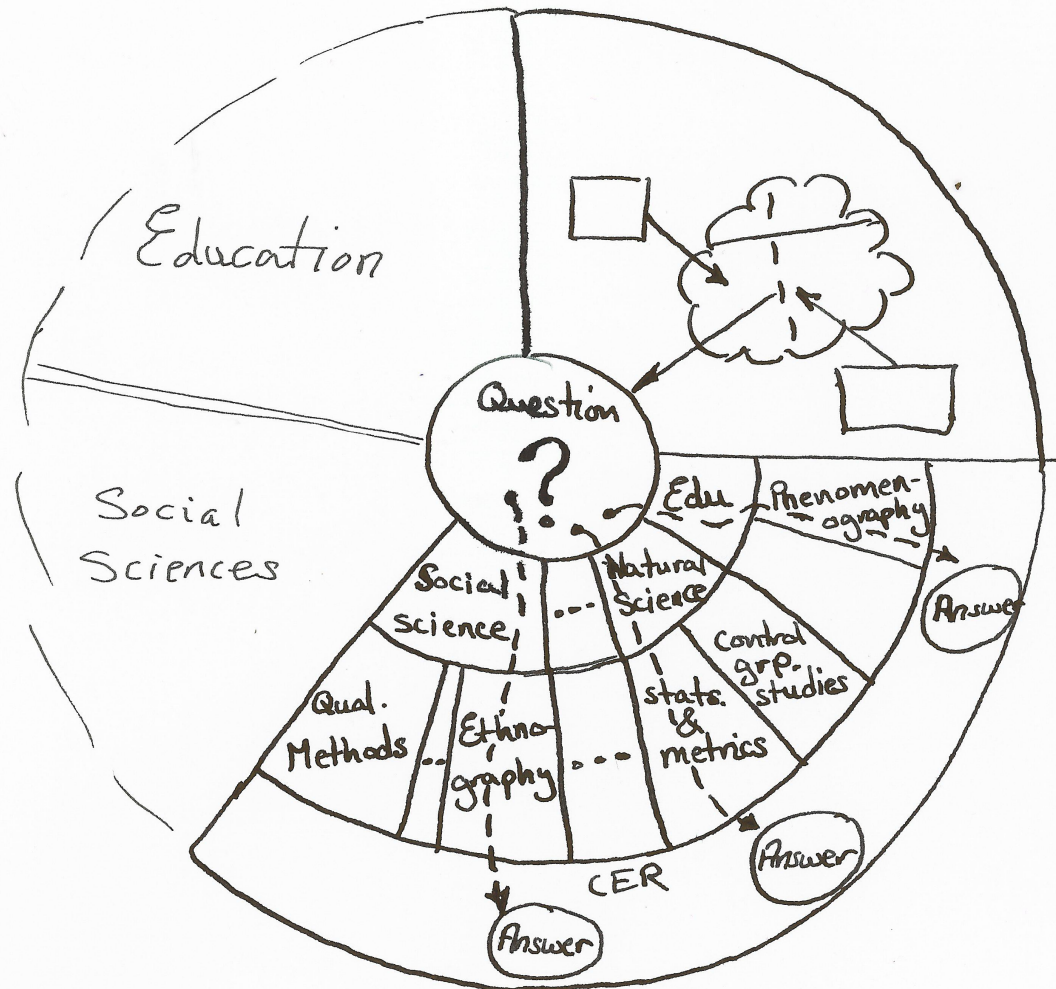


Practitioner Pragmatism



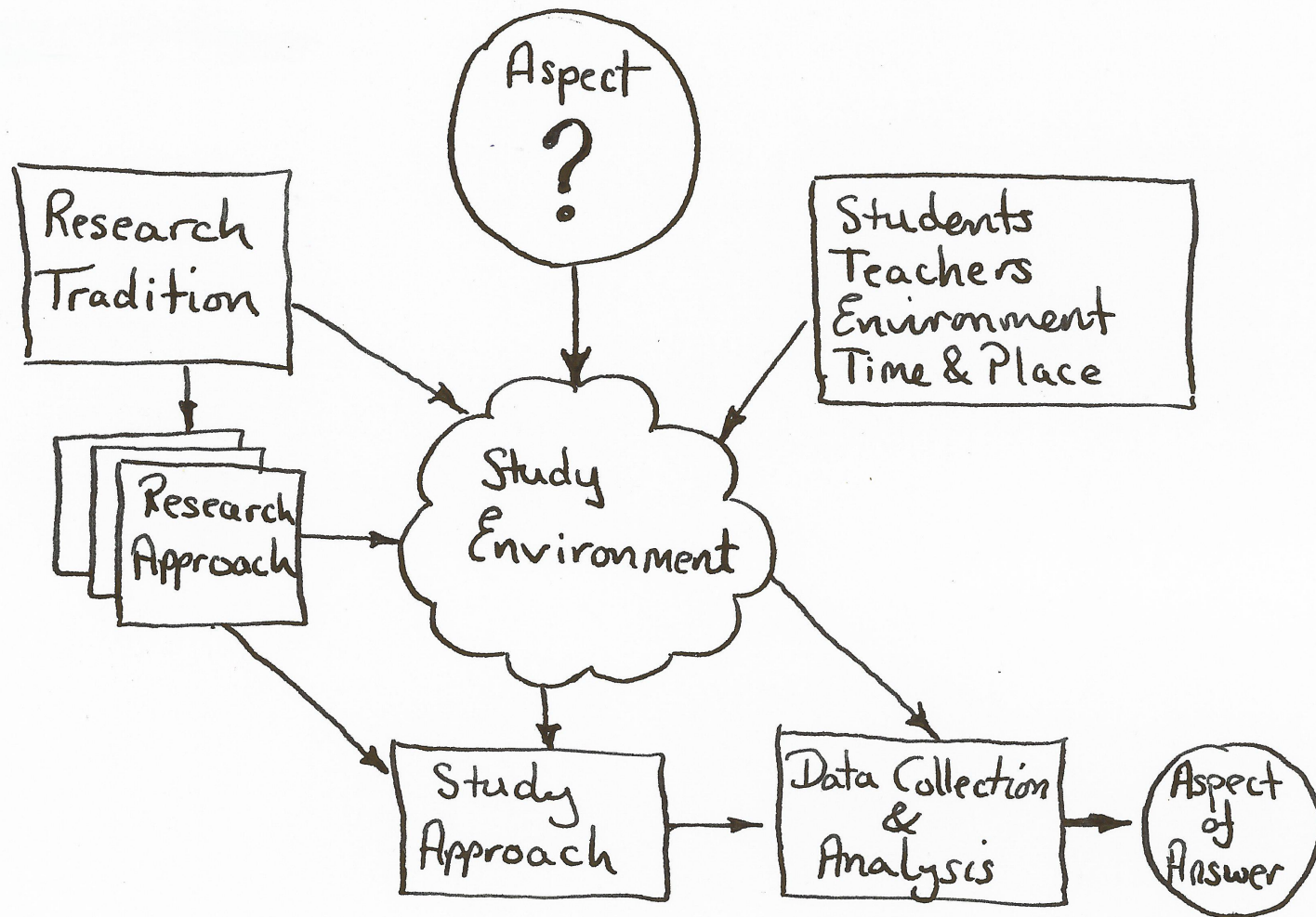


Practitioner Pragmatism





Practitioner Pragmatism





Unrealistic?

- Surely we cannot expect every university teacher to be a teaching and learning researcher in their discipline?

Intention /Strategy	Know the literature	Improve teaching	Improve student learning	Improve student learning generally
Collect and read literature	A	B		
Investigate own teaching and student learning			C	
Relate discipline knowledge to teaching and learning literature			D	
Communicate results of own work and existing literature				E

Closing remarks

- **Computing education research** is an important resource in maintaining educational excellence
 - provides a bridge connecting disciplinary and educational research
 - informs good teaching practice
 - provides mechanisms for quality assurance and renewal
- **In knowledge lies strength**, let us use that strength to the benefit of our students and our discipline.



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