ENHANCING LEARNING AND TEACHING IN HIGHER EDUCATION

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ENHANCING LEARNING AND TEACHING IN HIGHER EDUCATION

The pitfalls and challenges of 'trying something new', and what can help to make it a success ...

WHEN WE'RE 'TRYING SOMETHING NEW' IN OUR TEACHING

Why do we [and our colleagues] often "not get it right first time"?

We've learnt about a new idea for teaching or assessing our students that seemed to work well somewhere else, but when we try it out in a course we teach, it just doesn't have the impact we'd hoped for...

And consequently, perhaps:

- **we give up** (because 'something just didn't seem to work')?

- **or not even bother to think about innovating,** because trying to do 'new things' is so risky and difficult?

WHEN WE'RE 'TRYING SOMETHING NEW' IN OUR TEACHING

And more generally, and more constructively, when we're trying 'something new', how can we help ourselves to make it a success?

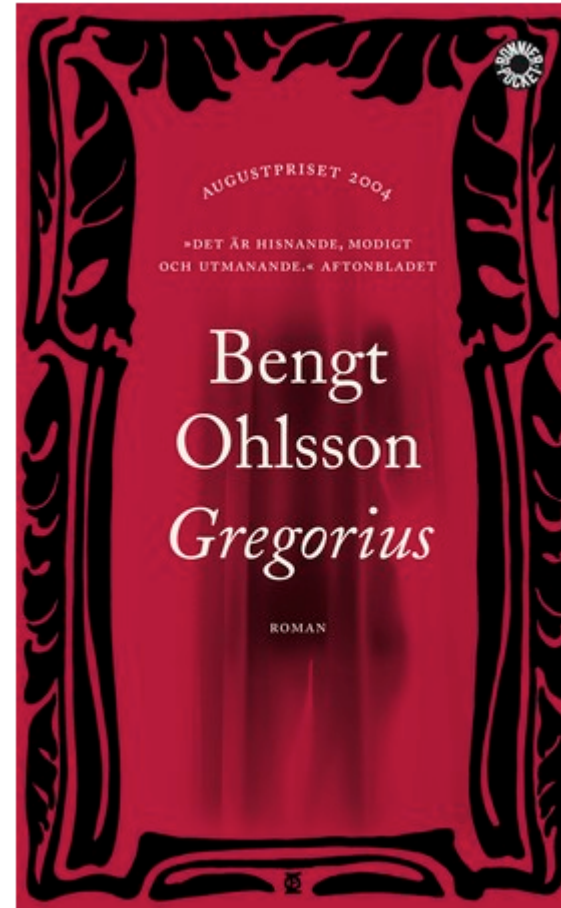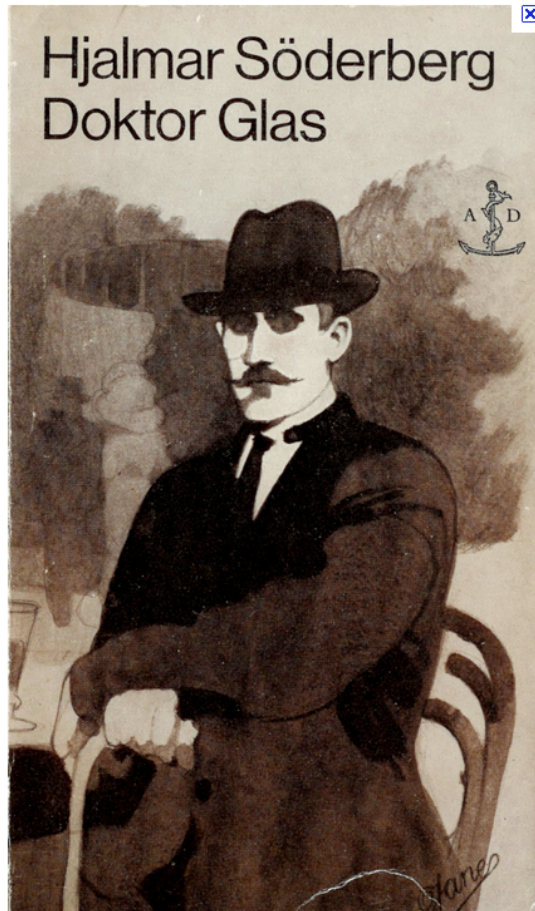*Equally, when our colleagues are trying something new, how can we help <u>them</u> to make it a success?*

Dual perspectives

➢ the innovating practitioner

➢ the 'academic developer'/'learning technologist'/'supportive colleague
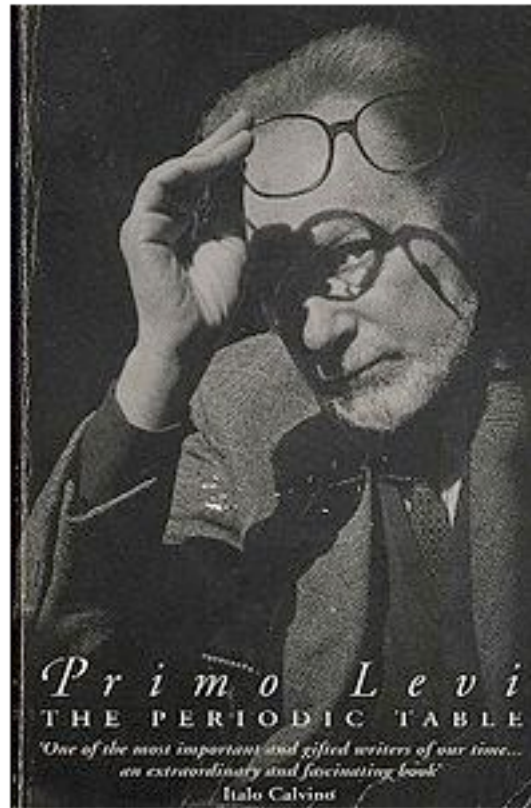
DUAL PERSPECTIVES
DOCTOR GLAS AND PASTOR GREGORIUS

ON NOT GETTING IT RIGHT FIRST TIME

ON NOT GETTING IT RIGHT FIRST TIME

The writer and chemist **Primo Levi** (best known for *If This Is a Man)*

The Periodic Table [***Periodiska Systemet***] blends fiction, autobiography and scientific understanding. Each 'chapter'/story takes one of the elements of the periodic table as a theme.

In '**Potassium**', he describes how, keen to gain work as a lab assistant in the early years of the Second World War, he had tried to purify benzene.

Unable to find the sodium the instructions called for, he substituted potassium, "sodium's twin", with explosive consequences.

He draws this moral from the incident :

ON NOT GETTING IT RIGHT FIRST TIME

"[…] **Man måste vara misstrogen mot det snarlika (natrium är snarlikt kalium, men med natrium skulle ingenting ha hänt), mot det praktiskt taget identiska, mot det ungefärliga, mot "eller också", mot alla surrogat och alla lappverk. Skillnaden kan vara liten men resultatet bli ett helt annat, som det av en omlagd järnvägsväxel; kemistens yrke består till stor del i att akta sig för dessa skillnader, i att väl känna till dem och förutse deras effekter. Men det gäller inte bara kemistens yrke."**

Levi, P. *Periodiska Systemet.* (p. 61)

ON NOT GETTING IT RIGHT FIRST TIME

In higher education, shouldn't we also be wary of *det snarlika* (the almost-the-same)**, the *det praktiskt taget identiska*** (the practically identical) **?**

[Yes, I'd argue, because it's often the reason why we 'don't get it right first time']

But the analogy can only stretch so far .....

> In Primo Levi's chemistry lab, the problem was not having the right 'element'; (if he had had it, the experiment could have succeeded).

> In higher education, by contrast, there's no simple 'right element': we have to contend with **contingency** — the diversity and almost endless variability of circumstance

> Yet are the challenges of contingency sufficiently recognised ?

THE SEARCH FOR 'WHAT WORKS' AND 'BEST PRACTICE'

- Rising interest in **evidence-based practices and policies**

- But risks of narrow focus in systematic reviews (Davies, 2002) on **meta-analyses** and '**effect sizes**'

- Underlying search for '**what works**' and for '**best practice**' that is open to question

WHAT WORKS BEST? [Effect Sizes] (from Hattie, 2009)

Table 3: Ranking of effects relevant to higher education

Rank	Domain	Influence	d
1	Student	Self-report grades	1.44
3	Teaching	Providing formative evaluation to lecturers	.90
8	Teacher	Teacher clarity	.75
9	Teaching	Reciprocal teaching	.74
10	Teaching	Feedback	.73
12	Teaching	Spaced vs. Mass Practice	.71
13	Teaching	Meta-cognitive strategies	.69
17	Curricula	Creativity Programs	.65
18	Teaching	Self-verbalisation/Self-questioning	.64
19	Teacher	Professional development	.62
20	Teaching	Problem solving teaching	.61
21	Teacher	Not Labelling students	.61
24	Teaching	Cooperative vs. individualistic learning	.59
25	Teaching	Study skills	.59
29	Teaching	Mastery learning	.58
30	Teaching	Worked examples	.57
34	Teaching	Goals - difficulty	.56
36	Teaching	Peer tutoring	.55
37	Teaching	Cooperative vs. competitive learning	.54
48	School	Small group learning	.49
49	Student	Concentration/Persistence/ Engagement	.48
56	Teacher	Quality of Teaching	.44

THE SEARCH FOR 'WHAT WORKS' AND 'BEST PRACTICE'

An example

- **Synthesis** of "over 800 meta-analyses, including about 250+ million students, 50,000+ studies, about 150,000 effect-sizes, from early childhood through adult education, in the search for what works best (Hattie, 2009)."

- *Hattie's conclusions*:

    1. 'Almost everything works'

    2. 'What works in schools, also works in universities'.

WHAT WORKS BEST? [Effect Sizes]   (from Hattie, 2009)

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THE SEARCH FOR 'WHAT WORKS' AND 'BEST PRACTICE'

Questioning Hattie's conclusions:

❖ The phenomenon of 'publication bias'

❖ Extrapolating from the school system to a much more diversified universities sector

❖ The challenges of contingency

UNDERSTANDING PHENOMENA IN CONTEXT

"In the case of educational research, its objects of study (people, cultures, national systems) are not timeless objects where **a finding at one particular time can be assumed to hold in the same way at another place or at another time when different contexts hold**."

(Yates, 2003, p. 3)

"Part of the difficulty in developing a better understanding of the student experience is the assumption that research has to produce particular types of large-scale, generalisable finding.

And yet current research into learning in other areas of education increasingly points to **the need to understand phenomena in context; to recognise that situations differ, and are specific, and that specific problems need particular answers**."

Haggis (2006) p. 20

THE CHALLENGES OF CONTINGENCY

The many-sided contingency of educational practices

DIMENSIONS OF VARIATION :

- ➢ by **subject area** or **discipline**
- ➢ by **level of study**
- ➢ by **organisational culture**
  (university/faculty/department/programme)
- ➢ by **sector** and **system**
- ➢ **over time**

THE EXAMPLE OF FEEDBACK

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What is 'feedback' in higher education?

- *Feedback comprises information, processes, activities or experiences which aim to encapsulate, enable, consolidate or boost students' learning*

- Feedback can focus on:

attainment	what a student knows, understands or can do at a given point in time
progress	where a student currently stands in relation to a specified goal, target or level
achievement	what a student has achieved as demonstrated in a completed assignment or task

CONTINGENCIES OF FEEDBACK
What forms does / can feedback take?

pro forma written comments **exemplars**
exams **guidance** feedforward *traditional*
collaboration *on-display learning* peer audio
past questions **screencast** whole-class
clickers in-class assignments *cumulative* **editing**
using feedback well elective *self* co-revision
e-feedback redrafting reviewing progress
criteria **dialogue** *supervision* interaction
new briefing involvement *faster feedback*
model answers training *video* online

The who, where and when of feedback

- **Sources of feedback**
  - Lecturers, tutors, demonstrators, supervisors, mentors
  - Fellow-students / peers, a student's own reflections
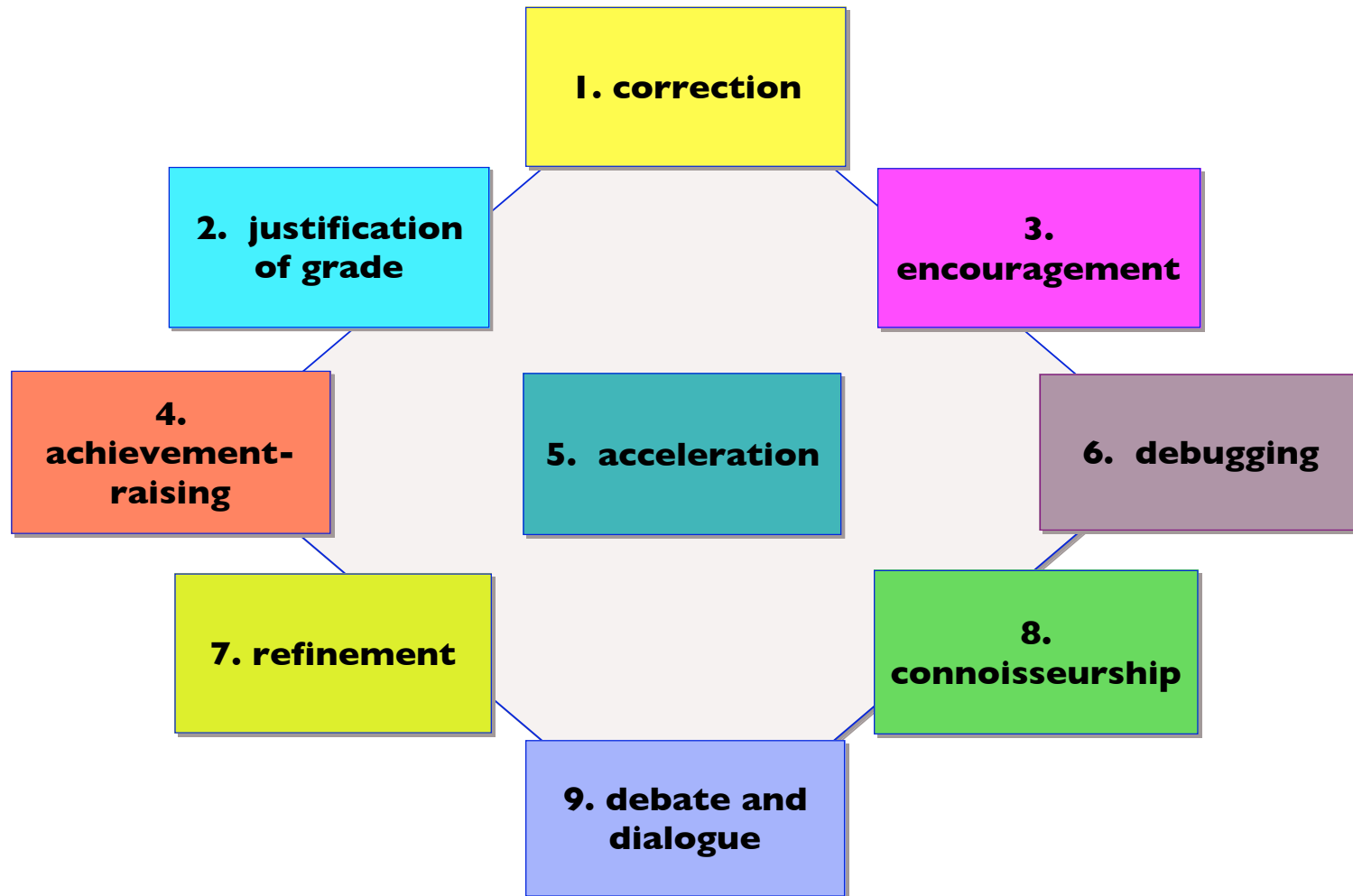 - The audience for a seminar or poster presentation, professional practitioners

- **Feedback where and when?**

formally		informally	
in timetabled classes / online		outwith timetabled classes / offline	
intrinsic		extrinsic	
prior to a task or activity	*during* a task or activity		*after* a task or activity

CONTINGENCIES OF FEEDBACK
What purposes can feedback have ?

1. correction

2. justification of grade

3. encouragement

4. achievement-raising

5. acceleration

6. debugging

7. refinement

8. connoisseurship

9. debate and dialogue

CONTINGENCIES OF FEEDBACK
The disciplinary dimension

❖ **Diversity** in types of **assignments and assessments across disciplines** and subject areas

❖ Distinctive *ways of thinking and practising* **in a discipline or subject** area

  (e.g. McCune and Hounsell, 2005; Hounsell and Anderson, 2008)

❖ **'Signature pedagogies'**

  (Shulman, 2005)

Taking an *Evidence-Informed* Approach to Innovating

HOW CAN PUBLISHED RESEARCH AND SCHOLARSHIP HELP?

How can research and scholarship help address contingency?

- [Scale, extent, frequency/incidence]

- **Conceptualising**

- **Dissecting and modelling**

- **Problem-setting and trouble-shooting**

- **Value of grounded, discipline-specific accounts of practice**

1. Conceptualising feedback

- Feedback as a dinosaur practice, poorly adapted to contemporary mass higher education

- Feedback as a 'loop' or 'cycle'

- **Feedback as dialogue**

- **Feedback as developing connoisseurship**

- Feedback as formative assessment

HOW RESEARCH & SCHOLARSHIP CAN HELP WITH CONTINGENCY
conceptualising feedback as a loop   *(Hounsell, et al. 2008)*

1.
STUDENTS' PRIOR EXPERIENCES OF ASSESSMENTS
IN THE SUBJECT/IN THE UNIT

6.
FEED-FOR WARD
i.e. DEPLOYMENT OF ENHANCED UNDERSTANDING AND/OR SKILLS IN SUBSEQUENT ASSESSMENTS

2.
PRELIMINAR Y GUIDANCE
ABOUT EXPECTATIONS & REQUIREMENTS

feed-forward into next assignment/ assessment

5.
SUPPLEMENT AR Y SUPPORT

embark on assignment

3.
ONGOING CLARIFICATION
OF EXPECTATIONS

review feedback

4.
FEEDBACK ON PERFORMANCE/ ACHIEVEMENT

submit assignment

THE UNIVERSITY OF EDINBURGH

feedback as developing a grasp of discipline-specific expectations, conventions and standards
(e.g. Sadler, 1989, 2010; Hounsell, 2007)

"[Students] need to learn to discover what quality looks and feels like, and the aspects – whether large or small – that detract from it. They need to develop a vocabulary for expressing and communicating what they find. Furthermore, they should gradually attune their growing realisations and discourse to the norms of the discipline, field or profession"

(Sadler, 2010)

HOW RESEARCH & SCHOLARSHIP CAN HELP WITH CONTINGENCY
conceptualising feedback and feedback strategies

Feedback as a loop	• cumulative and feed-forward assignments • draft-comment-revise
Feedback as connoisseurship	• exemplars • collaborative assignments • peer feedback

2. Dissecting and modelling feedback (Beaumont et al. 2008)
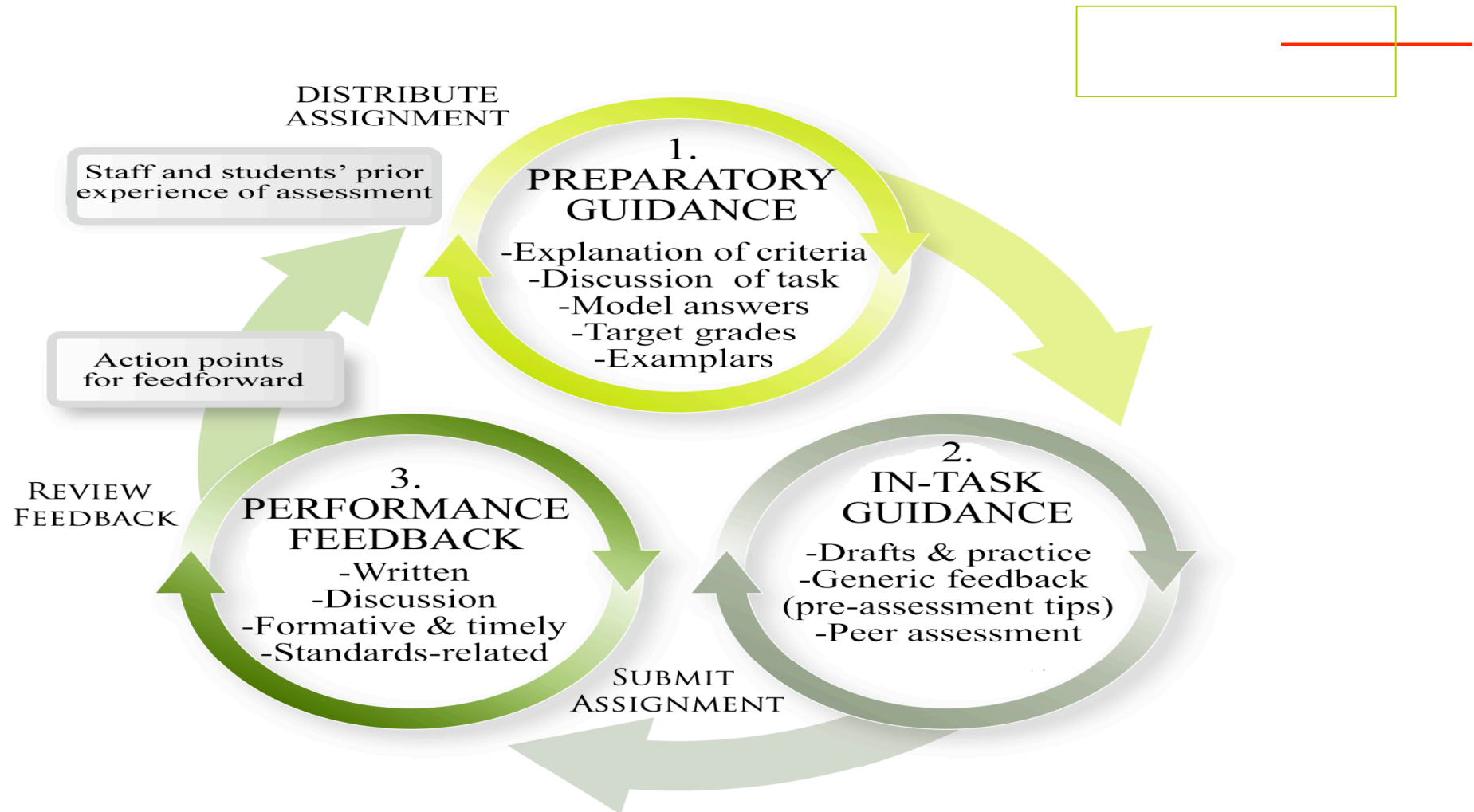
3. Problem-setting & troubleshooting (Taylor, 1986)

DISORIENTATION

disconfirmation

naming the problem

EQUILIBRIUM

EXPLORATION

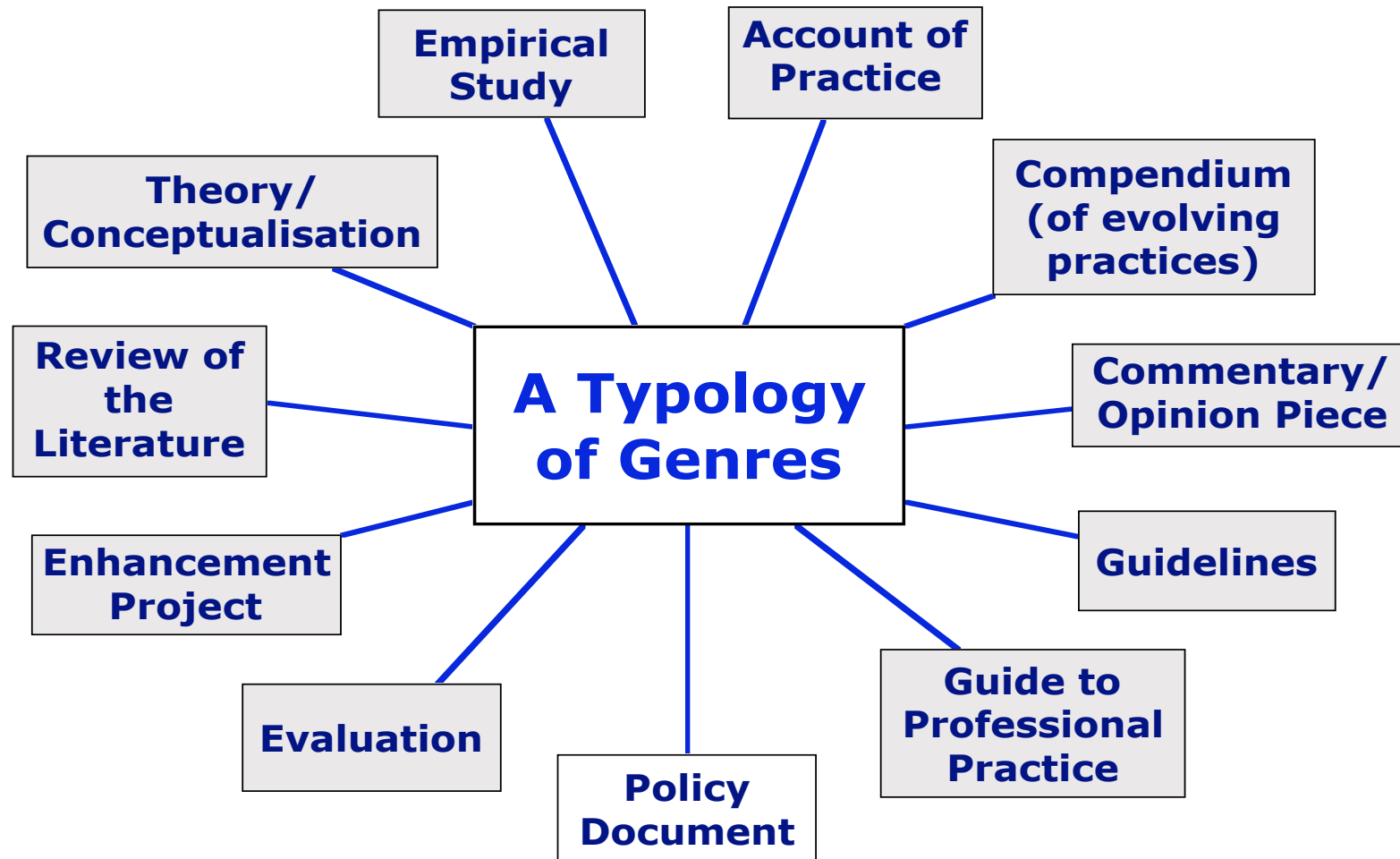sharing the discovery

reflection

REORIENTATION
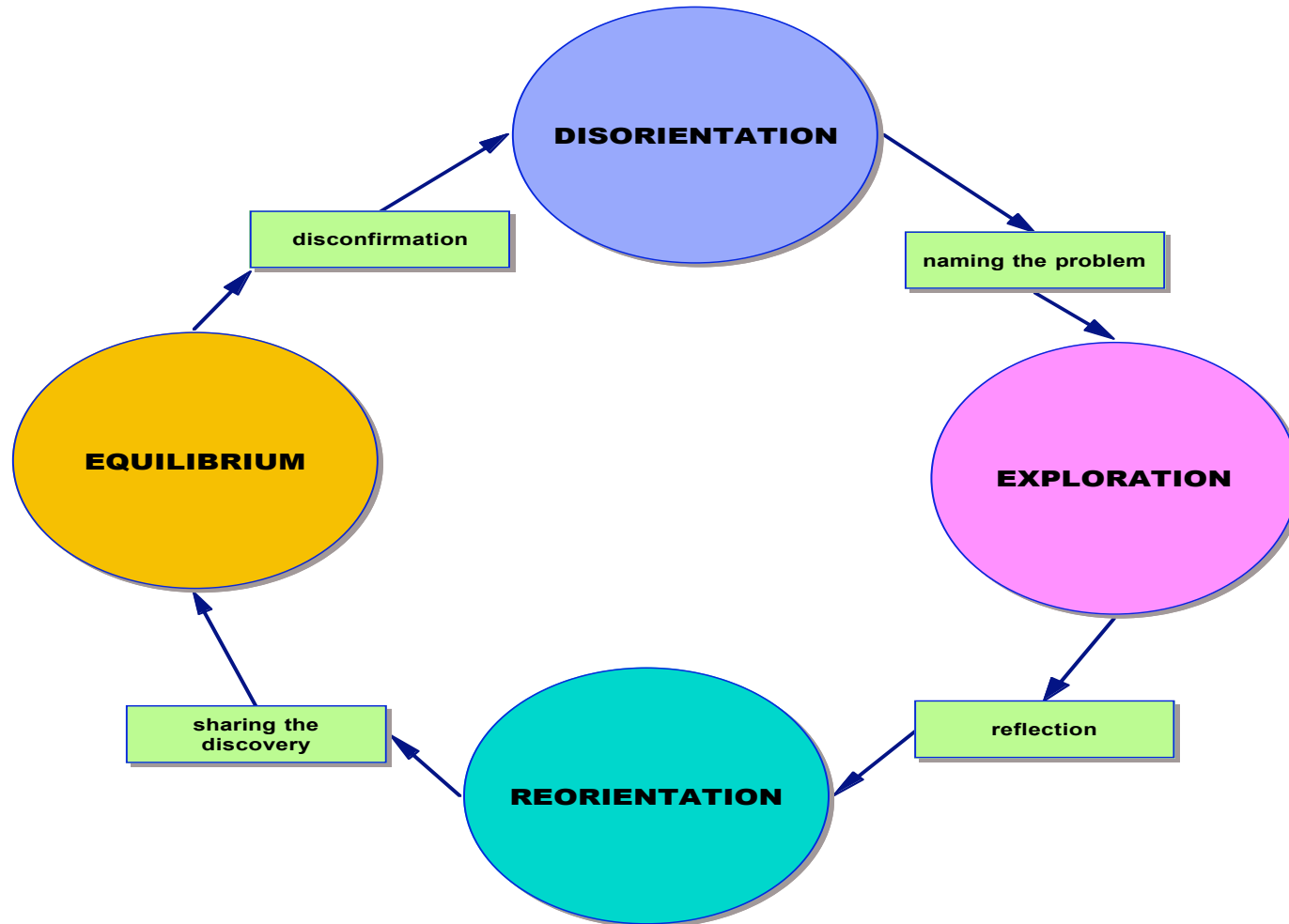
THE VALUE OF 'ACCOUNTS OF PRACTICE'

Getting in touch with 'grounded', discipline-specific practices

GENRES IN THE INNOVATIVE ASSESSMENT LITERATURE *(Hounsell et al. 2007)*

A Typology of Genres

- Empirical Study
- Account of Practice
- Compendium (of evolving practices)
- Theory/ Conceptualisation
- Commentary/ Opinion Piece
- Review of the Literature
- Guidelines
- Enhancement Project
- Guide to Professional Practice
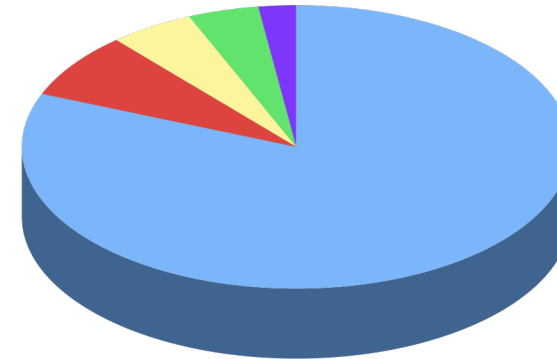- Evaluation
- Policy Document

GENRES IN THE INNOVATIVE ASSESSMENT LITERATURE *(Hounsell et al. 2007)*

Research-oriented literature
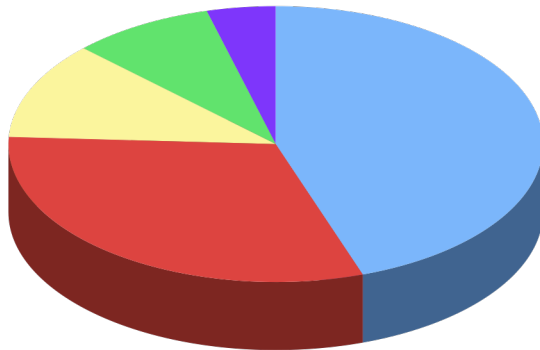
- empirical studies
- theory/conceptualisation
- enhancement projects
- reviews of the literature
- evaluations

Practice-focused literature

- accounts of practice
- guidelines
- guides to professional practice
- compendia of evolving practices
- commentary/opinion pieces

GENRES IN THE INNOVATIVE ASSESSMENT LITERATURE *(Hounsell et al. 2007)*

Research-oriented literature

- empirical studies (n=74)
- theory/conceptualisation (51)
- reviews of the literature (14)
- enhancement projects (19)
- evaluations (7)

Practice-focused literature

- accounts of practice (n=141)
- compendia of evolving practices (7)
- guidelines (13)
- enhancement projects (19)
- guides to professional practice (9)
- commentary/opinion pieces (4)

SUBJECT-SPECIFIC GROUNDED EXAMPLES

Huxham, M. (2007). Fast and effective feedback: are model answers the answer? Assessment & Evaluation in Higher Education, 32.6, pp. 601-611.

- **Compares 183 first and honours years Biology students' responses and performances after receiving two types of feedback, that provided by model answers and that provided by personal comments**

Orsmond, P., Merry, S. and Reiling, K. (2002). The use of exemplars and formative feedback when using student derived marking criteria in peer and self-assessment. Assessment & Evaluation in Higher Education, 27(4), 309-323.

- **In first-year undergraduate Biology, self and peer assessment of poster assignments were combined using student constructed marking criteria with exemplars**

McLaughlin, P. (2009) eFeedback gets personal. *Centre for Bioscience Bulletin*, 28, p.3.

- **Screen capture was used to create video feedback to Bioscience students on their assignments, as a way of helping students not to misinterpret written comments**
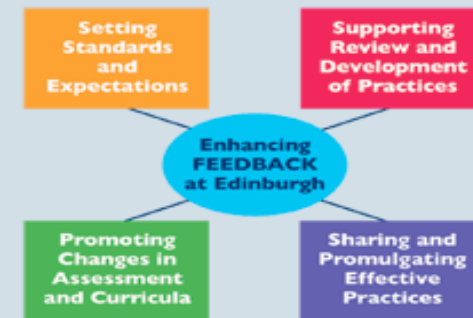
www.tla.ed.ac.uk/feedback.htm

Senatus Academicus, 6 October 2010

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NU2010, Dialog för Lärande, University of Stockholm, 13-15 October 2010

enhancing feedback

CONCLUDING SUMMARY

SUMMARY

- **Trying something new in university teaching is challenging: we often don't 'get it right first time'**

- **'What can work' is highly contingent and variable**

- **So we need to be alert to contingencies ...**

  ... and ready to adapt to local and subject/disciplinary needs and circumstances

- **An 'evidence-informed' approach also has a role to play. Published research and scholarship can:**

  - **help us to conceptualise, model, troubleshoot**
  - **provide subject-specific, 'grounded' examples which can clarify possibilities and options**

LAST WORDS

"Professionals operate in complex situations which have multiple solutions to problems, usually without the benefit of an obvious best choice.

Rarely do professionals encounter discrete problems in practice and meaningful solutions have to be derived from the situatedness of the problem in a specific context."

<div align="right">(Kandlbinder, 2007, p. 162)</div>

Educators cannot simply apply evidence without taking into account the circumstances in which it was created and in which they operate: **they have to make *evidence-informed* professional decisions regarding their practices."**

<div align="right">(Yorke and Knight, 2007, p. 157 [my italics]).</div>

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