



University
of Glasgow

Adam Smith
Business School

The power of inner feedback: comparison changes everything

David Nicol and Suzanne McCallum

Email: david.nicol@glasgow.ac.uk

website: davidnicol.net. twitter @davidjnicol

@JISC: Student Experience: Expert Group Meeting
November 4th 2021

**INSPIRING
PEOPLE**



What is inner feedback?

Definition

Inner feedback is the new knowledge that students generate when they compare their current knowledge and competence against some reference information.

What if students deliberately compare their work against information from sources other than comments (online or offline)?
e.g. in rubrics, exemplars, videos, textbooks, lectures, blogs, wikis, discussion fora, question lists, journal articles, the performances and work of others, own prior work etc.

Findings: self-feedback generated from other sources is more varied than, complements but often surpasses the feedback that the teacher provides as comments.

Students are generating feedback all the time

[planned comparisons]

[natural comparisons]

Students DO some work

COMPARE

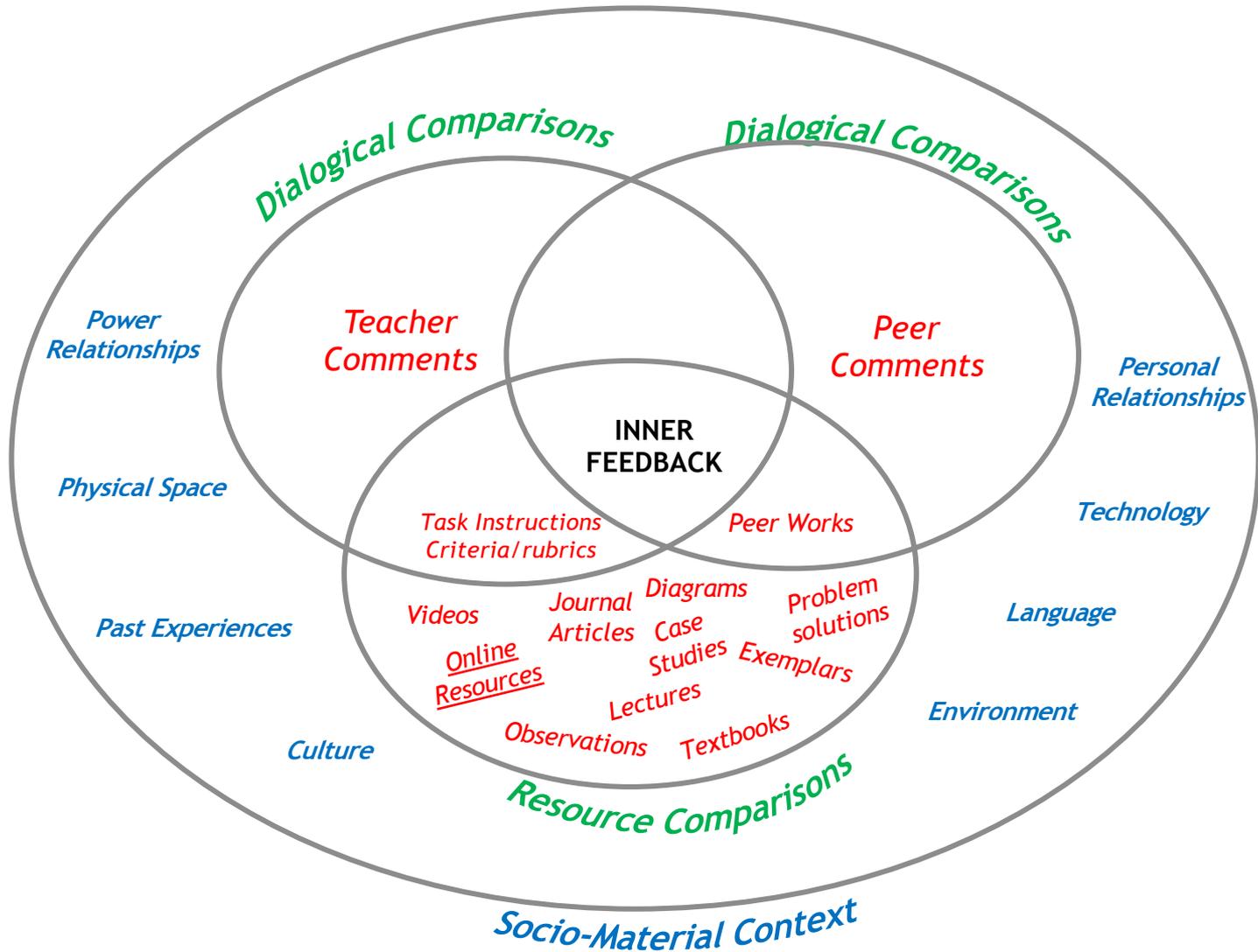
Generate INNER
FEEDBACK

New understanding
Performance improvements

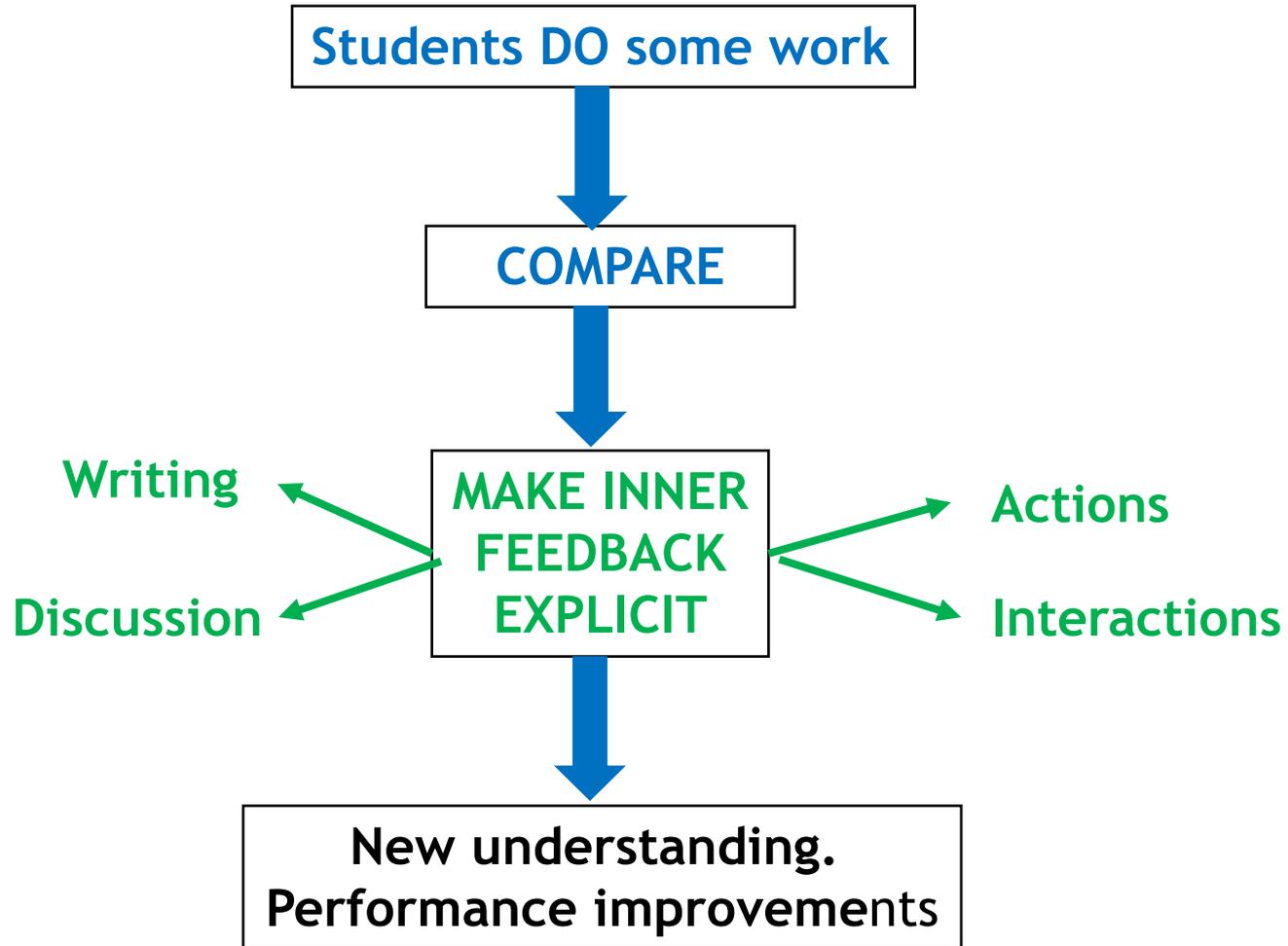
Teacher
Comments

Learning outcomes
Rubrics
Criteria
Lecture
Presentations
Textbook explanations
Videos
Models
Questions lists/
principles
Mathematical formulae

Discussions with others
Peer comments
Task Instructions
Peer works
Journal articles
Exemplars
Reports
Diagrams
Blogs, wikis, forums
Observations of others



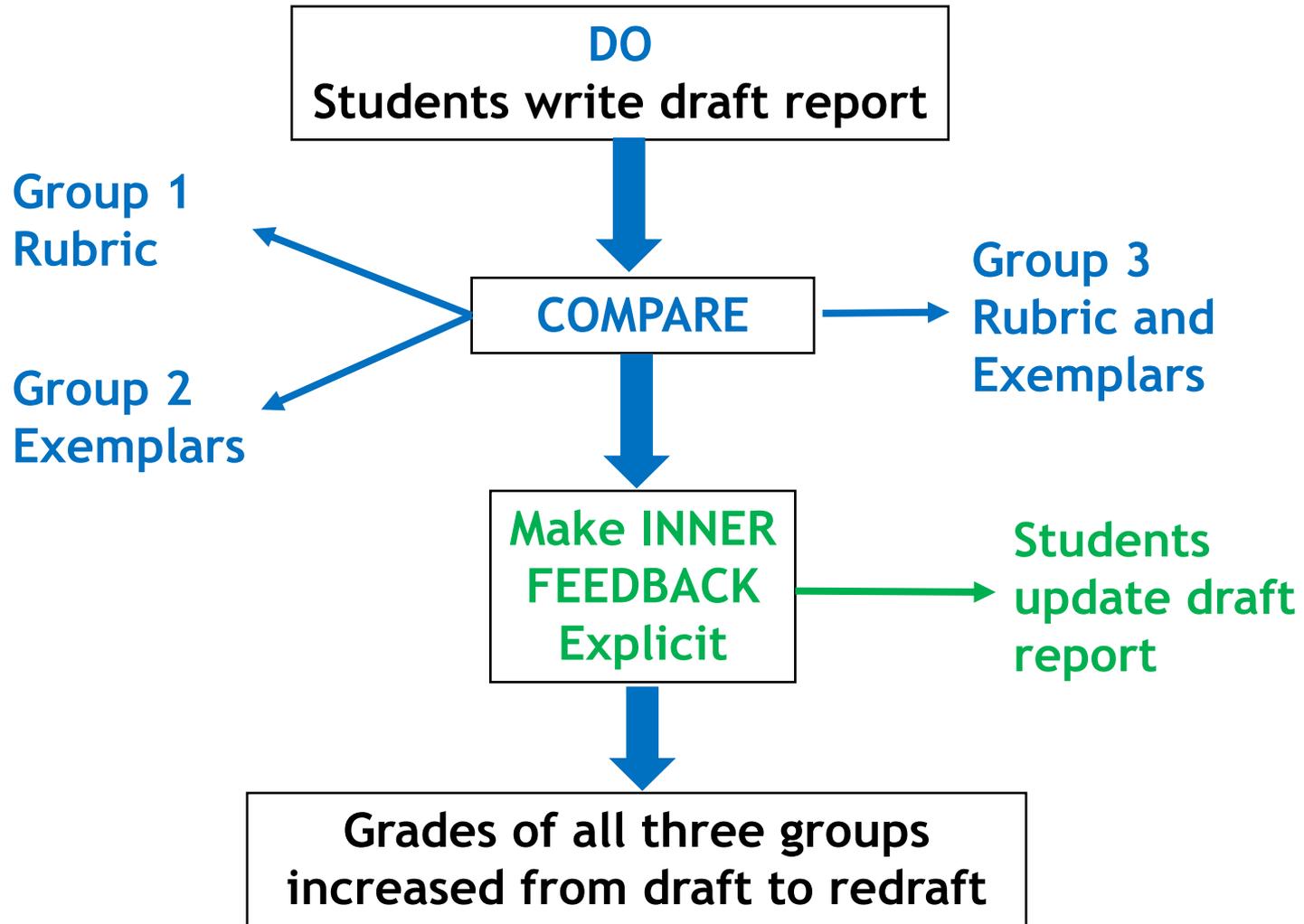
Unlocking the Power of Inner feedback



Why is EXPLICITNESS important?

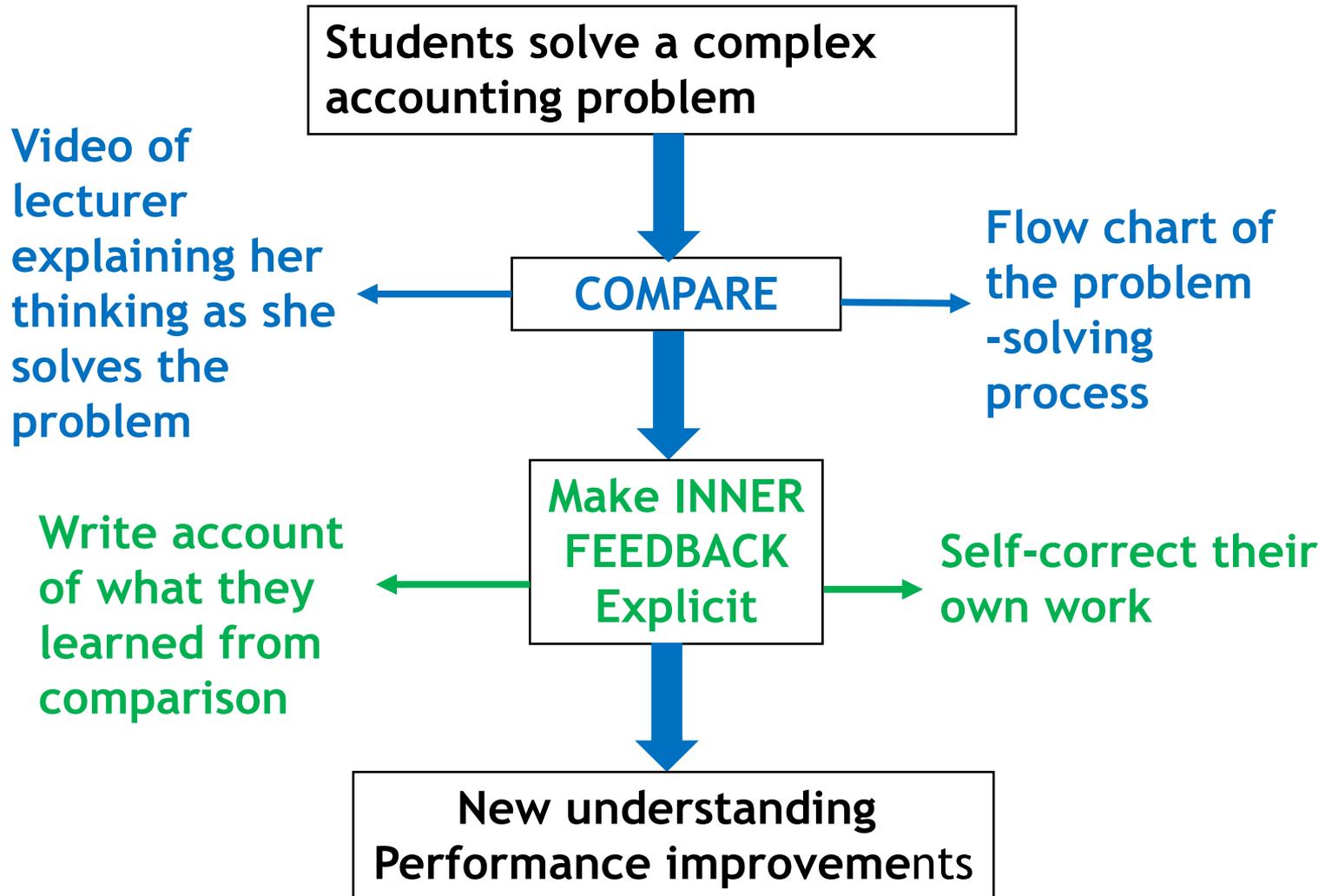
- Increases the power of inner feedback
- For students - see own feedback capability - makes own agency visible - raises metacognitive awareness --
- promotes transfer of learning to new contexts
- For teachers - better diagnostic information about students learning, what comments they need, and what comparisons to stage next - reduces workload

Psychology 2nd year: Draft-redraft: Rubric & Exemplars

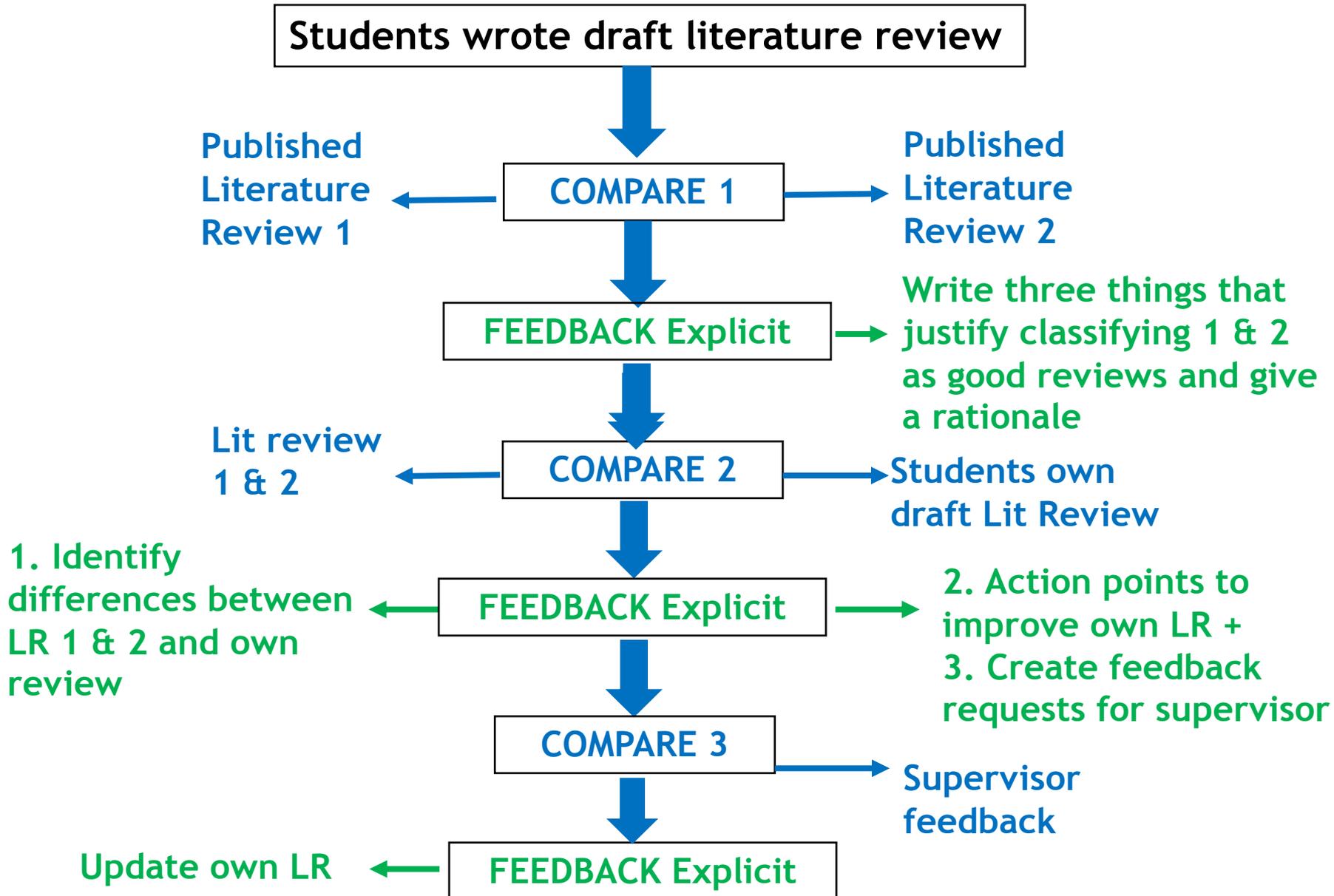


Lipnevich et al (2014). Mind the gap! Students' use of exemplars and detailed rubrics as formative assessment. *Instructional Science*, 42(4), 539-559.

Accountancy and Finance 1st year



Dissertation students: Lit Review in Economics



Findings: highlights

- ❑ Students' self-feedback matched or significantly overlapped with supervisor feedback.
- ❑ Receiving draft literature review and students' self-feedback and requests enabled the supervisor to better diagnose weaknesses and target comments.
- ❑ Most student self-feedback was on the writing process not on the content, the latter was the focus of most feedback requests
- ❑ Students reported that this procedure (i) reduced reliance on supervisor for 'trivial' feedback (ii) that a merit was that they did not need to wait for supervisor feedback, (iii) that they had already applied it themselves elsewhere and that (iii) writing out their inner feedback was critical to the success of the process.
- ❑ All students said that it was empowering and that it should be more widely applied (see comment)

Nicol and Kushwah (2021) Thesis supervision: enhancing learner autonomy by harnessing inner feedback comparisons [in preparation]

Nicol and Kushwah (2021) Thesis supervision: enhancing learner autonomy by harnessing inner feedback comparisons

“The comparison process gives structure to the self-generated feedback I already produce when looking at other work. I think because it takes more personal effort to generate it, it holds a lot of weight. Had I started this self-generated feedback process earlier in my university career, I would be a lot more proficient at it and think I would require less teacher feedback as I would have the confidence to build my own feedback system”

[quote from economics student who participated in this study]

Team Lean Startup Assignment (PP5 -Engineering)

Asynchronous

Synchronous

DO
Create Product for Lean Startup

Rubric and Guidelines

Videos and Articles
(Unit Content)

Previous A Grade
Examples - Different
Approaches

Peer Comparison -
Individual to Team
to Cohort to Team

Redefine Hypotheses
and Customer
Questions

Formulate questions
for teaching team

Reevaluate MVP and
Product

COMPARE

Multiple Weekly
Team Tasks
(Dialogic and
Peer comparison)

Expert Explanation
and Masterclasses

Active Teaching
Sessions

**Make INNER
FEEDBACK
Explicit**

Complete Weekly
Tasks

Identify strengths &
weaknesses in MVP

Identify areas for
idea origination

Pivot MVP

**New understanding
Performance improvements**

RESEARCH ON INNER FEEDBACK

1. Given suitable comparators **students can generate better feedback than they generate from comments alone.**
2. **Different comparators result in different kinds of inner feedback**
What an item is compared against, changes what is learned.
3. **Multiple sequential comparisons** (one after the other) build more elaborate feedback - the more comparisons students make the more they learn and overtake teacher feedback
4. **Multiple simultaneous comparisons** generate feedback a kind of feedback that a teacher has difficulty providing (e.g. self-regulatory feedback)
5. **Dialogue is a comparator** in its own right (comparing thinking with others) but can also amplify all other comparisons.

Psychology

Scenario 1

Compare against other quality essays on working memory (by peers or published)

Scenario 2

Against peers' or published essays on long term memory (LTM)

Feedback on quality of essay & on alternative perspectives on working memory.

Feedback on how to write a good essay and on how working memory and LTM differ & interact

Students write essay on working memory

COMPARE

Make INNER FEEDBACK EXPLICIT

New understanding
Performance improvements

Scenario 4

Teacher comments on student's essay

Feedback on gaps in thinking and on how to improve essay and get better grade next time

Scenario 3

Rubric defining what a good quality essay consists

Feedback on whether students have met stated standards for a good essay

Different comparators lead students to generate different kinds of feedback

New role for lecturer

Designer of comparison opportunities - best placed to select comparators and stage them across course, at least initially

Teachers still give comments but sparingly

Over time shift responsibility and ask students to

Top Tips:

- ❑ Don't feel you have to comment on every comparison - you don't do this when you give comments which also require comparisons!!
- ❑ Provide your feedback after other comparisons - reduces unnecessary feedback (workload), helps you target your comments to students' needs and reduces students dependency on you!

Value of this feedback LENS

1. Repositions students as architects of own feedback productions - pushes boundaries of student-centred
2. Provides a conceptual model to leverage what is naturally happening all the time anyway - the making of feedback comparisons
3. Brings into play multiple information sources beyond comments: different comparators = different feedback
4. Tractable way of addressing issue of academic feedback workload [helps disentangle assessment and feedback]
5. And the inherent tension between feedback as telling-and idea of developing self-regulated learners.
6. Authentic to way that students generate feedback in work settings

Key is that students must make mindful comparisons with explicit outputs. [online environment supports explicitness]

REFERENCES/RESOURCES

Nicol, D. 2020 “The power of internal feedback: Exploiting natural comparison processes” *Assessment and Evaluation in Higher Education*, Online first

<https://www.tandfonline.com/doi/full/10.1080/02602938.2020.1823314>

Nicol, D., and S. McCallum. 2021. “Making Internal Feedback Explicit: Exploiting the multiple comparisons that occur during peer review”. *Assessment and Evaluation in Higher Education*.

<https://www.tandfonline.com/doi/full/10.1080/02602938.2021.1924620>

Nicol, D., and G. Selvaretnam, G. 2021. “Making Internal Feedback Explicit: Harnessing the comparisons students make during two-stage exams. *Assessment and Evaluation in Higher Education* <https://www.tandfonline.com/doi/full/10.1080/02602938.2021.1934653>

Nicol, D., N. Quinn,, L. Kushaw, and H. Mullen. 2021. "Helping Learners Activate Productive Feedback; Using Resource and Dialogic Comparisons, Presentation at the *Chartered Association of Business Schools (CABS): Teaching, Learning & Student Experience Conference*, 29-30th June.

https://davidnicol.net/files/DN_CABS_2021_TLSE_proceedings.pdf

Times Higher article with practical examples (short 900 words)

<https://www.timeshighereducation.com/campus/guiding-learning-activating-students-inner-feedback>

Link to short 15 min explanation on youtube <https://www.youtube.com/watch?v=rh-MNcnle7E>

And see davidnicol.net for further resources.