Feedback that helps learning

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Emeritus Professor Gordon Stobart

Institute of Education

University of London
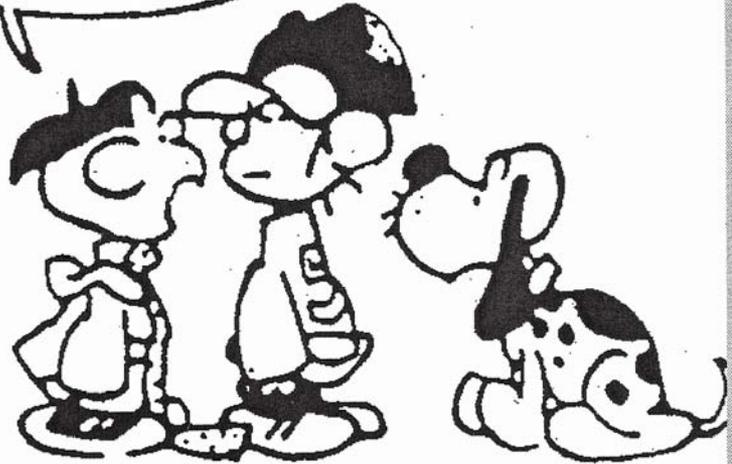
Rough Guide to session

1. What kind of learning do we want?

2. How does feedback help?

3. The importance of 'knowing where we need to get to' (Learning intentions/success criteria).

4. Feedback – what does and doesn't work

Defining learning

'A significant change in capability or understanding'

This excludes: the acquisition of further information when it does not contribute to such changes.

(Michael Eraut)

'Any process that...leads to permanent capacity change'

this involves *content, incentive* and *interaction*

(Knut Illeris)

'It's like learning to ride a bike'

Learning approaches:
surface, strategic and deep

Surface Learning Approach: *reproducing*

Intention: to cope with course requirements

To be able to reproduce content as required;

Passive acceptance of ideas and information;

Lack of recognition of guiding principles and patterns

Focusing learning on assessment requirements.

Strategic Learning Approach: *reflective organising*

Intention: to achieve the highest possible grades

Putting consistent effort into studying;

Managing time effort and resources effectively;

Monitoring the effectiveness of ways of studying;

Being alert to assessment requirements and criteria ;

Better grades may not be evidence of better learning

'Test-based incentive programs ....have not increased student achievement enough to bring the United States close to the levels of the highest achieving countries. When evaluated using relevant low-stakes tests, which are less likely to be inflated by the incentives themselves, the overall effects on achievement tend to be small and are effectively zero for a number of programs'

US National Academy of Sciences (2011)

Effective learners? The case of Ruth

Learning the formula for each exam and practising it endlessly. I got an A1 in English because I knew exactly what was required in each question. I learned off the sample answers provided by the examiners and I knew how much information was required and in what format in every section of the paper. That's how you do well in these examinations... There's no point in knowing about stuff that is not going to come up in the exams. I was always frustrated by teachers who would say 'You don't need to know this for the exams but I'll tell you anyway'. I wanted my A1 – what's the point of learning material that won't come up in the exams?

Learning approaches (2)

***Deep Learning Approach:** seeking meaning*

Intention: to develop ideas for yourself

An intention to develop personal understanding

Active interaction with content, particularly relating new ideas to previous knowledge and experience

Linking ideas together using integrating principles

Relating evidence to conclusions

Key elements: 'making sense'; building on what is already known; active and social.

Developing expertise

Nobody is born an expert

Expertise is the result of:

1. Knowing where we want to go
2. Deliberate practice (10K hours)
   - Designed to improve
   - Repeated until automatic
   - Continuous feedback
   - Demanding mentally
   - Isn't much fun
3. Deepening knowledge
   - Development of a mental model/framework
   - Recognising what's relevant and irrelevant
   - Remembering more – 'chunking'

Deliberate practice
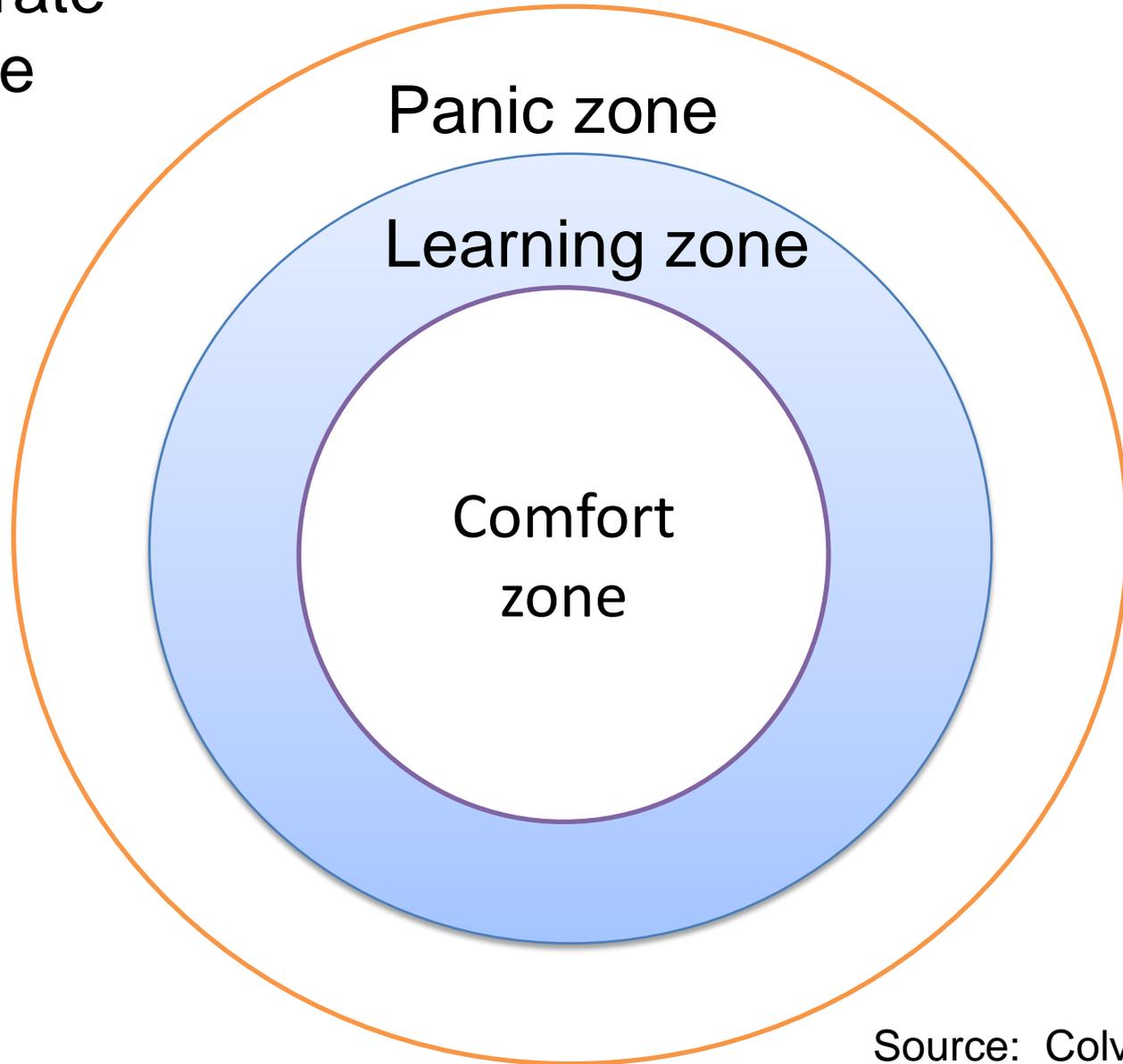
Panic zone

Learning zone

Comfort zone

Source: Colvin, 2009

Assessment for Learning

Assessment for Learning is the process of seeking and interpreting evidence for use by learners and their teachers
to decide where the learners are in their learning, where they need to go and
how best to get there. *Assessment Reform Group (2002)*

Quality AfL keeps learning principles central – *the spirit* – 'high organisation based on ideas'. This is in contrast to *the letter* where AfL practices are used without understanding why.

Finding out where learners are

'The most important single factor influencing learning is what the learner already knows'   (D.Ausubel)

- *Diagnostic assessment* - 'checking in'

    - listen to reading

    - classroom work

    - test information

- *Questioning*:

    - Wait time

    - Traffic lights

    - Rich questions

    - Misconceptions

Knowing where learners need to go
The role of learning intentions and success criteria

- The teacher is clear about what is being learned (progression in learning).

- What we will be *learning* rather than what we will be *doing*

- The importance of '*tuning in*' (building on 'where learners are in their learning'):

  setting the scene (why we are learning this), explaining the situation,

  linking to what is known,

  unfamiliar words & phrases explained ('scale')

Knowing where learners need to go
The importance of Pedagogical Content Knowledge

'Pedagogical content knowledge … represents the blending of content and pedagogy into an understanding of how particular topics, problems, or issues are organized, represented, and adapted to the diverse interests and abilities of learners, and presented for instruction' (Schulman)

Without PCK we will have problems with dealing with, for example, rich questions, misunderstandings, learning intentions, success criteria and feedback.

Knowing what to do next : the hard part of formative assessment? (Margaret Heritage 2011)

Her research found that teachers:

- Can generally identify the principles that assessments address

- Are able to identify what students do and do not know

- Have most difficulty knowing what to do next in their teaching

  This may be the result of not having a clear idea of *learning progression* and the tasks, activities, interactions and tools that would encourage progression

Layers of learning intentions

1. *Big picture* -'essence' - curriculum aim – 'by engaging with text-based activities become increasingly skilled speakers and writers'

2. *Curriculum*– curriculum strand and level – 'show a developing understanding of how to shape (written) texts for different audiences and purposes...'

3. *Translation of aim*– from prior assessment of students – 'we are learning to write an argument which is convincing'

4. *Immediate learning* — 'we are learning to sequence an argument'

5. *Specific learning* – 'we are learning what a paragraph is and when to start a new one'   (based on M.Absolum)

Layers of learning intentions

Take a recent lesson you have taught or observed and

1. Describe the *specific* learning for that lesson

2. Suggest what was the *immediate* learning (how it fitted with the last few lessons)

3. What was the *big picture* that the student needed to see it in (*translated aim*)?

Knowing where learners need to go: Success criteria – understanding what is needed

Royce Sadler's paradox: why does thoughtful feedback often not work?

Because learners do not know what the required standard/performance is.

Success criteria need:

- Negotiation

- Exemplars

- Modelling

- Practice

The importance for self and peer assessment

'Pre-Flight Checklist' (Wiliam)

Learning outcomes – Competence aims

The need for exemplars, modelling and negotiation to 'make sense'

Written texts:

- Present personal response and perceptions in writing based on interpretation and reflection

- Express himself or herself precisely with a varied vocabulary with nuances in various texts in the first-choice or second-choice Norwegian languages

- Assess his or her own texts and personal writing development using knowledge of language and texts

Knowing where learners need to go: Success criteria – practising what is needed

Scaffolding

– Provide a first attempt for the students to show what they know.

– Offer informal feedback / Have students identify the next step

– Provide an opportunity for a second attempt to reach the goals, using the chosen next step.

(adapted from Clarke, Owens & Sutton)

(active, making sense, choice, practice, self-assessment)

...and how best to get there.

Feedback

'Provides information which allows the learner to close the gap between current and desired performance'

'To be effective feedback needs to be clear, purposeful, meaningful, and compatible with students' prior knowledge and to provide logical connections'.

(Hattie & Timperley, 2007, p.104)

Not all feedback helps learning. 'In over one third of the cases Feedback Interventions reduced performance...we believe that researchers and practitioners alike confuse their feelings that feedback is desirable with the question of whether Feedback ...benefits performance'.

(Kluger & DeNisi, 1996)

Feedback

'Provides information which allows the learner to close the gap between current and desired performance'

It is most effective when:

- It is effectively timed;
- It is clearly linked to the learning intention;
- The learner understands the success criteria/standard;
- It focuses on the task rather than the learner (self/ego);
- It gives cues at appropriate levels on how to bridge the gap: the task (corrective)/process (eg error detection)/ self-regulation loop;
- It offers strategies rather than solutions;
- It challenges, requires action, and is achievable.

Feedback often does not improve learning because:

It does not close the gap:
- grades/marks;
- praise/rewards;
- unclear;
- too general ('more detail').

It is directed at self/ego level rather than the task.

The learner can choose to:
modify the standard;
abandon the standard ('retire hurt');
reject the feedback/messenger.

Feedback – written comments

These were the total comments over 6 months in one subject for a 12 year old:

Read carefully / Finish, colour /Good / Back of book /Read /Quite good / Why? Explain /Study diagram / Very poor / Keep trying harder /Please try harder to improve spelling and neatness /If you need help, ask/ Concentrate 100% - check words /Please listen to instructions. You should have copied out sentences / Mixed. Some understandings, decent spelling but the book asked you to explain

How informative is feedback if we can't even tell what subject it is?

The thermochromic ink in this changes
colour from the temperature from your forehead.
It tells you if you are to hot.

Continue to improve handwriting
and spelling

Explain the science

Effective feedback: Task & effort-related

- It focuses on the TASK rather than the learner (self/ego);
- It gives cues at appropriate levels on how to bridge the gap: the task/process/self-regulation loop

Task level: get more/correct information (*'check the facts about...'*) – 'corrective feedback' - best on simple tasks

Process level: improving processing of information or learning processes – error detection/cueing and information search

(*'how could this argument be strengthened?'; 'Can you think of a more dramatic ending?'*)

Self-regulation level: creating internal feedback & self-assessment, engaging with feedback info., confidence in correctness of response, attributions, level of proficiency

(*'have you used what you know about writing up an experiment? What would your own judgement be?*)

The task – process - regulation loop

'Feedback aimed to move students from task to processing and then from processing to regulation is the most effective' (H & T p91)

Task feedback often does not generalise to other tasks.

Can direct attention below level necessary for high level performance

Process feedback more likely to encourage deep learning

Regulation feedback allows learners to take on new challenges
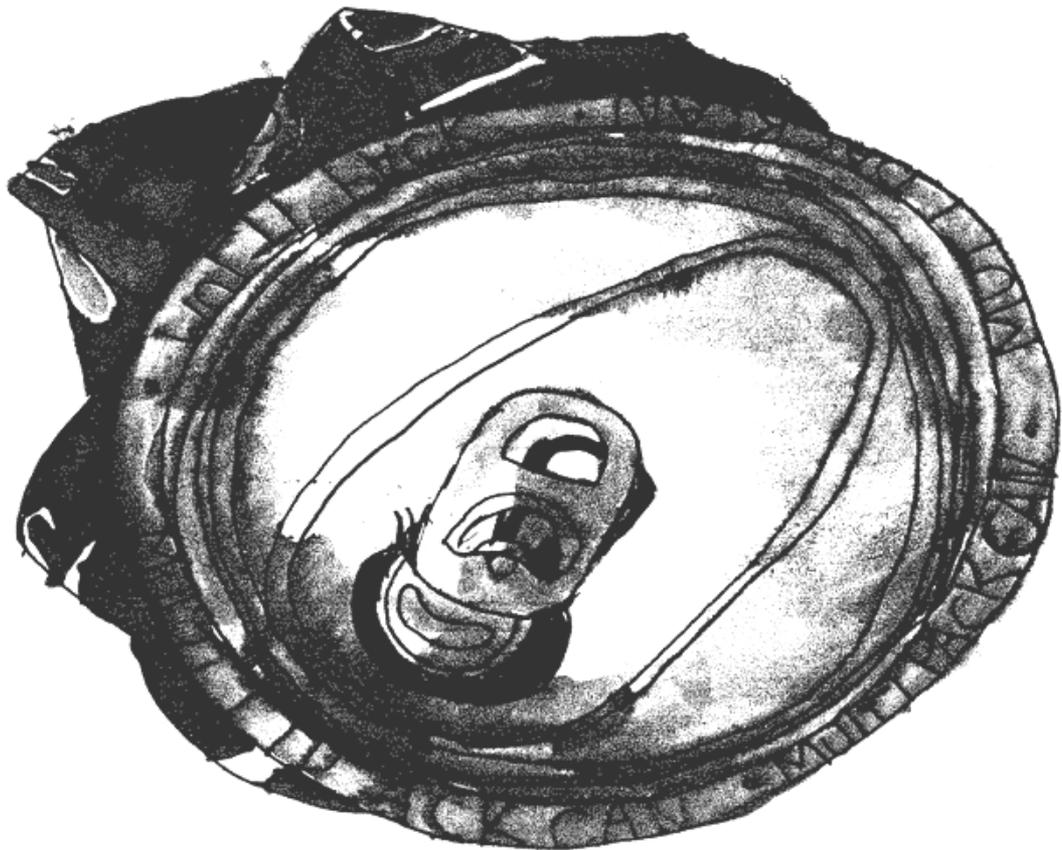
TG 6c (AT)

(A) Accurate observations and controlled
use of paint - great. To improve show lettering more
carefully.

AfL in practice: teaching Sudoku

Sudoku

Fill the grid so that each row, column
and 3x3 box contains the numbers 1-9

Effective feedback
Lipnevich & Smith's research (2009)

464 university students write a 500 word draft essay

One-third get no detailed feedback, one-third get detailed instructor feedback, one-third get detailed computer generated feedback.

Half also get grades and half get praise

So 12 groups in all (3x2x2 design)

Essay given back and final version written

Essay re-marked and marks compared

Effective feedback
Lipnevich & Smith's research (2009) (2)

- Highest marks (mean=84) for detailed feedback from instructor with no grades or praise

- Lowest marks (mean=74) for no feedback, praise or grades

- Praise slightly improved scores where grade had been given

- Low achieving students made most improvement in no grade/instructor feedback (77 - grade 72) & computer > instructor (76>72)

- Reporting grade lowered self-efficacy and positive motivation ratings

- 'students presented with a praise statements reported lower levels of motivation'

Effective feedback
Lipnevich & Smith's research (2009) (3)

Student perspectives:

[P & G, no F] 'a way of sugar-coating what's coming your way', 'if it's a passing grade I would just re-submit the essay'

[F, no G or P] 'I'm...thinking this is great; I can fix anything I messed up on. I can make it [the essay] better...so I don't think praise or grades would be good. Just comments, tell me what I did wrong, where I could change it. Just comments and error marks'

The problem with praise

Praise is the most common form of feedback – yet has little impact on learning.

Why? Because:

- It is directed at the person not the task & does not provide information about how to improve.

- It can 'create a growing dependence on securing someone else's approval' (Kohn).

- It may move the focus from the task to the learner – so any praise should encourage self-regulation directed at task.

Expert teachers praise less than novice teachers (expectations)

Self versus task related feedback:
Carol Dweck's experiment (1)

400 11 year olds given a series of simple puzzles

Each student given score plus six words of feedback: half praised for intelligence *'you must be smart at this'* and half for effort *'you must have worked really hard'*

Students then given choice of whether to take an easy or hard test.

    - Two thirds of intelligence group chose easy one

    - 90% of effort group chose hard one

Students then given test so hard that none succeeded

Self versus task related feedback:
Carol Dweck's experiment (2)

Group praised for intelligence interpreted failure as proof they were no good at puzzles after all

Group praised for effort persevered longer, enjoyed it more, and did not suffer any loss in confidence

Students then had chance to do test of equal difficulty to the first one: intelligence group showed a 20% decline in score, effort group a 30% increase

Giving feedback: prompts (1)

Teach rather than wait for feedback (level 0)

When there are common misunderstandings don't wait for mistakes

Example prompt (level 1)

When need to clarify what student is attempting to learn – for example a student is struggling to find a quick strategy to solve a maths problem: 32 + 59. The teacher shows *two* ways it could be solved: *'You could add the tens and then the ones and add the two together or you could take 2 from 32 and add it to 59. ...we are trying to create tidy numbers that are easier to add..you could do either or you may have thought of another strategy'*

(M.Absolum)

Giving feedback: prompts (2)

Scaffolding prompt (level 2)

When student still struggling with concepts or skills – *'Your introduction tells me who went to the zoo and when, but it doesn't say why'* (need to include purpose in explanatory writing)

Reminder prompt (level 3)

When learning 'almost there' and need reminder to use it – *'Remember that the conclusion must link back to the topic in the opening paragraph'*

Provocative prompt (level 4)

When the learner has met the success criteria feedback which calls for further development/thinking - *'You've succeeded in this – can you think of another method you could have used'; 'What if there had been far fewer resources for the project?'*

The answer is 20!

(What is the question?!?)

- Make up some maths questions that give an answer of 20.
- You can start simple, for example
$$13 + 7 = 20$$
- Then you can be more imaginative:
$$25\% \text{ of } 80 = 20$$
- Be as creative as you can.
- You should come up with at least 20 questions but there is no upper limit.
- Credits and prizes will be awarded to the best, most creative questions!!

GOOD LUCK AND ENJOY!

1. 100 − 80 = 20
2. 53 − 33 = 20
3. 5 × 2 − 10 = 20
4. 19 × 2 − 18 × 20
5. 75 − 55 = 20
6. 20 × 5 − 80 = 20
7. 5 × 5 − 5 = 20
8. 10 × 4 − 20 = 20
9. 200 ÷ 10 = 20
10. 34 − 14 = 20
11. 2 × 10
12. 16 × 4 = 20
13. 2 × 4 + 3 × 4 = 20
14. 15 + 5 − 20
15. 2 × 9 + 2 = 20
16. 30 − 2 − 5 = 20
17. 17 + 3 = 20
18. 8 − 9 + 11 = 20
19. 1 × 20 = 20
20. 1000 − 980 = 20
21. 52 − 50 × 10

Very good use of
all 4 operations.

What about using
decimals, fractions or
negative numbers??
(challenge)

Designing feedback prompts

Can you give examples of different levels of prompts in your work:

Teach rather than wait for feedback (level 0)

Example prompt (level 1) (student is stuck)

Scaffolding prompt (level 2) (student needs clear guidance)

Reminder prompt (level 3) (student has the knowledge/skill but hasn't fully used it)

Provocative prompt (level 4) (student has reached the required standard and challenged to develop further)