

How does traffic lighting influence pupil learning?

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Group E

Rationale

One of the main aims of curriculum for excellence is to enable young learners to become ‘confident individuals.’ (Curriculum Review Group, 2004) But for confidence to be valuable it should be built upon accurate self-awareness and genuine reflection. Self-assessment, therefore, ‘depends, in part, upon whether the student can accurately or realistically judge the qualities of their own work.’ (Brown & Harris, 2013) If a pupil is either overly confident or, as can be the case with some less able pupils, ‘don’t like to admit that they are not coping and sometimes say they understand when they do not’ then the insight gathered from pupil self-assessment can be flawed. (Black & Harrison, 2001) One such method of self-assessment is traffic lighting, which colour codes confidence levels in an area of learning ranging between red, amber and green. The benefit of this model is that it is supposed to ‘make learning visible so the student knows what to do and how to do it and the teacher knows if learning is occurring or not.’ (Hattie, 2008)

With this in mind, I adopted a homogenised version of the traffic lights system with the similar but more specific exit pass method of self-assessment in order to determine pupil perceptions of their understanding versus the actuality of their understanding. ‘There is a stream of research that has claimed that realism or veridicality in self-assessment is moot, since the self-assessment process helps students develop greater awareness of the quality of their work.’ (Brown & Harris, 2013) However, the outcomes are potentially being judged inaccurately which could render the assessment and learning moot. Despite the assertion that ‘most pupils are honest in their own assessments most of the time’ it would be prudent to enquire into the actual truth behind this and the impact this might have upon learning. (Black & Harrison, 2001) Dylan William asserts that ‘teaching for understanding, rather than rote recall, results in better learning’ so I aimed to model this enquiry around productive literacy based experiences and outcomes which permeate the whole school curriculum. (William, Lee, Harrison & Black, 2004) Wilson (2008) outlines the necessity to reinforce and re-teach outcomes in order to ensure that learning has actually taken place, rather than making

assumptions based on one lesson. Therefore the model for this enquiry allowed for sequential development of key techniques and skills.

There is a school of thought which argues that ‘when self-assessments are disclosed (e.g., traffic light self-assessments displayed to the teacher in front of the class), there are strong psychological pressures on students that lead to dissembling and dishonesty.’ (Brown and Harris, 2013) It was with this in mind that I did not ask pupils to disclose or display their colour coding but I was able to discern their confidence levels at face value across the room with the post-it notes. This aimed to cut out any pressure while still enabling self-assessment.

Aims

- To focus on the impact of introducing traffic lighting in relation to key grammatical and punctuation skillsets.
- To evaluate the impact of this introduction on class results, as tested through individual charts and formative assessments.
- To observe differences between pupils self-perception and the actuality of their understanding.

Methodology

The enquiry was conducted over a five week period in an S2 class and covered a range of literacy subject areas. Introduction of the traffic lighting system was clearly outlined with a physical exemplifier displayed for pupils at the front of the class. Quantitative and qualitative data was collected throughout.

Formative Assessment

Pupils were given a twenty mark test on the main outcomes for the enquiry before and after the five week series of lessons. The tests both covered the same experiences and outcomes

but with differing examples. The results from both tests were then compared to determine progress.

Class Performance

Pupils were each allocated an A3 chart with four sections, each outlining two success criteria for that days lessons (See Appendix 1). These were based on literacy experiences and outcomes which they should already have had a degree of familiarity with from prior learning. Two of these criteria would be evaluated per lesson and after each usage pupils would hand their sheets back in to be used again the following week, giving an easily readable chart of progress throughout. They were asked at the beginning of the lesson to demonstrate (to whatever extent their ability permitted) their understanding of the key concepts. They would do this by placing a colour coded post-it note with their demonstration of the topic written on it. This would then be repeated at the end of the lesson to determine if pupils felt more confident in their understanding. Overall, each pupil would have used four post-it notes on their sheets per lesson: two at the beginning and two at the end.

Pupil Responsiveness

As the class was quite large, four pupils were selected at random for closer monitoring throughout the enquiry. This enabled me to gather more specific data and determine the correlation between traffic lighting on performance.

Findings

The initial test results found that only seven pupils out of twenty-two achieved at least ten out of twenty. I did not make the pupils aware of their results as I was trying to determine their abilities to reflect on their capabilities in these areas uninfluenced.

In Week One (see Appendix 2), the pupils responded well to their new sheets and the sense of autonomous ownership seemed to help in their caring for the materials. However, contrary to the belief that pupils may be inclined to flatter to deceive, most pupils were selecting amber or red cards to place on their sheets. Of the four selected pupils, only one highlighted themselves as green and did so inaccurately. Two others were red on one criteria. Though Pupil C was unable to identify his specific area of need, he had passed the initial assessment

(see Appendix 6) so was not far off in terms of overall confidence. It was also encouraging that pupils were clearly comfortable to admit that they were struggling, showing that Alan McClean's idea of the classroom climate transmitting confidence in pupils is effective, even if it involves the confidence to say 'I don't know.'

In the second week pupils improved their clarity and some commented on the fact that they had perhaps not been honest about their understanding the week before. The group of pupils felt more confident in their abilities for this particular week and importantly their written responses were correlative to their own perceptions about their abilities on this occasion (see Appendix 3). Pupil C, who had selected all green's again, was inaccurate in his self-perception and was unable to demonstrate criterion 1 effectively.

In week three Pupil D was absent but there was also the first and only example of all the selected pupils choosing green cards for their final criteria. However, yet again, this did not reflect the written work from two of the pupils, who thought they had grasped the key concepts. There was a pattern emerging through the class of pupils not wanting to admit continued misunderstanding. Even if they felt confident to confess to gaps in their knowledge at the beginning of the lesson, they did not want to do so at the end.

Week four involved the final criteria sheet lesson and the second assessment. The results were greatly improved from the first test, with twenty pupils out of twenty-two achieving at least 50%. The greatest improvement from the four pupils came from those who had been able to assess in a genuine and reflective way (see Appendix 6). Pupil C, who had stated himself to be green throughout the whole enquiry, only improved his mark from 10 to 11.

Conclusions

It seems apparent that self-assessment is incredibly beneficial in making pupils reflect on their own understanding and creates a stimulating environment of learning. I believe that traffic lights on their own are too unreliable to use as an assessment method but the combination of written response with colour coding was greatly beneficial for teaching and learning. The fact that the least improvement was found in the pupil who did not accurately reflect on his understanding, and the greatest improvement in those who did, shows that there is scope for argument about the benefits of this process.

Implications for Future Practice

It must be noted that the represented data for this enquiry depicts a limited scope in terms of time and scale. However, carrying this forward over a prolonged period of time and on a larger scale, I would look to vary methods of self-assessment to garner the best results. This is due to the sometimes insubstantial nature of the evidence provided by pupils. There has evidently been some progress as a result of this microcosmic enquiry so it would be interesting to see how this system could be applied, developed and honed with other year groups and for a wider range of topics.

Bibliography

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Appendix 1: List of Success Criteria for Lesson Series

Lesson	Criteria 1	Criteria 2
Week 1	I can explain the difference between nouns, verbs and adjectives.	I can explain the difference between a noun and a proper noun.
Week 2	I can accurately change the tenses of verbs in a sentence.	I can insert speech marks into a sentence to show who is speaking.
Week 3	I can identify the difference between verbs and adverbs.	I can accurately use apostrophes and understand why they are used.
Week 4	I can create simple, compound and complex sentences.	I can identify the differences between the three types of sentences.

Appendix 2: Colour Coded Responses in Relation to the Success Criteria from Lesson 1

Pupils	Confidence in Criteria 1: Beginning of the Lesson	Confidence in Criteria 2: Beginning of the Lesson	Confidence in Criteria 1: End of the Lesson	Confidence in Criteria 2: End of the Lesson
Pupil A	Red	Red	Amber	Amber
Pupil B	Amber	Amber	Amber	Amber
Pupil C	Green	Green	Green	Green
Pupil D	Red	Green	Amber	Green

Appendix 3: Colour Coded Responses in Relation to Success Criteria from Lesson 2

Pupils	Confidence in Criteria 1: Beginning of the Lesson	Confidence in Criteria 2: Beginning of the Lesson	Confidence in Criteria 1: End of the Lesson	Confidence in Criteria 2: End of the Lesson
Pupil A	Red	Red	Amber	Amber
Pupil B	Green	Amber	Green	Green
Pupil C	Green	Green	Green	Green
Pupil D	Red	Amber	Green	Amber

Appendix 4: Colour Coded Responses in Relation to Success Criteria from Lesson 3

Pupils	Confidence in Criteria 1: Beginning of the Lesson	Confidence in Criteria 2: Beginning of the Lesson	Confidence in Criteria 1: End of the Lesson	Confidence in Criteria 2: End of the Lesson
Pupil A	Amber	Green	Amber	Green
Pupil B	Amber	Red	Amber	Green
Pupil C	Green	Green	Green	Green

Pupil D	Absent	Absent	Absent	Absent
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Appendix 5: Colour Coded Responses in Relation to Success Criteria from Lesson 4

Pupils	Confidence in Criteria 1: Beginning of the Lesson	Confidence in Criteria 2: Beginning of the Lesson	Confidence in Criteria 1: End of the Lesson	Confidence in Criteria 2: End of the Lesson
Pupil A	Red	Red	Amber	Amber
Pupil B	Amber	Red	Amber	Amber
Pupil C	Green	Green	Green	Green
Pupil D	Red	Amber	Red	Amber

Appendix 6: Comparative Test Results on Outcomes from the Grammar and Punctuation Unit.

Pupils	Test A Results (Out of 20)	Test B Results (Out of 20)
Pupil A	5	9
Pupil B	9	15
Pupil C	10	11
Pupil D	5	11