

Research into the Implementation of APP in Key Stage 3 Science

Interim Report – Executive Summary

Findings from an Online Questionnaire Sent to Local Authority Science Consultants



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Executive summary

This is an interim report on the views of Local Authority (LA) science consultants on Assessing Pupils' Progress (APP) and its implementation into Key Stage 3 (KS3) science.

Context

The Government are currently investing £150 million over three years in order to help schools in England to take a strategic approach to assessment, with the aim of securing consistent best practice. Assessing Pupils' Progress (APP) forms part of this strategic approach. The government see APP as a way of reliably linking National Curriculum levels to effective classroom assessment following the principles of Assessment for Learning (AfL). Nichol (2007) gives a useful summary of the main points of AfL. Good assessment practice should:

- Put the learner at the heart of the assessment process;
- Help to clarify what good performance is and enable learners to recognise achievement;
- Deliver high quality feedback information that help learners to make progress;
- Help teachers to shape and adapt their teaching to suit the learners' needs.

(Adapted from Nichol, D. 2007. P. 3)

APP, science and assessment

The previous Programme of Study (PoS), introduced in 1999, was content-based and viewed by some science specialists as too prescriptive. While this was considered beneficial by some, such as those involved in Initial Teachers Training, it was felt the prescriptive nature limited the flexibility to teach science in the classroom. In order to rectify this issue a new PoS was introduced in September 2008, to be taught to the new Year 7 intake from that year onwards. The new PoS in science aims to:

- Provide a curriculum which is broader and more relevant to pupils at KS3;
- Provide a better balance between content and scientific processes or How Science Works (HSW);
- Provide less prescriptive range and content statements;
- Provide greater flexibility for teachers.

The intention of the new PoS is that the key concepts which underpin the study of science and HSW should be taught through 'Key concepts' and 'Key processes' in the PoS. This is where the link to APP becomes obvious as these two areas are skills based, and APP is intended to support their assessment, and ultimately their development. APP is a new approach to assessment as it focuses on skills rather than being content driven. It aims to provide a structured approach to teachers' periodic assessment in science. The range and content sections of the PoS are not explicitly assessed through APP. However, the Framework for science suggests that the range and content sections of the new PoS should be treated as contexts for developing knowledge, skills and understanding of HSW (and therefore APP), in addition to defining the knowledge to be acquired.

Aim

The overall aim of this research project is to look at the uptake and implementation of APP in KS3 science following its introduction in January 2009. The findings from this project will provide science specialists with an overall picture of the current assessment context and identify areas where further support is needed.

One component of the project is to gain an overall picture of the current situation from LA science consultants, given that they are at the forefront of the implementation. This interim report documents the findings from the first online questionnaire which was 'live' between 5th May 2009 and 15th May 2009. A follow-up questionnaire based on the analysis of the first questionnaire will be 'live' from 14th September to 25th September 2009.

Approach

All of the 150 LAs in England were initially contacted to request the participation of their secondary science consultants in the hope they would forward the contact details for the correct person. All those LA science consultants for whom email addresses were obtained were sent an email providing them with the link to the online questionnaire, along with their log in details and password. All those LAs for whom science consultant email addresses were not provided were also sent the same email but it was sent to the NFER link person in each LA with the view they would forward the email to the appropriate person.

The target for completion of the questionnaire was 50 consultants from 150 LAs (33% of total LAs). The number achieved was 57 LA science consultants (114% of target, 38% of all LAs).

The majority of the questions in the questionnaire were open response (qualitative). This gave respondents the opportunity to respond in their own words rather than in a pre-determined structure. In order to group similar responses and make it easier to draw valid conclusions, many of the open response questions were coded.

Results

On balance positive responses towards APP outweighed negative. The LA science consultants involved believed that APP in KS3 science will have a positive contribution to teaching and learning in science education.

The majority (61%) said the response from teachers had also been positive. Despite this 27% identified remaining concerns. Such comments as *'concerns regarding how they can use the periodic assessments to produce a whole class profile'* and *'Excited, feel it is the right way forward but concerned about how to manage the process'* typified these responses.

Positive features of APP in KS3 science

The consultants were asked what they felt were the positive features of APP in KS3 science. A large number of comments (43%) were centred on the potential improvements for teaching and learning in schools, and how the APP criteria would make the next steps in pupils' learning clearer to both the pupil and their teacher (32%).

Another positive feature of APP in KS3 science which was mentioned by a significant proportion of the respondents (23%) was how the APP criteria support the development of HSW from the Framework for teaching science. The teacher handbook states "It is important that planning for teaching and learning is based on the objectives from the Framework for secondary science." (DCSF, 2009. p.8) Comments relating to APP encouraging, focusing, emphasising or promoting the teaching of HSW were very common.

Negative features of APP in KS3 science

The respondents were also asked about the negative features of APP in KS3 science. The major concern highlighted by the consultants was a perceived increase in teacher workload (39%). The cause of this was identified as a shift in practice and mindset about the new skills based approach.

Another negative feature of APP identified by the consultants is a view that there are too many APP statements to get to grips with (16%). In total there are 96 criteria statements (split into Assessment focuses (AFs) and National Curriculum levels 3–8); one respondent stated that there are *'Too many criteria in each level for each Assessment Focus'*. Only a few science consultants commented that teachers have responded negatively to the number of the Assessment Focuses themselves.

Another negative feature, identified by 14% of respondents is a concern about the recording and monitoring of pupil progress. Currently there is *'confusion over how to record'* pupil levels and provide adequate monitoring, tracking and standardisation. At this stage of the implementation of APP there is a lack of clarity about this amongst LA consultants and teachers, and it would seem that this is causing a certain degree of anxiety.

Barriers to the implementation of APP in KS3 science

According to those who responded to the questionnaire the largest potential barrier to the implementation of APP is time (46%). APP is a new approach and teachers have to become familiar with a large number of statements within each Assessment Focus.

Another potential barrier that was identified was a lack of understanding of APP and AfL approaches (27%). A lack of support from Senior Leadership Teams (SLTs) (16%) was also identified as a potential barrier to the implementation of APP in KS3 science. The role of SLT was also identified as being important when the consultants were asked what additional things they were doing to aid the implementation of APP. A number said they were carrying out sessions to get the SLTs on board. This is because when APP was piloted it was shown that the active involvement of SLT was critical to the successful implementation of APP.

Implementation of APP in KS3 science

The respondents were asked how they were supporting the schools within their LA with the implementation of APP. They were given the options in the table below and were able to tick as many appropriate. The percentages of the choices are given in the table below.

Options	%
Meetings with Heads of Department	95
Training sessions for whole science departments	93
Meetings with KS3 Science Consultants	86
Mentoring teachers one-to-one	67
Observing lessons, followed up by discussions with the class teacher	58
Participating in exemplar teaching/lessons	53
Providing tasks for teachers to incorporate into their lessons	37
Other	32

Respondents could tick more than one option therefore percentages do not add up to 100%.

The majority of LA consultants reported that they were meeting with Heads of Departments, running training sessions and meeting with KS3 Science Co-ordinators, which is unsurprising. What is interesting is the relatively large percentage (67%) of LA consultants who are mentoring teachers one-to-one. This is obviously a time consuming process, and yet it is considered worthwhile in aiding the implementation of APP into KS3 science.

In addition to the options in the table 32% of respondents specified other things they are currently doing to support the introduction of APP. The most common thing the consultants seem to be doing is securing the support of SLTs. Respondents noted that APP requires schools to take a fresh approach to marking and assessment policies, and SLTs are the deciding force behind these. One LA is running an APP conference with vertical teams from schools (not necessarily science teachers/specialists) to help SLT see the classroom context/advantages of using APP.

How will APP be used in the classroom?

This open response question drew a wide variety of responses. A relatively large number (27%) of the consultants foresee APP being used to improve teacher feedback to pupils. In addition 16% think that APP will be used as the main assessment tool to replace end of topic tests etc.

Eleven percent of LA science consultants envisaged a phased implementation, where initially it will be introduced into the classroom to be used with the new Year 7 pupils in September 2009. These pupils will continue to be assessed using APP into Year 8 and Year 9, along with any new intake in future years.

Eleven percent of respondents identified that APP would help to develop teacher knowledge of National Curriculum levels, and therefore aid their professional development.

Potential impact of APP

The consultants were given six options of how APP in KS3 science may make an impact and they were asked to rate them in order. The two areas which were ranked as having most impact were an 'increase teacher knowledge and skills' (33%), and 'improve pupils' scientific understanding' (28%). The area where APP was considered to make less impact was 'preparing pupils for GCSE science'. This was ranked either fifth or sixth by 55% of the consultants.

Modes of moderation

The modes of moderation of APP in KS3 science have yet to be fully established in the LAs who responded to the questionnaire. At this stage in the implementation of APP the most common modes of moderation taking place in LAs and schools are:

- Departmental moderation of APP assessed work (55%).
- Network/cluster groups with schools from the same LA (45%).

Conclusions and implications

From questionnaire 1 it is clear that the implementation of APP in KS3 science is in its early stages, but is generally quite positive. At this point of the project no final conclusions can be drawn. However, from questionnaire 1 a number of questions which require further investigation in questionnaire 2 have been highlighted.

They are as follows:

- If schools have opted not to incorporate APP into KS3 science what are their reasons for this?
- If schools have opted not to incorporate APP into KS3 science what are they using instead to assess pupils?
- What methods have the consultants found to be the most/least effective in supporting schools with the implementation of APP in KS3 science?
- How consistent are the methods of moderation currently being employed by schools?
- 'Time' or rather a lack of time was highlighted as an issue concerning the implementation of APP in KS3 science questionnaire 1. Is this still the case? If so, why?
- Has the general feeling amongst teachers changed since the introduction of APP in KS3 science?
- How do the consultants envisage the content and range of the PoS being assessed?

Therefore, questionnaire 2 includes these questions. The findings from questionnaires 1 and 2 will be used to draw overall conclusions, which will be presented in the final report.

References

Nichol, D. (2007). 'Principles of good assessment and feedback: Theory and Practice' Keynote Paper, University of Strathclyde. Pp. 1–9.

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