

# Conceptualising an assessment for gifted students – how can we assess creativity?

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## Abstract

How can we discover whether students are gifted in a subject? Can we conceive of an assessment that will allow these students to extend their work and be identified for their expertise and creativity in a subject?

To consider how to assess whether students are gifted at a subject, we need to think about what kinds of responses we expect to see from these students. Do we expect them to go beyond the task given? Is it fair to expect any student to do this without telling them so in the task? How can we identify expertise and creativity in a fixed task?

We have developed an interactive assessment system called the Support Model (Ahmed & Pollitt, in press 2009) which we originally designed to help low ability students understand and complete tasks. This system might also provide a solution for how to assess gifted children.

Support model prompts are based on our research into the cognitive processes involved in answering exam questions, and have so far been used to ensure students understand what is expected of them, and to help them to achieve it. But we can also use prompts to *extend* a task, and therefore the Support Model could be used to assess how students respond to such task extension. Can the students go beyond the original task? Can they go on to generalise from the task given to other examples? Can they think about the task in novel ways? Do they need prompts, and how much support do they need to exploit the prompts and modify their responses?

Examples will be shown from English National Curriculum tests in writing and mathematics for 11 year olds.

## Introduction

We would like to be able to assess all students but we often find that tasks do not challenge those students who are gifted. This means that we are not able to identify these students correctly or provide suitable challenges for them. We can try to develop tasks that will assess the creativity and expertise of these gifted students, but we can select and extend existing tasks. This paper explores how we can extend existing tasks so that we can assess these students.

In our recent report (Pollitt & Ahmed, 2009) we found that there is a wide range of conceptualisations of giftedness, but that these are in general converging, with the following list of characteristics being shared by most of the recent models:

- 1 they define gifted behaviour rather than gifted students;
- 2 they emphasise the processes that are crucial to the development of talents;

- 3 they concentrate on intellectual abilities as the starting point;
- 4 they distinguish about three phases of development to exceptional levels;
- 5 they conceive of creativity, and affective traits like motivation, as developing out of experience;
- 6 and recognise the power of motivation and personal goals in encouraging learning;
- 7 they recognise the influence of many environmental factors in providing and moderating opportunities for talent development
- 8 they define giftedness in the behaviour of excellent students/practitioners, rather than in the products of that behaviour.

The differences between the conceptualisations of giftedness seem mostly to arise from different interests, and in particular from whether they focus on general school learning or on special abilities like music or chess. They also differ in how they would recommend identifying gifted students.

In this paper we will define 'gifted students' to be those who exhibit certain behaviours, those that are evidence of expertise rather than merely of competence in the subject. The evidence that we can observe comes from students' responses to the task (Pollitt et al 2008). If these responses are to show more than competence, then they have to go beyond the obvious demands of the task. If we expect students to go beyond the task demands then we need to make clear that this is not only acceptable, but actually what we would like to see them do. In a standard exam task students will not go beyond what is asked for – why should they? In order to get access to evidence of expertise, we need to encourage students to go beyond normal performance. This is why we decided to use prompts to enable them to perform at the highest level they can.

These higher level behaviours are evidence of the students' expertise in the subject being tested. Creativity in this context can be seen as an aspect of expertise. (Feldhusen, 2005; Van Tassel-Baska, 2005) Without the expertise in a subject, creativity is likely to be an undirected brainstorming. With expertise however, creativity can be productive and students can go beyond a task in ways which show that they can think creatively (Cropley, 2001). For example, can they generalise from what is in the task to the wider field? Can they use their understanding in novel ways? Can they distinguish important concepts in the topic from less critical ones? We want our tasks to encourage creativity and to show students that they *can* gain credit for creative behaviour.

The most common conceptualisations of expertise describe a three stage model where students move from 1) Ability to 2) Competence to 3) Expertise (Bloom, 1985; Ericsson 1998; Heller et al, 2005). According to Ericsson (1998) many hours (approximately 10,000) of deliberate practice are necessary for the transition to expertise. It is the accumulated knowledge and experience of these thousands of hours that provides the foundation for productive creative behaviour. The challenge then is to identify children near the beginning of this transition to expertise.

In this study we used tasks that were written for 11 year olds in England, and to try to extend these tasks in order to identify gifted behaviour. The method we used for extending the tasks was a prompting system that we developed as part of our Support Model which is described below.

## **The Support Model**

We originally developed the Support Model (Ahmed & Pollitt, in press) as an alternative to the two traditional models of assessment. These are the Quality Model which measures *how well* students perform on a task and the Difficulty Model which measures *how difficult* a task students can succeed on. The Support Model however, measures how much help a student needs to complete a task. The assumption is that every student can complete it but some will need more help than others, and we can use this as a measure of their ability. One of the advantages of this model is that every student succeeds – we are measuring *how* they succeed and not how much they can do before they fail.

Our original application of the Support Model was with students who were expected to achieve low grades in an exam. We worked with these students on higher level tasks and used support prompts to enable them to succeed and to measure how much help they had needed.

This model is little used in formal testing or examining, but it is the most common conceptualisation of all in employment, and underlies much of how a teacher judges pupils informally in the classroom. In this approach, both the difficulty of the task and the quality of the performance are relevant. For example, a business manager carrying out a performance review will consider both how well their staff perform and how difficult the jobs were that they undertook. Since a business cannot afford failure, what is actually measured is the amount of help each person needs to complete their work satisfactorily.

The prompting system is based on our model of the Question Answering Process (Pollitt & Ahmed, 2000) in which we identify six phases of exam question answering: Learning, Reading, Searching, Matching, Generating and Writing. For the purposes of the Support Model we concentrated on Reading, then Activation (Searching, Matching and Generating together), and Writing, and we developed prompts in each of these categories, as well as Affective prompts to encourage the students.

Reading prompts help the student to understand and get beyond the question so that they can tackle the task. Activation prompts deal with the concepts in the question and Writing prompts support the student in turning ideas into a written answer. The aim of the prompts is to give every student a full chance to exploit the opportunities in a question

In considering how to assess those students who are gifted in a subject we decided to try to apply this prompting system in a different way. We have therefore investigated how prompts can be used to extend a task and help the student to go beyond what is given.

### **Applying the Support Model to the assessment of gifted students**

We did not use Reading prompts in this context as their purpose is to help the low ability students to understand the question and we assumed that this would not be an issue for the gifted children. The prompts that should apply then are Activation prompts to extend the concepts in the question and to support students in thinking beyond these, and Writing prompts to extend the way in which students present their answers. Affective prompts, to encourage the students throughout the process, are also important.

What we hope to be able to do with such a system is to provide a task which challenges high ability students, and identifies which of them show gifted behaviour in a subject. We want to identify those students who can take the opportunities the prompts offer, and respond to the task in creative ways, showing expert behaviours in the subject. We want to differentiate these students from those whose response to the prompts does not go beyond the original demands of the task.

## **The Writing Task**

A range of different types of writing can be defined, most validly in terms of the kind of purpose that the writing is meant to serve. In the Scottish monitoring surveys (Pollitt & Hutchinson, 1990), five purposes of writing were identified:

- to express feelings
- to entertain
- to convey information
- to express an opinion or persuade
- to explain a concept

Monitoring surveys have shown that pupils may be much better at some kinds of writing than at others, and that different pupils will do best at different tasks. Some of the characteristics we might expect to see in the writing of gifted children are: the ability to take on another voice or viewpoint and sustain it; a clear sense of the audience; an awareness of genre and that different styles of writing are suitable for different purposes; the ability to go beyond their own circumstances; playing with ideas and word forms; using figurative language to increase the impact of the writing; and looking back at their own writing to judge whether it will have the effect they want it to have (London Gifted and Talented 2009).

These are behaviours that we want to encourage with the prompts to extend the task. We expect creative writers to be able to use these prompts as cues to perform these behaviours, which will allow us to judge them as gifted. Those who are not gifted at writing will not be able to exploit the prompts as cues in this way.

Teaching Writing does not consist of the explicit teaching of content, in the way that, for instance, teaching maths or chemistry does. Pupils develop their Writing skills at an individual rate, and teachers must be ready to praise pupils for showing more advanced behaviours, or suggest them to a pupil who might be ready to develop them. As a result, we can avoid the problem that many face with the commonly held notion that gifted pupils will have "abilities developed to a level significantly ahead of their year group" (DCSF, 2008). The gifted behaviours we are looking for are not curriculum-dependent, and the pupils' writing will indeed be 'precocious' (Benbow & Stanley, 1981) – just like that of older children – given suitable opportunities and support.

The task we chose to pilot our prompting system with is a writing task from a national test for 11 year olds in England. (See Appendix 1)

## **The Prompts**

### **Activation Prompts**

Do you have an image of the trainer in your mind?

Does it have any special features? What are these?

Is there something different or new about it?

Would it help you with the task if you imagine something really unusual about it?

What sports and activities do you imagine using the trainers for?

Would it help you with the task if you imagine a really unusual activity for it?

What will happen to the trainers in these activities? Will they be comfortable enough?

Will they be waterproof? Will they be strong enough? Will they stay done up? Will the grip be good enough? Will they be lightweight enough?

What improvements would you suggest? Think about what is wrong with the trainers.

Would you test the trainers to destruction? (i.e. a scientific test to the limit)

### **Writing Prompts**

Who are you writing this for? Who is your audience? – (Shopkeeper not manufacturer)

Will you describe the trainers? Will you assume the shopkeeper knows what they look like?

Have you described what you used them for?

Have you described how you tested them?

Have you described your findings?

Have you described the good points and the bad points i.e. in an evaluative way?

What do you want your audience (shopkeeper) to do based on the information in your report?

Should the shopkeeper advertise the good points you have found?

Who should the shopkeeper aim to sell the trainers to?

Should the shopkeeper stop selling them?

Should the shopkeeper communicate with the manufacturer?

If he hasn't bought in bulk yet, should he?

Would you buy the trainers?

Have you concluded your report?

Have you linked your conclusion back to the introduction?

Have you made recommendations at the end of the report?

Did you write in a style that will make the reader take notice of what you wrote?

Have you given a clear viewpoint?

What do you think the marker is looking for in your report?

- in terms of content

- in terms of style

We developed the prompts for this task using our model of the question answering process (Pollitt & Ahmed, 2000). A classroom teacher who teaches 11 year old students and specialises in teaching English worked with us to develop the prompts.

When the prompts were agreed upon, the task and prompts were trialled. Students are normally given 45 minutes to complete this task. In order to try out the prompting system the task was then piloted with a 12 year old student who had taken the national test a year ago. We wanted to find out how she would respond to the task and the prompts. We were interested in which prompts might result in the student deciding to change what she would write for the task and which prompts would not have this effect.

### **Responses to the prompts**

The student was asked to read through the task and write a plan for how she would complete the task. She was then prompted with the whole sequence of prompts. She was not asked to complete the writing task as we are still at the development stage for this application of the support model. However in the next stage the prompting will come after the first draft answer to the task has been written. Some of the prompts and the student's responses are given below:

**Interviewer:** Would it help you with the task if you imagine something really unusual about it?

*Student:* Um well I think that if you were very confident then it would but um otherwise it might confuse you – you might look back and realise you've written something special about it and then you've said something completely different later on. Um so it might confuse them.

#### **Comment**

The student's response indicates that she is not confident about writing a more creative response to the task. This may be because the task is not a familiar one to her – writing about a trainer for a shop manager. Her cognitive capacity maybe stretched to its limit by coping with the unfamiliarity of the task, so she cannot think beyond this to writing about a more unusual trainer.

**Interviewer:** Will they be strong enough?

*Student:* Well I've written in a special feature that it would be a good design and good quality material so it's not likely to fall apart.

#### **Comment**

Here the student has decided to make the trainer basic with a 'good design'. She is limiting herself by choosing not to imagine anything unusual or any significant problems with the trainer. She seems to be struggling with the demands of the task so is deliberately keeping it simple and therefore missing an opportunity that would actually make the task easier. If she wrote about a more interesting trainer with different features then it would actually be easier to describe problems and improvements that could be made. If the basic task had been more familiar she may have been able to show creativity.

**Interviewer:** Will they stay done up?

*Student: I didn't really write about how they would be done up in the plan but I had imagined they'd be lace up cos yeah then um in general good quality trainers are more lace up I think.*

**Comment**

Here she is using her real world knowledge about the context of the task – and is repeating her default idea of a basic good quality trainer.

**Interviewer:** Will the grip be good enough?

*Student: I hadn't written anything about the grip because I didn't know much about that particular topic.*

**Comment**

Here the unfamiliarity issue appears again – her lack of confidence is stopping her from taking risks.

**Interviewer:** Will they be lightweight enough?

*Student: I didn't really think much about that but now you've mentioned it I would write something about it because if you have a lightweight trainer it would be good for different things.*

**Comment**

This is an example of the student deciding that she would change what she would write based on a prompt.

**Interviewer:** Who are you writing this for? Who is your audience?

*Student: Umm well I might write it as like a letter explaining what thoughts I have. I would do it in a quite formal way cos it says that its for a shop manager so you've got to be quite polite to them. It says the shop manager has asked some people to try the trainer out so I think it's the shop manager and then he'll pass the information on to um the designers.*

**Comment**

She decides to write in a formal letter style and then sticks with this. She does not see this task as an opportunity to write creatively.

**Interviewer:** What do you want your audience (shopkeeper) to do based on the information in your report?

*Student: Well I want them to show the designers what had been said about it. So that they could adjust the design so it was a better trainer.*

**Comment**

This response shows that the student had no problem understanding the actual task. What was restricting her from being creative was the lack of familiarity with the context of writing a report for a shop manager (Ahmed & Pollitt, 2007). The idea of being a consumer-tester is not a familiar one, so this is the task she tackles, rather than the task of writing.

**Interviewer:** Have you concluded your report?

*Student: Well I might do like a table. In the exam I wouldn't necessarily do that cos that's not really English. But if I was doing it in real life I'd do a table so you could*

*see the plain information of what I'd thought and then um I would repeat the main things again and then I'd sign it off as a letter.*

### **Comment**

She is seeing the task as one of communicating to the shop manager, rather than one of producing a piece of writing for an examiner. Then she appears to remember that it is an English test and so the table is not such a good idea.

**Interviewer:** What do you think the marker is looking for in your report? - in terms of content

*Student: um well they I think they'll be looking for um if you give the information that you need to get across so you don't suddenly go off talking about um what sports you'd been doing and describing how you'd been doing in those sports and things. Um and I think they'd be looking for um what ideas you'd come up with so if you'd come up with something that's really imaginative but it's really unrealistic then they might not give such a higher mark cos the imagination's kind of gone off and ...*

**Interviewer:** Why do you think they don't want to see that imaginative creative writing?

*Student: Um well its kind of an information task so you need to get some information across um instead of babbling on about something different*

### **Comment**

Here she has clearly interpreted the task as being one in which she should not be imaginative or creative in her response in order to get marks.

## **Discussion and Conclusions**

The student's expectations of what the task was about played a significant part in how she approached the task. We think that when students first see a task they initially categorise it, and although they may modify it a little as they work through the task, their first ideas about what the task is about and how to tackle it will be crucial (Crisp, Sweiry, Ahmed & Pollitt, 2008). If we are extending existing tasks to assess creativity we need to be aware that we will need to override certain default assumptions that the students will have already made about the task.

In the Trainer Try-Out task the student's interpretation was that she needed to write a formal letter to the shop manager, and she stuck to this despite the prompts. The ability to move beyond an initial schema and re-conceptualise the task may be developmentally constrained (Piaget, 1955). Because the student saw this as a formal letter she was unwilling to take risks and think in a creative way about the task. She was unwilling to consider writing in a non-standard way or writing about a non-standard trainer as she seemed to feel it was inappropriate for this task.

In considering how to extend a task to assess gifted behaviour we must take into account the age of the children. One issue is that we must not go beyond what is in the curriculum for these students. (DCSF, 2008). The other issue is what it is fair to expect a child of that age (in this case 11) to be able to do even if they are gifted. Giftedness has to be seen as cognitive advance when there may be no other types of precocious behaviours exhibited. The 11 year old is not expected to behave like a 16 year old in any way except cognitive skill, since they do not have the experience and social maturity that comes with age.



An important implication of the literature on expertise and creativity is that students have to have reached a level of expertise in a subject area before they can be expected to be creative in that area (Ericsson, 2006). It follows that if we want to provoke creativity then we need to set tasks that are familiar, so that the students are comfortable with the task setting. If students are familiar with the task they will feel in control and will have the cognitive capacity to exploit the opportunities in the task which will show creativity.

The Trainer Try-Out task was not a familiar one to the student and despite her high ability this task was too far outside her experience for her to feel comfortable and able to exploit the opportunities given by the prompts. We can learn from this that tasks intended to assess creativity need to be set in more standard and familiar contexts so that the student's initial assumptions about the task are consistent with what the assessor is looking for, and the student then has the cognitive capacity to go beyond this to be inventive and to show creative behaviour (Ahmed & Pollitt, 2007).

In extending a task we are asking students to go beyond the demands that the assessor has put into the original task. The prompts are putting new demands into the task and therefore giving students new opportunities. Is it fair to penalise those students who do not take the new opportunities given by the prompts? Are these students meeting all the demands of the task? If it is to be fair then we must make sure that it is clear to students what is expected of them.

This student tackling this task did not respond to the prompts very creatively despite her high ability. She was restricted by her age and lack of familiarity with the task of evaluating a consumer product and writing about it to an adult stranger. If we want to assess creativity in developing minds it is crucial that all the basic features of the activity are familiar to the children so that they have the available cognitive capacity to use on these new demands.

Standardised familiarity provides the platform from which creativity can take off. A standard and familiar task with prompts will allow us to identify those students who can behave creatively. If the task is not standard and familiar then we cannot tell which students could have been creative. We will not know whether they failed to be creative because of the task.

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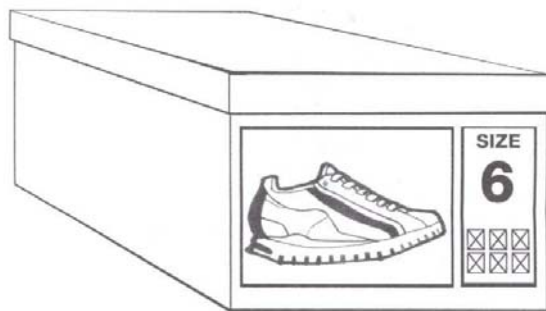
# Trainer Try-Out

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Your local sports shop has been supplied with a new type of training shoe. The shop wants to find out if the trainers are suitable for sports activities.

The shop manager has asked some young people to try out the trainers and give their opinion.

Imagine that you have tried out the trainers for a week, using them for sports lessons and other outside activities.



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**Your task is to write a report about the trainers  
for the local sports shop.**

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Think about:

- good points about the trainers
- their suitability for sports use
- what could be improved

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# Planning

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Your points about the trainers (think about the style, the materials, any special features)	
Your suggestions for improvement	

Think about:

- how you will start your report
- the points you will include
- how you will finish your report.