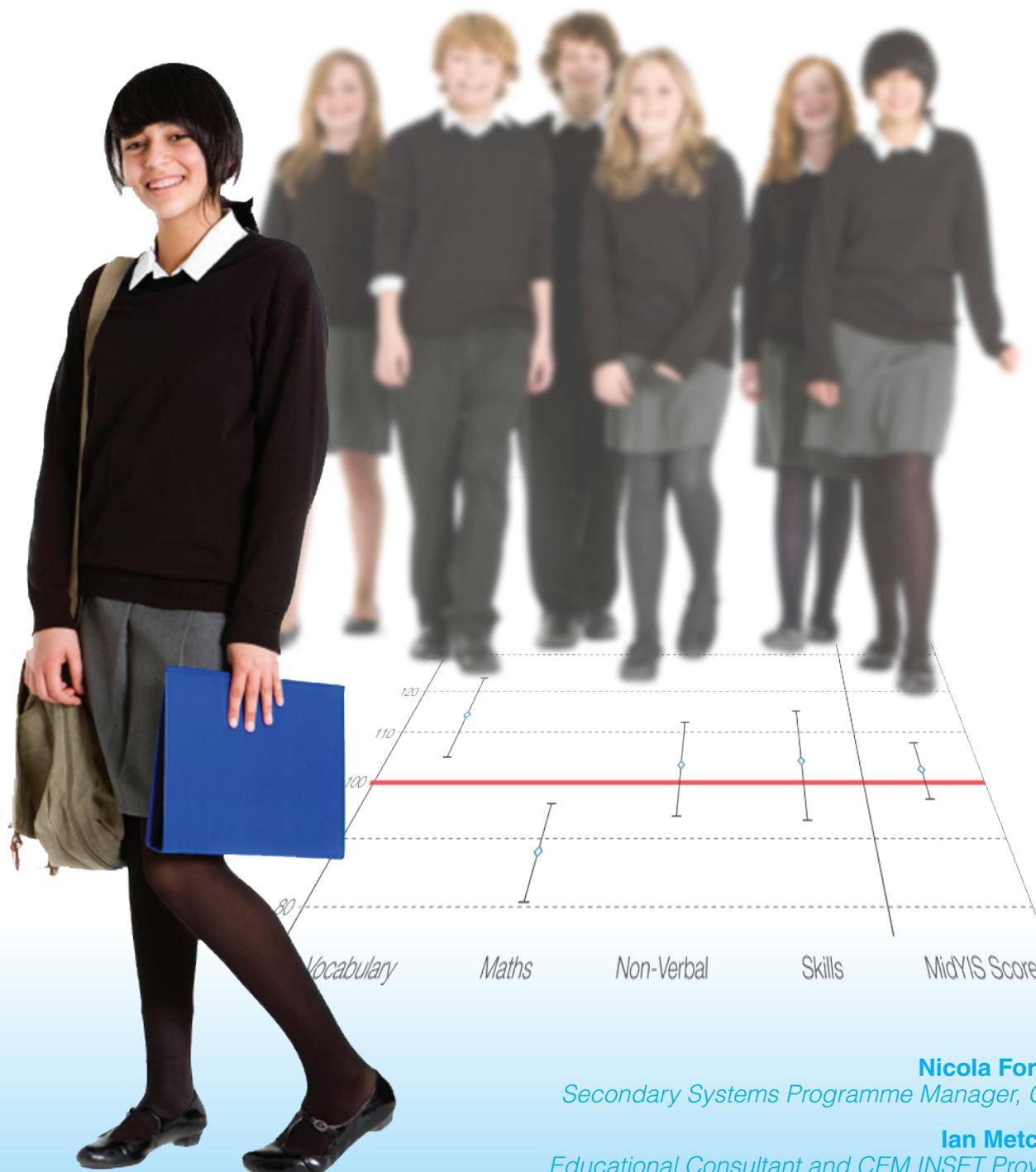


Using MidYIS Individual Pupil Records (IPRs) to Inform Teaching and Learning



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About this booklet

This booklet has been compiled by Nicola Forster, (Secondary Systems Programme Manager and former MidYIS Project Manager), bringing together her expertise and experience of working with MidYIS data with that of Ian Metcalfe, a former Deputy Head Teacher, Educational Consultant and CEM INSET provider. The content is a mixture of factual information about the MidYIS Assessments and the experiences and anecdotes gained during their work with schools. We would also like to thank Geoff Davies, Peter Hendry and Ian Sanderson for their valuable contributions.

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Background to the development of the MidYIS Baseline Assessments for Secondary Schools

MidYIS (Middle Years Information System) is one of a series of monitoring systems written and administered by the Centre for Evaluation and Monitoring (CEM) based at Durham University, England.

MidYIS, available at Years 7, 8 and 9 (i.e. ages 11-14) is a baseline assessment and value-added system for secondary schools. The MidYIS baseline assessment was designed by Carol Fitz-Gibbon to measure pupils' developed ability rather than what has been taught in school. Being largely curriculum-free¹ it gives measures of pupils' underlying potential, and their strengths and weaknesses across four sub-scales: Vocabulary, Maths, Non-verbal and Skills². The focus of MidYIS's development was to create a system that would be a good predictor of later academic achievement and to provide a baseline for value-added studies. However, since the first results were released teachers have also been using the MidYIS data, combined with their own personal knowledge of their pupils, in a diagnostic fashion to identify strengths and weaknesses and to develop suitable strategies to aid their teaching and pupils' learning. It is this professional judgement that this document is concerned with.

MidYIS, introduced in 1997, is now a leading assessment for pupils of secondary school age, with over two hundred thousand pupils taking a MidYIS test each academic year, across all sectors of education. It is delivered in two formats; traditional paper-based and a computer-adaptive version. Post assessment, teachers receive detailed pupil level feedback. This information takes the form of standardised scores, quartile bands, stanine and percentile divisions, predictions for external examinations, measures of relative progress or value-added and attitudinal measures.

We will focus on, the Individual Pupil Record (IPR), which allows a pupil's strengths and weaknesses on the baseline assessment to be easily viewed and interpreted.

1 - MidYIS accept that the Maths section is not completely free of curriculum effects as some mathematical concepts have to be taught. To minimise this effect the assessment is long, allowing pupils to seek out suitable questions and also minimise a ceiling effect, hence allowing the most able of pupils to show their ability.

2 - See MidYIS Project documentation for further details of assessments that make up the sub scales.

The Individual Pupil Record (IPR) and its Interpretation

The IPR, shown below, is a visual breakdown of how an example pupil fared on the various sections of the MidYIS baseline test. Much of the time, the data will confirm what the teacher already knows about the pupil, but at times the data will cause them to re-examine their assumptions and provide insight into the various strengths and/or weaknesses in the pupil's abilities.

The IPR information is presented to teachers as a single sheet for each pupil with the results from the MidYIS assessment in tabular and graphical formats.

The following four pieces of information are provided for each pupil in each of the four MidYIS subsections, as well as an overall score:

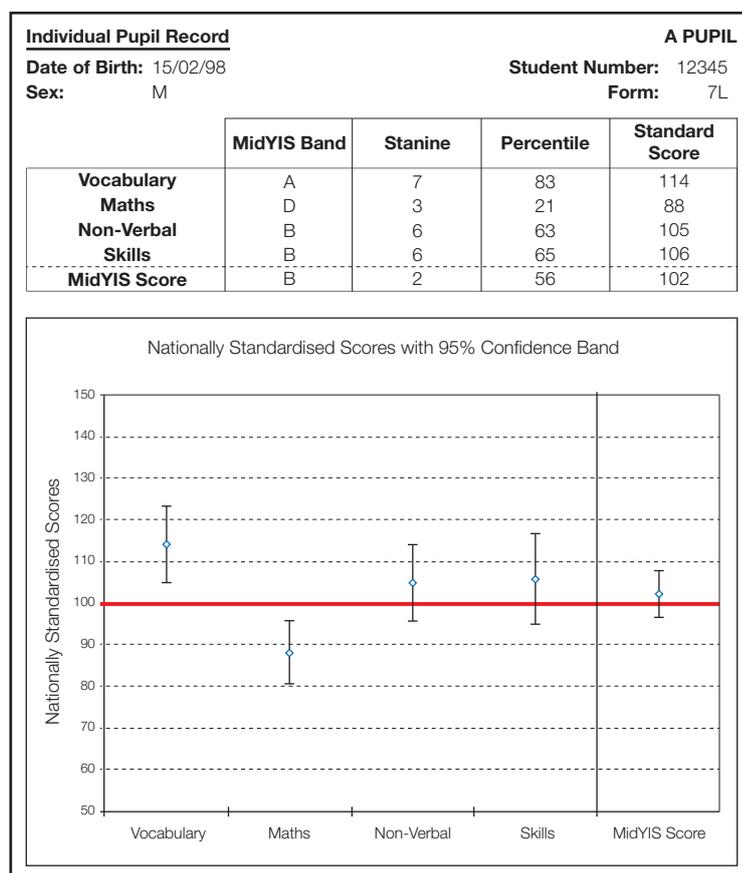
MidYIS Band: Each of the four MidYIS Bands (A to D) includes 25% of the nationally representative sample. Band A represents the top 25% and Band D the lowest.

Stanine: One of nine divisions of the normal distribution of MidYIS scores where Stanine 9 is the highest.

Percentile: Percentage of the nationally representative sample scoring less than this student.

Standardised Score: Score standardised against a nationally representative sample, where the sample mean is set to be 100 and the standard deviation is 15.

Example



Teachers will want to compare the pupil's performance across the sections of the MidYIS test and relative to national norms. This can be done by comparing each of the measures listed above. The MidYIS Band is the crudest of the measures available, simply indicating which quarter of the sample the pupil's score falls into. Stanines give a more detailed division of the data. Percentiles are an easy way to gain information about the relative ranking of the pupil in a national context and provide more differentiated information than the stanines. The most familiar information comes from the standardised score which is directly linked to the percentile. The rest of this document concentrates on the standardised scores referring occasionally to the other measures.

Example: Part 1 – Scores on the Test

With reference to the example IPR shown on the previous page.

Vocabulary: This pupil has achieved a well above average score of 114 on the Vocabulary section, placing the pupil in Band A, the top 25% of all performances nationally. The pupil performed better than 83% of the sample.

Maths: In contrast their Maths Score at 88 is below average and falls at the top end of Band D, the lowest 25% of all students' performance.

Non-verbal and Skills: With roughly equal scores on these sections of 105 and 106 respectively, the pupil has an above average performance which falls into Band B, the second highest quarter of all scores.

Overall Performance: The Overall score provides a summary measure of the pupil's performance on the test³. A roughly average overall performance has been achieved here with a score of 102.

Comment: The Maths score seems out of kilter with the other section scores, particularly the Vocabulary.

Are these differences significant? Read on for further information.

The **graphical** representation of the data is perhaps the easiest way to compare your pupil's performance across the sections of the assessment and relative to the national average.

1. The score for each section of the test is displayed on the chart as a diamond.
2. The 95% confidence band/limit of the pupil's result is shown as an error bar either side of the diamond.
3. The overall score is displayed at the far right of the chart. It has a smaller confidence limit as it is composed of scores from more than one section .
4. The average of the nationally representative sample is shown by the horizontal line at 100.

Interpreting the IPR Chart

From the chart it is easy to see how a pupil has performed relative to the average of the nationally representative sample which is set to be 100.

How do you know whether the pupil's score is a true representation of their developed ability in a sub-section of the test and whether the pupil has performed significantly better or worse than average? To answer these questions we need to consider confidence limits.

What are confidence limits?

The confidence limits are displayed as error bars around the pupil's score. When a pupil takes a MidYIS test it provides a snapshot of the pupil's developed ability on that particular day. On another day the snapshot might be slightly different, and on another the pupil might achieve a slightly different score again. This is to be expected as we are all affected slightly by different experiences, environments and motivations on a particular day that can affect our performance. That said, we would not expect a pupil's performance to vary greatly and the confidence limits (sometimes called "error bars") show us the range within which we would expect that score to fall most of the time.

Example: Part 2 – Confidence Limits

The pupil scored 114 on the Vocabulary section. The error bars range from about 105 to 123, about 9 points either side of the pupil's score. If this pupil was to take this test afresh 100 times, we would expect that 95 of those times the pupil's score would fall within the range denoted by the error bars.

Confidence limits can tell us more. They can tell us:

- **Has the pupil performed significantly above or below average?** We can say that a pupil has scored significantly above or below the national average if the error bar for the

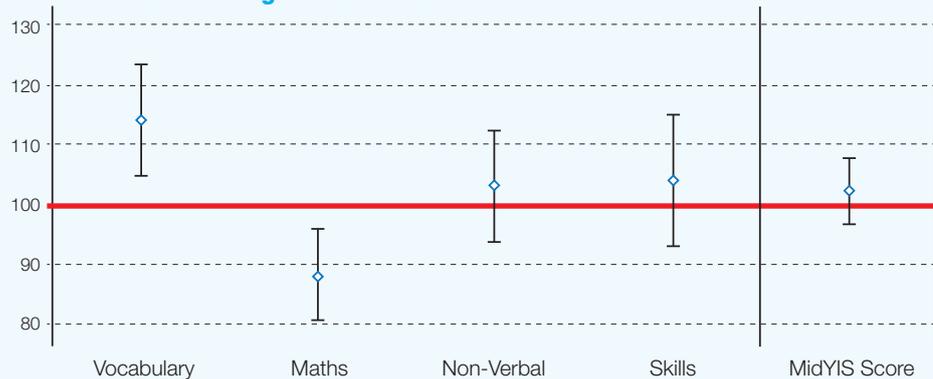
3 - The Overall score for the paper-based MidYIS assessment is calculated using all four subsection scores. For the computer-adaptive version, the overall scores is based on the Maths and Vocabulary sections.

score does not cross the horizontal line indicating the average score for the test. In the case of MidYIS, the line is at 100.

- **Has the pupil performed significantly better or worse on the different sections of the MidYIS Test?** When considering this question we look for overlap between the error bars between each section. As a general rule of thumb where the error bars do not overlap, we can be confident that the pupil has scored significantly better or worse on one section of the MidYIS assessment compared to another. However it should be noted that scores are significantly different where the error bars overlap to some extent.

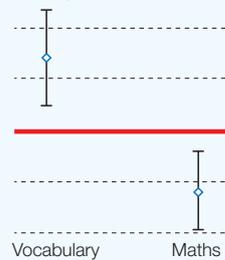
Example: Part 3 – Are the scores significant?

Relative to the Average Performance?



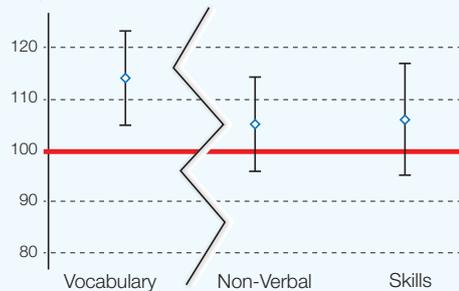
The error bars for Vocabulary and Maths do not cross the line at 100 (which denotes average performance). Performance in Vocabulary is significantly better than average performance and Maths performance is significantly below average. The error bars for the Non-verbal, Skills and Overall MidYIS scores do cross the line at 100 and hence the pupil cannot be considered to have performed significantly different to the average pupil overall.

Comparing Maths and Vocabulary Scores:



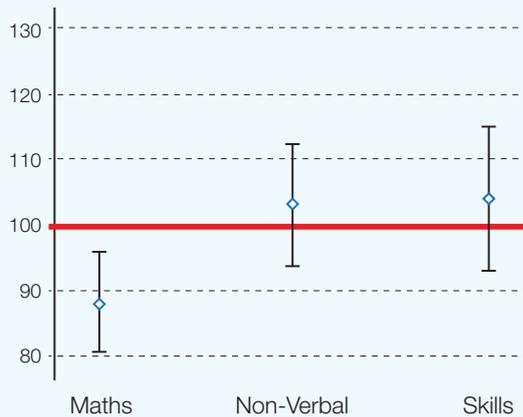
It is easy to see that the error bars for these two sections do not overlap. The pupil has scored significantly better on the Vocabulary section than on the Maths section.

Comparing Vocabulary, Non-verbal and Skills:



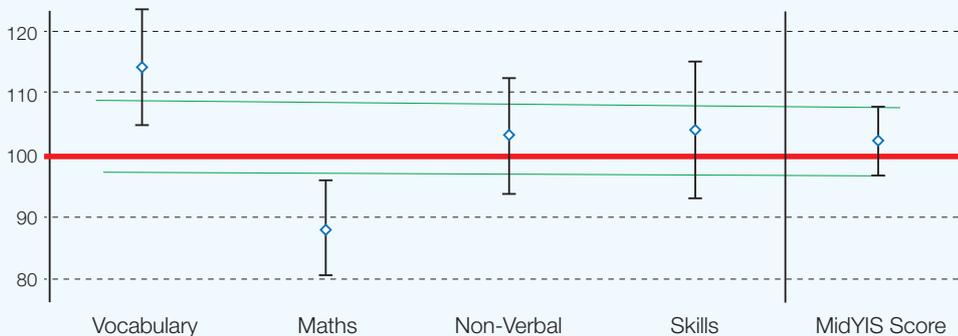
There is a large amount of overlap between the error bars for these sections; there is no significant better or worse performance.

Comparing Maths, Non-verbal and Skills:



There is a very slight overlap between the error bars for these sections. Performance in Maths is likely to be worse than performance in Non-verbal and Skills.

Comparing performance in the sub tests with the Overall MidYIS Score:



The Overall 'MidYIS' score is determined from the pupil's scores on the subsections of the test, as described earlier. In this example lines have been drawn in green from each of the extremes of the Overall score's error bars. This is a simple way of assessing whether the error bars overlap. Only the Maths score does not overlap with the Overall MidYIS score, and Vocabulary only overlaps slightly. We can conclude that the pupil's performance in Maths was significantly worse than his/her performance overall and this may also be the case for Vocabulary.

The MidYIS Test: What do the standardised scores mean?

MidYIS scores are standardised on a nationally representative sample to have a mean score of 100 and a standard deviation of 15. The scores for each sub test and the overall score are normally distributed.

- The average pupil in the nationally representative sample will score 100
- 95% of pupils score within about two⁴ standard deviations of the mean, which means 95% of pupils will score between 70 and 130
- Pupils scoring over 130 are in the top 2½ percent of the national sample and meet the traditional definition of being gifted
- Pupils scoring less than 70 are in the lowest 2½ percent of the national sample and may have special educational needs

Although the individual sections of the MidYIS assessment are interesting and correlate well with later performance in examinations, it is worth stating at this point that in all cases we have found the Overall MidYIS score to be the best predictor of later academic achievement – at Key Stage 3 and in GCSE and Standard Grade examinations.

4 - To be precise, 1.96 standard deviations give limits of 70 and 130

What do the sections of the test measure?

Vocabulary Score

The Vocabulary and Maths scores are important to the prediction of all subjects. The Vocabulary component of the test is generally an important element for most subjects. For English, History and some Foreign Languages it is the best. However the Vocabulary score is perhaps the most culturally linked of all the scores. Those who have not been exposed to vocabulary-rich language or a wide variety of reading material or whose first language is not English are unlikely to have developed as high a vocabulary score as they would have developed in a different environment. Such pupils are able to demonstrate other features of their ability through the Maths, Non-Verbal and Skills sections.

Maths Score

The Maths score is well correlated with most subjects but is particularly important when predicting Maths, Statistics, ICT, Design Technology and Economics.

The Maths section has been designed with the emphasis on speed and fluency, rather than knowledge of Maths. Like the Vocabulary score, the Maths score is a good predictor of later academic performance.

Non-Verbal Score

The Non-Verbal score is composed of the three sub tests: Cross-Sections, Block Counting and Pictures. The Non-verbal score is important when predicting Maths, Science, Design Technology Geography, Art and Drama. It provides a measure of the pupil's ability in 3-D visualisation, spatial aptitude, pattern recognition and logical thinking. It can give an insight in to the developed ability for pupils for whom English is a second language.

Skills Score

The Skills score is calculated from the Proof Reading and Perceptual Speed and Accuracy (PSA) sections of the MidYIS Test.

In the Proof Reading section pupils are asked to spot mistakes in the spelling, punctuation and grammar of a passage of text. We often rely on computers to do such tasks but some of the mistakes the pupils are looking for are of the type that may not be picked up by a computer, for example mistakes such as the mis-spelling of words like 'there' and 'their'. The Proof Reading sub-test efficiently measures this highly important skill that anyone producing a piece of writing has to develop.

The PSA section asks pupils to look for matches between a sequence of symbols on the left and a number of possible choices on the right. Given enough time most pupils would probably get the answers correct this section measures how quickly pupils can find a correct match. An interesting result from our work with the Deaf and Hearing Impaired community shows that on average, Hearing Impaired pupils score a standard deviation above the national average on the PSA section of the test. The PSA section allows speed to be demonstrated free from the demands of memory.

The Proof Reading and PSA tests are tests for the modern world, and are designed to measure fluency and speed. They rely on a pupil's scanning and skimming skills, skills that are desirable in examination situations.

Using MidYIS IPRs to Inform Teaching and Learning

All teachers know that pupils are different. They have different abilities, motivations, work ethic, interests, needs etc. As a result each pupil's IPR chart will be unique. The IPR on its own simply tells us about the relative performances of the pupil on the separate sections of the test, where the pupil is strong, where performance has been significantly above or below national averages or where the pupil has significantly outperformed in one section or another.

It is when the IPR is placed in the hands of a teacher who knows that pupil that it becomes a powerful tool.

During training sessions our INSET Providers often receive the request 'Just tell us what do...'. In other words some assume that a particular IPR indicates a pupil's well defined specific need which can be met by a simple formula of strategies. If only this were true! It is what teachers know about individual pupils: what has happened in the past, how they respond to given situations and how they work in the teacher's specific subject that inform the interpretation of the IPR.

If the IPR data from MidYIS, the teacher's personal and subject specific knowledge and experiences regarding the pupil can be shared, then there becomes a much more powerful instrument for supporting pupils' learning needs.

The way pupils' learning needs in a given subject are met may well be specific to that subject and may extend beyond that subject. Their needs may be more effectively addressed using techniques from another subject area and other teachers' observations and knowledge of the pupil. For example, if a pupil is having difficulty in writing a plan for an investigation in science, it is useful to know how such types of writing are tackled in their English lessons. It may transpire that English teachers have found the use of a word processor to draft and re-draft work has been very productive.

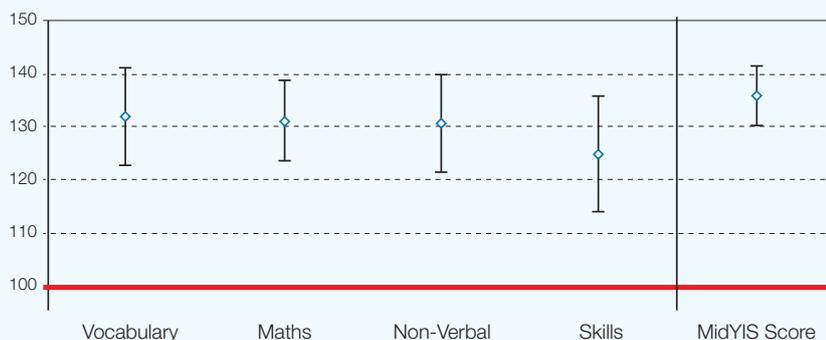
These brief illustrations demonstrate how it is possible to look at the data included in the IPR, relate it to a particular pupil and their needs, and triangulate what the data is telling them with their own knowledge of the pupil and others' observations, ideas and guidance. The next section, rather than being prescriptive contains case studies which may give an insight into what might be used with particular pupils.

General Patterns

Having said above that it is almost impossible to give advice without specific knowledge of the pupil, a few general comments derived from experience with particular types of IPR may be useful, even if at times they, on reflection, state the obvious.

Example 1: Pupils with high scores across all components

The example pupil shown here has achieved scores two standard deviations above the national average in almost all components of the MidYIS Test. You will note that in this example (which is drawn from the paper-based MidYIS test) the Overall MidYIS score is higher than the component scores. This is entirely possible (indeed this, as all examples shown, is data for a real pupil). The overall score on the paper-based test is a combination of the raw section scores before the standardisation is applied. A similar process occurs for the computer-based test. The overall score is higher than the component scores because it is unlikely that a pupil will score a very high score on all sections. This range of high scores across all components ranks the pupil higher in the standardisation sample overall and hence a higher nationally standardised score for the Overall score.

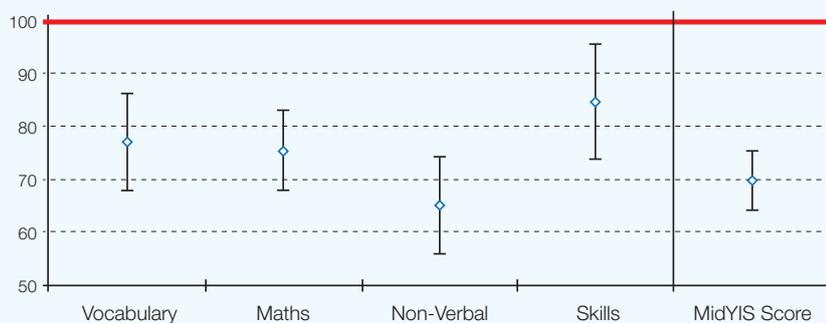


Where a pupil achieves high scores across all components of the MidYIS assessment, they will be an able or very able pupil. Whilst low scores can be achieved for a variety of reasons, not always related to ability (for example, un-motivated, personal issue taking precedence) high scores cannot be achieved in this way. It is also extremely unlikely that high scores on any section can be achieved by guessing alone.

Pupils that score above 130 are in the top 2.5% of the population who meet the traditional definition of mentally gifted⁵. They are pupils who are expected to get high grades. Nevertheless they do have their own special needs: they might become easily bored with work that is too easy; they might be hiding their ability to gain peer group acceptance or in more extreme cases can be disruptive: although they are doing well are they capable of more, are they being stretched to their full potential? If the school has a well above average intake then there might be sufficient numbers to meet their needs as a group. For schools with less favourable intakes then it might be possible to join with other schools for enrichment activities.

Example 2: Pupils with low scores across all components

This pupil has scored in Band D (lowest 25%) across all components of the MidYIS assessment. The Non-verbal score falls below 70 and the Overall MidYIS score is 70.



Scores of less than 70 are in the bottom 2.5% of the population. Any students falling into this range will possibly, but not necessarily, have been identified as having special educational needs and plans are probably already in place to help him or her. Further identification will require specialist testing.

5 - Scores over 126 represent the top 5% nationally. Scores over 120 are the top 10%, and over 108, the top 30%.

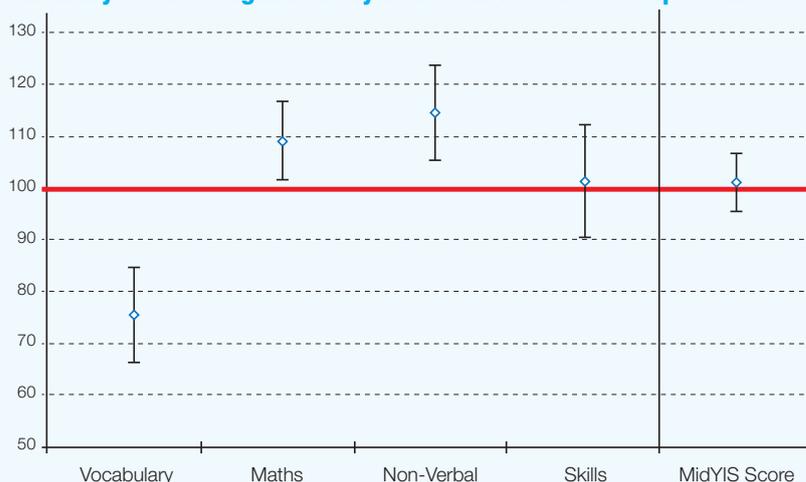
Example 3: Pupils with significant differences between one or two components

Some pupils will display an IPR pattern with significant differences between one or two components of the MidYIS Test. These can be the most interesting and possibly challenging pupils for mainstream classroom teachers.

The following scenarios are presented here:

- a) Vocabulary scores significantly lower than other component scores
- b) Vocabulary scores significantly higher than other component scores
- c) Mathematics significantly higher than other scores
- d) Mathematics significantly lower than other scores
- e) Low Mathematics scores with High Non-verbal scores
- f) Pupils with Non-verbal scores different from others – High Non-verbal Scores
- g) Pupils with Non-verbal scores different from others – Low Non-verbal Scores
- h) Pupils with low Skills scores
- i) High Skills scores
- j) The Average Pupil

a) Vocabulary scores significantly lower than other component scores



In this example, the pupil has significantly underperformed in the Vocabulary section of the assessment relative to all the other components. This will probably mean that the student is currently unlikely to have the necessary vocabulary skills to fulfil their academic potential as indicated by the other test component scores.

Typically these might be pupils where English is a second language, or pupils from more deprived areas or both. Able pupils with English as an additional language, and hence a depressed vocabulary score should be able to demonstrate a truer measure of their ability through the Maths and Non-verbal section scores. Students with low Vocabulary scores may not know or understand the meaning and use of many common words or phrases that are used in teaching. This may well impact on learning and subsequent achievement.

Pupils with lower than expected Vocabulary scores can be encountered in any school. For schools with a selection test it is not unknown for pupils' Vocabulary scores to be lower than their Mathematics scores and there can be several reasons for this.

In many cases it may be the case that pupils' command of English will improve through the natural course of events, but it might be useful to consider that the Vocabulary score measures their understanding of words and so the school may wish to take positive action

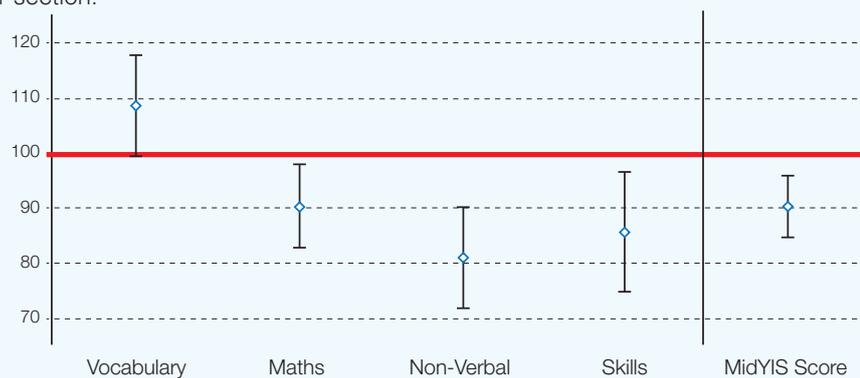
to improve their vocabulary by a wide range of experiences such as debates and visits.

In some inner city schools it can be that the pupils come from a particular ethnic group and, although born in this country, still have English as their second language. They may be fluent in 'street English' but may require a wider range of experiences to enrich their language and gain precision in its use - 'Vocabulary is caught not taught'.

Discussion groups are good ways of widening the use of vocabulary but care must be taken in organising the groupings so that pupils with low vocabulary scores do not congregate into the same groups. Although it seems that everyday words with different meanings cause the most problems, technical words may do so too. Glossaries might help but it is probably better for pupils to produce their own which is more likely to ensure understanding.

b) Vocabulary scores significantly higher than other component scores

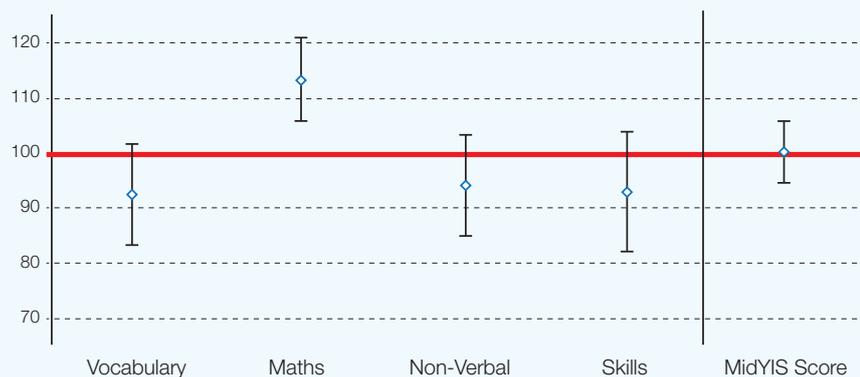
In this example the pupil's performance in Vocabulary is far above that achieved in any other section.



This pupil is likely to be a good communicator and able to express ideas well. However, their work in class is unlikely to be of the same standard, as their underlying potential (Non-verbal) is weak and performance in Maths and Skills is low. Pupils with high Vocabulary scores and low Mathematics scores might benefit from describing maths problems in words or in describing verbally what they are trying to do.

c) Mathematics significantly higher than other scores

Here our example pupil has scored significantly better on the Maths element of the MidYIS test than the other components. His/her performance is generally average across the Vocabulary, Non-verbal and Skills elements.



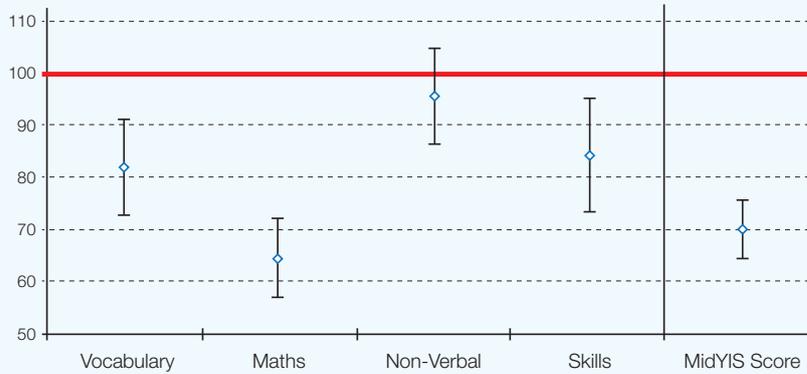
As far as possible we have tried to develop the Maths section to be curriculum-free, but of course, due to the nature of the subject, it can never truly be so. Performance on this test will not only depend on the ability to work quickly and accurately but also on what has been taught and retained from previous mathematical education. Where teaching in Maths has been very strong in the feeder school, or where pupils have taken an entrance test for entry to secondary school, extra focus will have been placed on Maths education which can have the effect of raising achievement in this section. We have found that pupils from the Far East

may often also have very high Maths scores due to their early educational experiences.

It is also worth noting that some pupils are better at Maths than they are at other subjects irrespective of the teaching and the pupil's background.

d) Mathematics significantly lower than other scores

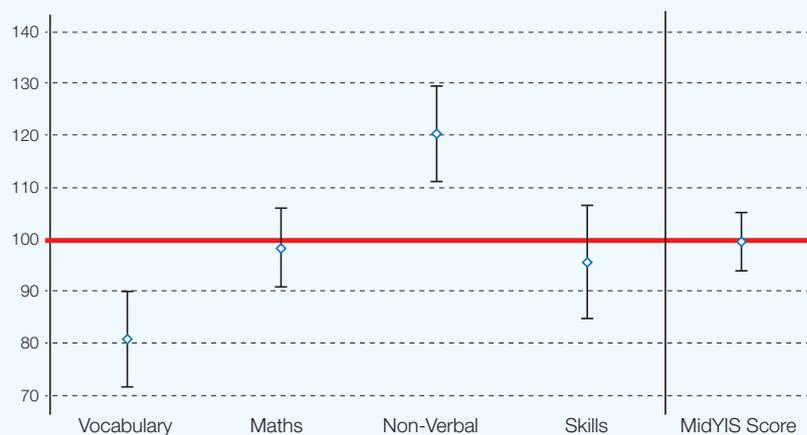
Here the pupil has significantly underperformed on the Mathematics section of the MidYIS test. The pupil's underlying Non-verbal ability is considerably higher and in line with the national average.



A low Mathematics score has obvious implications for the teaching of mathematics but will also affect other subjects that involve performing calculations, or reading data in a variety of forms. Indeed the pupil may have problems in numeracy in all areas of the curriculum. The problem for most non-mathematics teachers is that their pupils may well have been taught to perform operations in a way very different from the way their teachers were taught possibly many years ago – for example the way to perform subtraction, division or multiply fractions. If low Maths scores are a feature of the school as a whole, a push of mathematics across the curriculum might be required. Some schools have done this in the past but in order not to allow staff changes or general tailing off of interest a fairly constant effort is generally required.

e) Low Mathematics scores with high Non-verbal scores

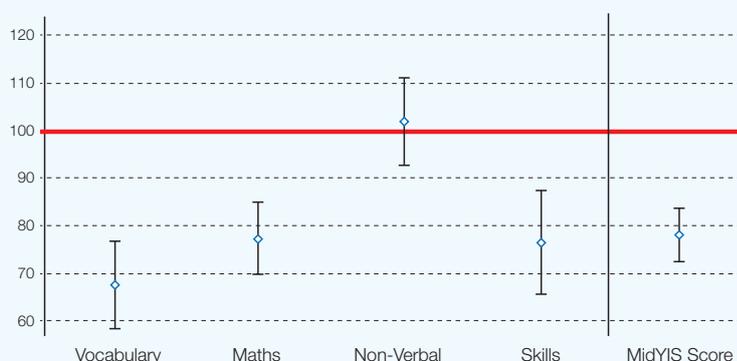
The Non-verbal score is free of the constraints of language and gives pupils the opportunity to demonstrate their underlying ability. Therefore it is a good indicator of underlying ability for pupils where English is an additional language.



Similar to the above suggestion where pupils of higher vocabulary ability could have Maths problems described in words, pupils with high Non-verbal scores but low Maths scores might benefit from introducing diagrams to aid their understanding of problems.

f) Pupils with Non-verbal scores different from others – high Non-verbal scores

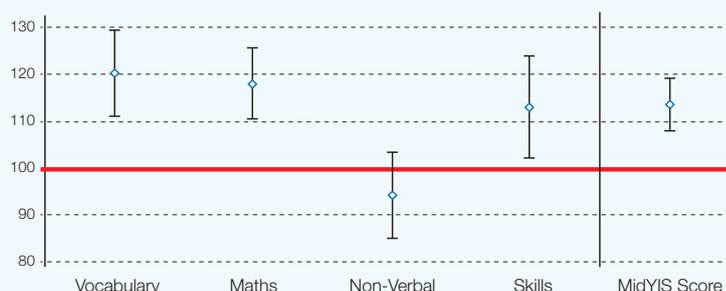
Here our example pupil has performed significantly higher in the Non-verbal section of the MidYIS assessment than the other components of the test. Their Non-verbal performance is in line with the national average whereas other scores fall well into Band D, the lowest 25% of the nationally representative sample.



High Non-verbal scores could indicate a high level of a specific ability and such a pupil can feel frustrated as she or he can understand well but has difficulty communicating.

g) Pupils with Non-verbal scores different from others – low Non-verbal scores

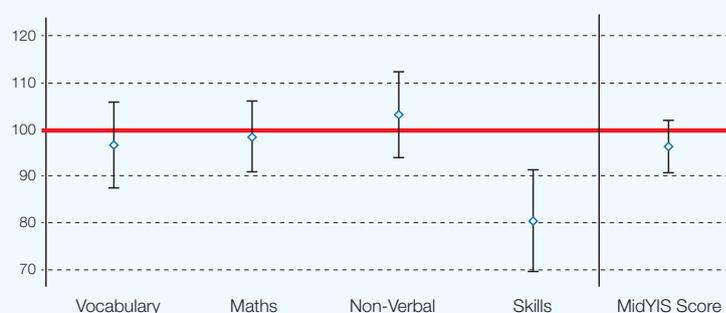
This pupil's Non-verbal score is average but is below the other section scores.



Pupils with low Non-verbal scores might have difficulty in understanding diagrams or following graphical instructions. For some a verbal explanation might help but others might need a physical demonstration. Some might require a physical model. For example, one geography teacher with a class with low Non-verbal scores used sand trays to model maps.

h) Pupils with low Skills scores

This pupil has performed significantly below average on the Skills section of the MidYIS Test. The other section scores are at the national average, but the Skills score is a Band D performance.



It has been commented anecdotally that pupils with low Skills scores are the ones who seem to underachieve in examinations, although they produce good homework and seem

to cope in class. There seems to be a ring of truth about this for if they have problems with Proof Reading they will not be able to check their answers effectively or might misread questions. If they have problems with Perceptual Speed and Accuracy (PSA) it may take them a long time to decode examination questions.

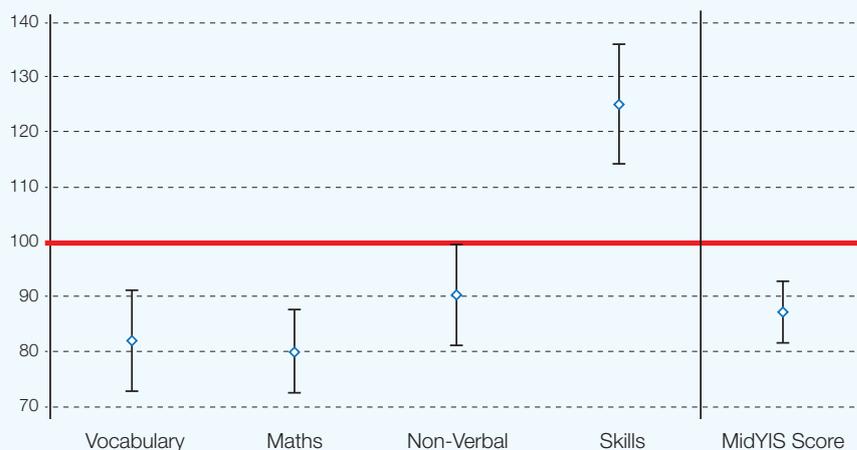
Additionally both the Proof Reading section and the PSA section are speeded - the Proof Reading section because it is long and the PSA section because pupils are given only a very limited amount of time to complete it. Pupils need to be able to work quickly and efficiently, not spending a large amount of time on questions they can't answer but moving onto other questions they can answer so as to maximise their marks. This could be thought of as good exam technique. If the pupil is able to spend more time on the task, checking their work, then problems in this area can be minimised.

Low Skills scores combined with low Vocabulary scores (not shown here) are often indicators of poor quality written work in class, probably due to time pressures. It has also been commented by some teachers that pupils with low Vocabulary and Skills scores may be dyslexic – it is not suggested that the MidYIS test is diagnostic of dyslexia and indeed investigations in this area by the MidYIS team have been inconclusive, however it is an area of research that we will continue to pursue. The reason for mentioning this anecdotal finding is merely as a flag to alert teachers that further specific investigation could be worthwhile. Having said this there are plenty of examples of pupils known to be dyslexic having quite 'normal' Skills and Vocabulary scores.

MidYIS are currently working on a separate Reading Test designed to screen pupils who may have dyslexic traits.

i) High Skills scores

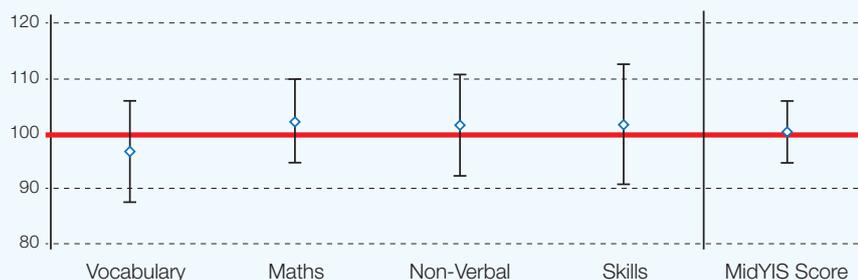
This example pupil has scored significantly higher than average on the Skills section of the MidYIS assessment but below average on the other section scores.



This pupil may struggle in most areas of the curriculum, having difficulty communicating and expressing ideas, performing poorly in areas of the curriculum that require the use of numeracy skills and in subjects where 3-D visualisation and spatial concepts are needed. However the high Skills score shows that the pupil can work quickly and accurately and may have good written work.

j) The Average Pupil

This pupil's scores are roughly equivalent across all section of the MidYIS test. There are no obvious strengths or concerns.



This is real data and is included to show that 'average' pupils really do exist!

Health Warnings

We must guard against over-interpretation. Here we are trying to be broadly right, not precisely wrong.

Be sceptical if a score seems too low for a given pupil. Remember the MidYIS Test is a snap shot in time and pupils have off days or have concentration lapses in parts of the test. However, if you see an unexpectedly high score it will most likely be real, as high scores cannot easily be achieved by lucky guessing.

Finally do not fall into the trap of trying to coach pupils to do better in the tests: the test items themselves are merely instruments to try to identify pupils' performance in the different scales of the test, their strengths and weaknesses. Coaching will disadvantage the pupil as it will not give you as their teacher a true indication of their developed ability and subsequently the level of work needed to take this pupil through the next few years and onto external examinations.

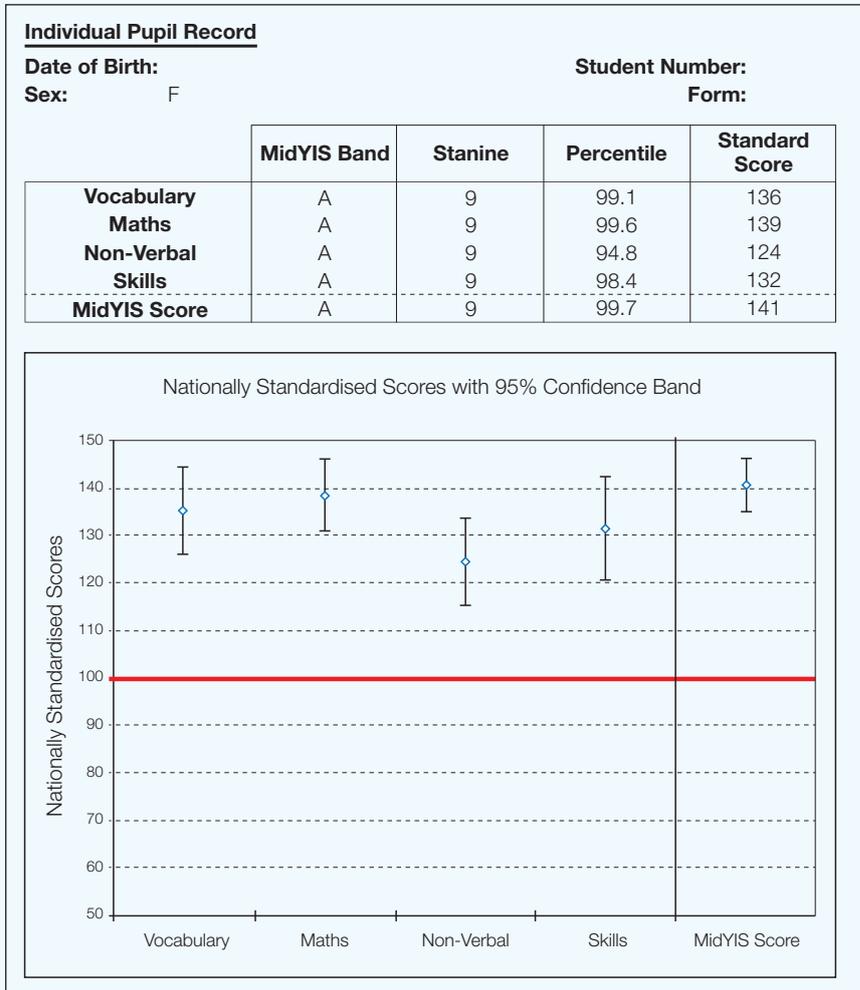
Case studies

Two case study examples are presented here. If you have case studies of pupils (who will of course remain anonymous) that you could share with others, please contact: midyis@cem.dur.ac.uk

Exemplar Case Study: Pupil A

School Setting: State Girls' Grammar School.

Entry to school is via selection test.



Information from the IPR:

This is an exceptionally able pupil whose scores fall into the top 1% of the MidYIS sample. They are high on all sections of the test and no section score is significantly different to the others.

Background:

Prior to this information becoming available staff did not see the pupil as being outstandingly able. She could be disruptive in lessons and frequently handed in incomplete homework. There had been some concern about her attendance.

Actions taken:

When the IPR was made available it caused staff to re-examine their perceptions. It prompted the school to re-examine its provision for gifted pupils and also the degree of challenge being offered to all their pupils. The latter was linked to staff development in formative assessment.

For the most able pupils, a member of staff co-ordinated the distribution of information about national events such as the Salter's Chemistry camps and the UK MT Mathematical Challenge. This included the necessary organisational work and liaison with parents for attendance at events.

At a whole school level the following specific actions were taken:

- Some homework was made more open-ended in nature allowing pupils to show their creativity.

At the pupil level:

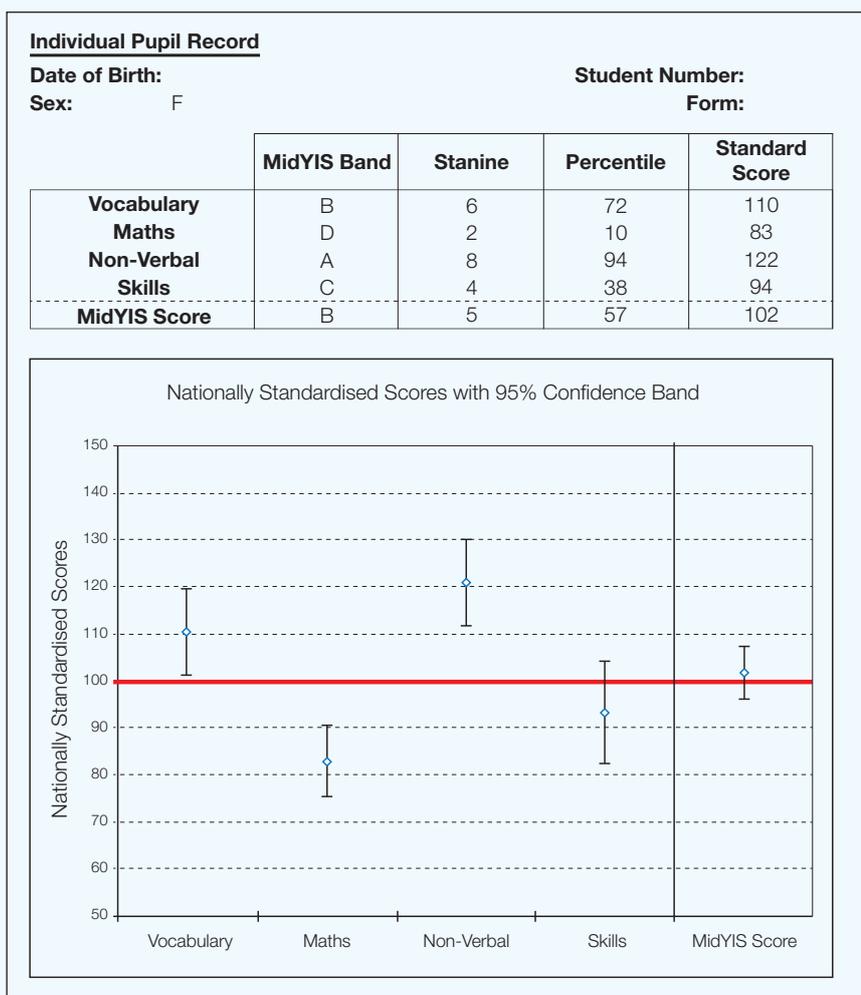
- The pupil was interviewed by her year tutor who explained the IPR data. It appeared that the pupil had played down her ability to gain acceptance with her peers in her primary school. She admitted that she had further developed her anti hero image in the secondary school. She said she often found some of the work set too easy and lessons boring.

Exemplar Case Study: Pupil B

School Setting: Inner city comprehensive

80% free school meals.

Large proportion of ethnic minority pupils.



Information from the IPR:

Overall the pupil is a fairly average pupil but her mathematical ability is significantly less than her Vocabulary (which is well above average). This might suggest there will be some underachievement in mathematics and in parts of subjects where mathematical skills are required, notably science. The best score is in Non-verbal ability where, like in Vocabulary, the pupil has scores in the Band A, the top 25% of all pupils nationally. Her Skills score is roughly average and although not significantly, is lower than her Vocabulary. This might affect her performance in examinations.

Background:

The pupil was UK-born and had attended several primary schools in different parts of the country before moving to this area. The pupil generally tried to work well but appeared to be disinterested in maths and science lessons. Although her course work was usually satisfactory her performance in exams and tests in all subjects could be at times disappointing.

Although not identified as having special educational needs, the department carried out further testing establishing that her reading age was lower than expected, and also that there were gaps in the student's numerical knowledge.

Actions taken:

At pupil level:

- The pupil now attends short sessions at lunch time in the SEN department three times a week with the aim of improving her reading.
- In mathematics she was encouraged to say in words what the problem was about and how to solve it. Where possible explanations using diagrams were used. She was also encouraged to learn her times-tables.
- In all subjects she was given the opportunity to see her teachers outside the lesson and to verbalise what she thought the homework/assignment was asking her to do.

Taking This Work Further and Within-School INSET

MidYIS IPRs can provide useful insights into pupils' learning needs but to make the best use of them it helps to have support from colleagues. Duplicating and distributing large numbers of IPRs without background explanation is likely to be at best un-productive, and at the worst damaging. If colleagues are to use data they need to understand what the data does and (more importantly) does not mean.

If you are just starting out with MidYIS, or if you have participated for a number of years but are looking afresh at how you can get the best use out of your data, CEM has a number of INSET Providers who may be able to help you. Our INSET providers have a wide range of experience and can deliver tailor-made INSET for your school. It often helps to have an outside expert to bring staff on board as they are neutral person removed from any ongoing agendas in school. A typical INSET day focusing on interpretation of IPRs might include:

- Introduction to the MidYIS assessments: an overview of the question types and how the assessments are scored.
- IPRs and what they mean. Pick out 4 or 5 pupils (students that everybody knows even if they don't teach them) and blank out their names. You would then need to duplicate enough for 1 between 2 or 3 and encourage staff to discuss these IPRs in small groups focusing on the following questions:
 - a) What do the scores mean? (e.g. Vocabulary significantly lower). What might the implications be for the pupil as a learner in particular subjects and the curriculum as a whole? What could be done to support them? After 15 minutes hold a small plenary, encourage staff to share their thoughts and reveal the selected pupils' names.
 - b) If you wish to extend this further by splitting your staff into cross subject groups to examine groups of students. This can be very productive but requires careful handling to avoid discussion becoming unfocused. It might prove helpful to have a neutral 'chair' to keep things on track and also some method of recording the outcomes for each pupil. The groupings require some thought to prevent those that are cynical all being in the same group.

If a CEM INSET provider was facilitating your training session, you might want to extend the brief to cover other topics of interest, for example:

- MidYIS target setting information
- Interpreting value-added scores
- Attitudinal measures
- Inspection
- Independent Schools' standardisations
- Other CEM Systems such as INSIGHT, Yellis, Alis or PIPS

If you would like to find out more about CEM's INSET provision, please visit our Secondary INSET web page at www.cemcentre.org/inset web page, or email: inset@cem.dur.ac.uk

Sharing the MidYIS Information within School

Once you have received your MidYIS feedback you need to decide who will be privy to which information. Some schools decide to keep the data within the senior management team, others with Heads of Department and/or Heads of Year, while some share with all staff pupils and their parents.

MidYIS data can be useful:

- To indicate reasons for student learning difficulties and may go some way to explain lack of progress, flag up causes for underachievement and even behaviour problems.
- For all teachers and support staff. It can help to support professional judgement and give a better understanding of the progress students make at school and their potential later performance.
- To refer to for pupil reviews, writing reports, meeting parents, monitoring progress and interim assessments.

Being able to access the schools' data can be an issue. Teachers need to see the data to use it and this can be achieved using shared network drives. However there is the danger of sensitive material being left lying around in classrooms and so thought should be given to policy surrounding this issue.

Finally IPRs can be useful for discussions with parents but they too need to be empowered in order to understand the data that is being shared with them.

Acknowledgements

Geoff Davies, CEM INSET Provider and former Deputy Head Teacher

Peter Hendry, CEM Consultant/Secondary INSET Co-ordinator and former Assistant Head Teacher

Ian Sanderson, Director of Studies, Hymers College, Hull

www.midyisproject.org