

# CONNECT

ISSUE 06 • SPRING 2016

## GREAT TEACHING?

WHAT MAKES GREAT TEACHING?  
HOW TO CAPTURE IT?  
HOW CAN WE PROMOTE BETTER LEARNING?

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Ahead of English peers when starting school.

#### CASE STUDY - MIDYIS

Joe - A Year 7 student in a large academy in Birmingham.

#### HIGHLY COMMENDED

BASE is 'Highly Commended' at the prestigious Bett Awards 2016.

# INTRODUCTION

## ■ WELCOME TO OUR SPRING 2016 CEM CONNECT!

Welcome to our Spring 2016 CEM Connect! We have had a great start to 2016. Over 95,000 pupils in over 2,000 schools have used our BASE assessment so far and the feedback we have received from schools and teachers has been unprecedented. In January we attended the Bett show and were delighted to be mentioned in Nicky Morgan's opening speech. Later that same day, we were thrilled to receive a Highly Commended award for BASE at the annual Bett Awards Ceremony (p.3). We are looking forward to introducing

BASE customers to the end of year assessment and the information on pupil progress that will provide. Further exciting work in our Early Years provision has led to the development of an Arabic reading assessment for use with young children across the Arab-speaking world. This is an innovative assessment which gives us a unique research perspective on language development (p.8-9). Secondary colleagues will be interested to read the pupil case study (p.10-11) which gives ideas on making the best use of MidYIS feedback to address individual pupil needs. We have worked in the secondary phase for over 20 years and our commitment to helping

teachers improve outcomes for young people is as strong as ever. The "What makes great teaching" article (p.6-7) takes a broader view on how to help children succeed, outlining the findings by Rob Coe and colleagues in their report for the Sutton Trust.

We continue to receive excellent feedback on each edition of this newsletter and it's great to hear your ideas.

We hope you enjoy this latest edition of CEM Connect and please do keep feedback coming in, so that we can make sure we are covering the topics that you want to read about:

[newsletter@cem.dur.ac.uk](mailto:newsletter@cem.dur.ac.uk)

**Katharine Bailey,**  
*Director of Applied Research*



**Durham**  
University

School of Education

Durham University School of Education is pleased to offer you the opportunity to distance study for a Masters or PhD in Education through our International Summer Postgraduate Institute (ISPI).

The teaching for this programme is delivered intensively at four-week summer schools delivered in the beautiful and historic city of Durham, England. This makes it the ideal programme for educators looking for an alternative to full time study. Delivering the teaching in intensive four-week summer school blocks means that our students retain their existing teaching position (or other employment) whilst they up-skill.

We want you to get the most out of your time spent in England, and so in addition to offering high quality study, we also provide cultural experiences. Included in the price of the summer school are trips to historic sites of local cultural and tourist significance, as well as social events and activities.

Summer school registration commences on 1st May each year, with teaching taking place from the end of June, throughout July. The closing date for applications is the 1st April each year. This year the programme will run from Monday 4th July to Friday 29th July 2016.

**For more information about the summer school visit <https://www.dur.ac.uk/education/postgraduate/ispi/>**



# BASE IS 'HIGHLY COMMENDED'

**THE WINNERS OF THE PRESTIGIOUS BETT AWARDS 2016 WERE ANNOUNCED ON 20th JANUARY AT A GALA DINNER HELD IN LONDON.**

We are exceptionally proud to announce that CEM's government-accredited reception baseline assessment, BASE, was 'Highly Commended' in the category of ICT Tools for Learning, Teaching and Assessment.

Celebrating its 32nd anniversary in 2015, Bett brings together industry leaders, practitioners, professionals and inspirational figures to share ideas on how to support learning together through technology. The Bett Awards are a celebration of the inspiring creativity and innovation that can be found throughout technology for education.

## Objective assessment combined with teacher observation

BASE is a computer-adaptive assessment for reception-age pupils, which combines an independent assessment with teacher observation to gain a comprehensive picture of pupil development. BASE assesses pupils' early numeracy, literacy, communication skills and personal, social and emotional development. BASE should be carried out in the first few weeks of reception and as an optional follow up at the end of the school year. The assessment reports give a baseline measurement of development and end of year scores give a measure of progress.

BASE has been specifically designed to be simple for schools to administer and enjoyable for pupils to do the assessment. It is accredited by the DfE in accordance with their reception baseline assessment policy.

## Impact on teaching and learning

Reports generated for schools are made available via the CEM secure website and are inter-operable with school's MIS. These reports contain individual measurements for each pupil for literacy, mathematics and PSED and their sub-strands. They also show pupils' standardised scores compared to national averages. Scores for the start of year assessment will be compared with scores for the end of year assessment, creating value-added reports showing each pupil's progress across the reception year.



## AWARDS 2016 HIGHLY COMMENDED

### Judged by education professionals

The judges for the award are all educational professionals and focus on what works in the classroom or the school setting in terms of design, cost-effectiveness, support of higher order thinking skills, and effective learning and teaching styles.

### The information can be used to:

- Identify pupil strengths and weaknesses and to plan appropriate next steps
- Highlight children with specific needs
- Compare class or school characteristics with similar groups
- Compare intakes over time
- Show pupils' progress during their reception year

BASE was judged by a number of key criteria in the category of web-based ICT tools for learning, teaching and assessment. BASE was found to excel in areas such as its ease of use, its accessibility and inclusivity, its capacity to promote learning across the curriculum and its value for money.

For more information and to view sample reports, visit [www.cem.org/BASE](http://www.cem.org/BASE)



# SCOTTISH CHILDREN AHEAD

## OF ENGLISH PEERS WHEN STARTING SCHOOL

### THE SCOTTISH GOVERNMENT COMMISSIONED AN ANALYSIS OF DATA FROM THE PERFORMANCE INDICATORS IN PRIMARY SCHOOLS (PIPS) ASSESSMENT.

Prof Peter Tymms, Dr Christine Merrell (CEM at Durham University) and Hannah Buckley (University of York) examined children's development at the start of school in Scotland and the progress made during their first school year and investigated:

- What children know and can do in Scotland when they start school in Primary 1.
- How much progress they make during the school year.
- How progress compares to English pupils' progress.
- Whether differences exist between pupils of different gender, age or deprivation area.

In addition to cognitive development, the analysis also investigated the personal and social development of the children, and trends over the last three years.

Over 1100 schools in Scotland use the PIPS baseline assessment in Primary 1. CEM analysed the starting points and progress of over 24,000 pupils drawn from three cohorts in P1 between 2012 and 2015.

The PIPS baseline assessment has two main parts:

the first is computer-based and assesses cognitive development comprising sections which include vocabulary acquisition, phonological awareness, early reading and mathematics; and the second assesses personal and social development which is completed by teachers who rate pupils in the school setting on the basis of their observations. Children are assessed within the first few weeks of starting school and again at the end of the year to measure the progress they have made.

Amongst other findings, the analysis of the PIPS baseline and follow-up data showed:

### AT THE START OF PRIMARY 1

- Children in Scotland had slightly higher scores for cognitive development and personal and social development than children in England, even when age was taken into account.
- Children from the least deprived areas had higher scores than children from the most deprived areas by around 14 months of development.
- Girls' development in early reading was three and a half months ahead of boys'.
- The strongest areas of personal and social development at the start of Primary 1 were 'adjustment to the school setting' and 'independence'.

## AT THE END OF PRIMARY 1

- Those living in the most affluent areas had made around two months' more progress in early reading and vocabulary than children from the most deprived areas.
- For early mathematics, children from the most deprived areas had caught up a little with their peers from the most affluent areas.
- Progress in mathematics was very similar in Scotland and England but the progress in reading was very slightly greater in England during the first year.

## PROGRESS IN PRIMARY 1

- Progress made during Primary 1 is great and it 'varied from school to school by a substantial amount: to 12 months of improvement in reading and 14 months for mathematics.'
- Progress was a little greater for girls in reading and for boys in maths.
- Younger children caught up a little with their older peers in vocabulary.
- Children from the most deprived backgrounds made relatively less progress in early reading than those from the most affluent backgrounds, but they made more progress in early mathematics
- The link to deprivation did not vary from school to school – that is: 'there was no evidence that some of the schools did significantly better than others in addressing the attainment gap during Primary 1.'

The report draws some other important conclusions. Children's cognitive, personal and social development was at a higher level than their English peers at the start of school. Although, on average, Scottish children were six months older, this in itself did not explain the advantage. Rather, it is suggested that the difference may be a reflection of children's experience of pre-school in Scotland as well as the different values and culture in the home environment.

**Download a full copy  
of the report at:**

[http://www.gov.scot/  
Publications/2015/12/5532/downloads](http://www.gov.scot/Publications/2015/12/5532/downloads)



# WHAT MAKES GREAT TEACHING?

IN 2014, CEM DIRECTOR AND PROFESSOR OF EDUCATION, ROB COE, CO-AUTHORED A REPORT FOR THE SUTTON TRUST WHICH REVIEWED OVER 200 PIECES OF RESEARCH TO IDENTIFY THE ELEMENTS OF TEACHING WITH THE STRONGEST EVIDENCE OF IMPROVING ATTAINMENT.

Since its publication, over 70,000 copies of the report have been downloaded.

The review set out to address three apparently simple questions:

- **What makes 'great teaching'?**
- **What kinds of frameworks or tools could help us to capture it?**
- **How could this promote better learning?**

The review finds some common practices in education can actually be harmful to learning and have no grounding in research. Specific practices which are supported by good evidence of their effectiveness are also examined and the report asserts:

'We define effective teaching as that which leads to improved student achievement using outcomes that matter to their future success. Defining effective teaching is not easy. The research keeps coming back to this critical point: student progress is the yardstick by which teacher quality should be

assessed. Ultimately, for a judgement about whether teaching is effective, to be seen as trustworthy, it must be checked against the progress being made by students.'

## What is good pedagogy?

Six key factors that contribute to 'great teaching' are identified, with varying levels of evidence of impact on student outcome. There are two factors, however, with the strongest evidence of improving pupil attainment:

- **Teachers' content knowledge**, including their ability to understand how students think about a subject and to identify common misconceptions. The reports states that 'The most effective teachers have deep knowledge of the subjects they teach, and when teachers' knowledge falls below a certain level it is a significant impediment to students' learning.'
- **The quality of instruction**, including using strategies like effective questioning and the use of assessment. The report asserts that 'Specific practices, like reviewing previous learning, providing model responses for students, giving adequate time for practice to embed skills securely and progressively introducing new learning (scaffolding) are also elements of high quality instruction.'



A former teacher of mathematics, Professor Coe explains, “Great teaching cannot be achieved by following a recipe, but there are some clear pointers in the research to approaches that are most likely to be effective, and to others, sometimes quite popular, that are not. Teachers need to understand why, when and how a particular approach is likely to enhance students’ learning and be given time and support to embed it in their practice.”

Other specific practices identified as having good evidence of improving attainment include:

- **Challenging students to identify the reason why an activity is taking place in the lesson**
- **Asking a large number of questions and checking the responses of all students**
- **Spacing out study or practice on a given topic, with gaps in between for forgetting**
- **Making students take tests or generate answers, even before they have been taught the material**

The report also warns that many common practices can not only be harmful to learning, but have no grounding in research. Examples include using praise lavishly, allowing learners to discover key ideas by themselves, grouping students by ability, and presenting information to students based on their “preferred learning style”.

The Sutton Trust report makes it clear that just knowing about what makes great teaching is not enough: most of these practices and skills are hard to learn. The evidence about what kinds of professional development are most likely to promote this learning was the subject of another review (for the Teacher Development Trust), of which Professor Coe was also a co-author, and he has subsequently been invited to be part of a Department for Education Expert Group on this subject.

This group is tasked with developing a set of standards for the professional development for teachers, leaders and CPD providers. Their report is due to be published in 2016.

## You can download the reports using the links below

### **The Sutton Trust report**

‘What makes Great Teaching?’ from:  
[www.suttontrust.com/researcharchive/great-teaching/](http://www.suttontrust.com/researcharchive/great-teaching/)

### **The Teacher Development Trust report**

‘Developing Great Teaching’ from:  
[www.tdtrust.org/about/dgt](http://www.tdtrust.org/about/dgt)

# NEW ASSESSMENT IN ARABIC READING

**SINCE 2010, CEM HAS BEEN WORKING IN PARTNERSHIP WITH THE ABU DHABI EDUCATION COUNCIL (ADEC) TO HELP MONITOR AND INFORM EDUCATION PROVISION,** and together

we have developed an advanced and innovative computer-adaptive standardised assessment of Arabic reading in Modern Standard Arabic for first-language Arabic speakers.

The assessment is modelled on the well-established PIPS Baseline assessment and covers

- Ideas about Arabic reading
- Arabic letter recognition
- Arabic word recognition
- Reading Arabic sentences

## Innovation and development

Following extensive development and trialling, the assessment was used for the first time in November 2015 in over 200 schools in Abu Dhabi and up to 25,000 students aged 4 to 7 will carry out the assessment each year.

The Arabic reading assessment will complement the information gathered from the existing assessment of English reading literacy, Arabic phonological awareness and mathematics.

## Measuring progress

The Arabic reading assessment has been developed to assess pupils whose first language is Arabic and can be used in schools at the start of each academic year to identify what students know and can do in these areas and to inform teachers' planning for pupil learning.

A follow-up assessment at the end of the year indicates the progress students make between the two assessment points. These standardised assessments will provide reporting which compares the performance of individuals or groups of pupils.

## Quick and easy to use – fun to do

In keeping with all CEM assessments used in UK and international schools, the Arabic reading assessment is run on a desktop or laptop computer and is carried out by a teacher or teaching assistant working with each child individually.

The assessment takes just 10 to 15 minutes, and is made up of a series of fun activities for the child. Colourful pictures are shown, and the computer program asks a series of questions about each scene. The teacher or teaching assistant records the answers on the computer and once the assessment is completed, CEM analyses the responses and produces detailed reports.



### A unique assessment

A unique and beneficial feature of the assessment is that it is adaptive. An adaptive algorithm controls which questions each child sees based on how they have answered previous questions making each assessment individual to each individual pupil.

If pupils answer several questions incorrectly, they are moved on to the next section at an appropriate level. Conversely, if a pupil continues to answer a sufficient number of questions correctly, they will progress further through the assessment with questions becoming more difficult.

The assessment offers valuable one-to-one time with individual children, enabling education professionals to see very quickly what each student knows or does not know, and enable them to identify how they can best support each student.

### Planning for effective teaching and learning

Feedback from the assessment establishes a baseline measure of the child's developmental stage. The detailed reports, which offer a picture of individual and whole-class scores, are used by teachers to reflect on their practice and plan a challenging, enjoyable and effective experience for each student. The reports can also facilitate the monitoring of state-wide standards in education.

Reports also comprise graphical representations of results from each of the four Arabic reading modules and provide:

- Standardised scores for each student
- Comparison charts illustrating the range of ability within a class
- Progress reports where both the start and end of year assessments have been taken

At present, the Arabic reading assessment is used only in the public school system of Abu Dhabi. However, we are currently exploring the potential to make the assessment more widely available throughout the Arabic-speaking world.

If you would like to find out more about the assessment, or if you are interested in trialling the assessment, please contact us on [international@cem.dur.ac.uk](mailto:international@cem.dur.ac.uk)

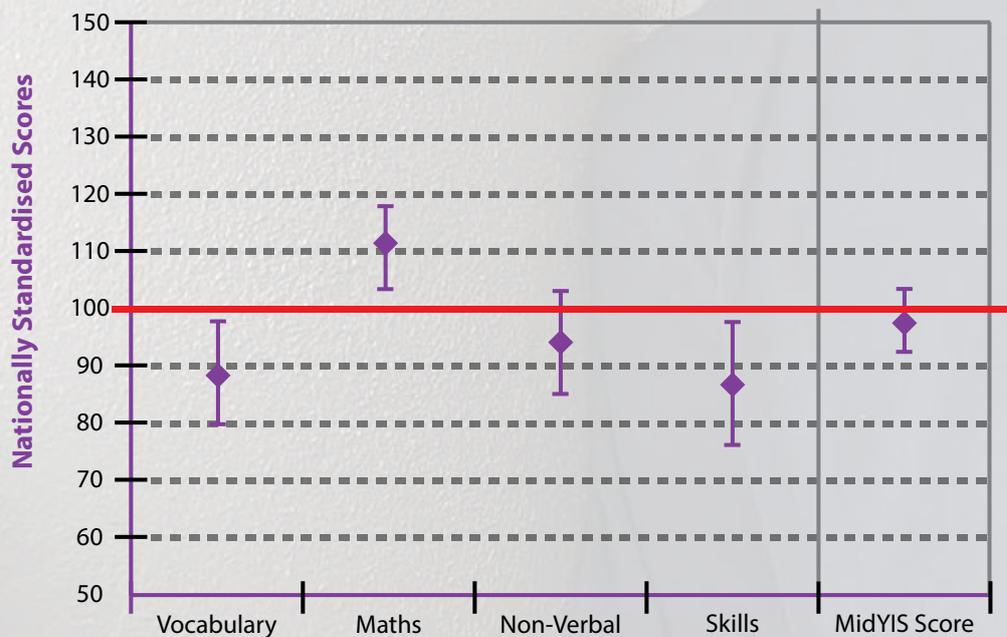
# CASE STUDY

## JOE - AGE 11

JOE IS A YEAR 7 STUDENT IN A LARGE ACADEMY IN BIRMINGHAM.

His reports from primary school comment on his enjoyment and ability in mathematics as well as showing that he was performing at the expected level for his age across the board. The changing academic demands of secondary school, however, have revealed some weaknesses in his classes and Joe's teachers have commented that he finds the social life at school to be a challenge.

Nationally Standardised Scores with 95% Confidence Band



What do Joe's MidYIS scores show?

	Band	Stanine	Percentile	Standard Score
Vocabulary	D	3	23	89
Maths	A	7	78	111
Non-Verbal	C	4	32	94
Skills	D	3	20	87
MidYIS Score	C	5	43	97

Joe's MidYIS scores show that in comparison to the other components he has under-performed in both the Vocabulary and Skills sections of the assessment. This may mean that Joe is currently unlikely to have the necessary verbal communication skills to fulfil his academic potential, as indicated by the other assessment component scores. Joe may experience additional challenges working accurately in timed conditions, as indicated by his low skills score.

Students with a combination of low vocabulary and skills abilities can sometimes produce excellent homework but find completing tasks in class more demanding.

## LOW VOCABULARY SCORES

These kinds of vocabulary scores are typically seen in pupils where English is an additional language, or pupils who are from more deprived areas, or both.

However, 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.

Joe's low vocabulary scores indicate that he may not be familiar with commonly used words or phrases that are used in his classes. Consequently, he may not have the skills necessary to communicate effectively and this may well impact on his learning and subsequent achievement across the curriculum.

## LOOKING AT THE DETAIL

When looking at the MidYIS scores, it is important that teachers are able to look in detail at the breakdown of section scores. For example, Joe's scores in the Skills section reveal tell-tale insights into his developing abilities.

The Skills assessment is made up of two sections: Proofreading and PSA (perceptual speed and accuracy), which are designed to measure fluency and speed. They rely on a pupil's scanning and skimming skills, skills that are desirable in examination situations.

Proofreading		PSA	
St. Score	Band	St. Score	Band
82	D	101	B

Therefore, if Joe is experiencing difficulties with proofreading, as his scores suggest, when working in timed or examination conditions, he will be unable to check his answers effectively, or he may even misread questions.

## HOW CAN JOE'S SCHOOL HELP HIM?

While it is likely that Joe's command of English will improve through the natural course of events, it is useful to remember that vocabulary and proofreading skills may impact on all areas of learning across the curriculum. Therefore, Joe would benefit if his school were able to take positive action to improve his vocabulary by a wide range of enrichment and extra-curricular experiences, such as mentoring activities, debates and cultural visits, as well as through in-class support:

- 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.
- Glossaries may help as technical words and everyday words with different meanings cause the most problems. It would be a good idea if Joe could make his own glossaries as this is more likely to ensure he understands and remembers.
- Peer tutoring and mutual support are helpful as they provide a collaborative and cooperative approach.
- Focused attention on improving proofreading skills and examination technique.

If you would like further information on interpreting the MidYIS scores you can download the booklet **Using MidYIS Individual Pupil Records (IPRs) to Inform Teaching and Learning** from:

<http://www.cem.org/publications>

# DATES FOR YOUR DIARY EVENTS CONFERENCES EXHIBITIONS

Discover how CEM can help you improve standards at your school. Learn how to get the most from CEM systems and learn from colleagues. Come and meet us at an exhibition or conference. If you are in the UK, you are welcome to come and visit CEM at Durham University.

For a full list visit [www.cem.org/events](http://www.cem.org/events)

**MAR**  
**2016**

**1st - 3rd Dubai**  
GESS Global Education Forum

**3rd - 4th Stratford upon Avon**  
Cross Association Junior Heads' Conference

**7th - 11th Qatar**  
BSME Annual Conference

**10th - 11th Stratford upon Avon**  
Pre-prep Leadership Conference

**17th - 19th Birmingham**  
Education Show

**17th - 19th Hyderabad, India**  
IB Asia Pacific Annual Conference

**18th Durham**  
10th Annual Rasch User Conference

**21st London**  
Capita Primary Assessment Conference

**25th - 28th Birmingham**  
NASUWT Annual Conference

**30th March - 2nd April Rome**  
ECIS Annual Leadership Conference

**APR**  
**2016**

**12th London**  
CAPITA Primary Curriculum exhibition

**29th April - 1st May Birmingham**  
NAHT Annual Conference

**MAY**  
**2016**

**7th- 9th London**  
COBIS Annual Conference

**JUN**  
**2016**

**5th - 7th June Brighton**  
HMC Deputy Heads' Conference

## FOCUS ON RESEARCH

INVESTIGATING MATHEMATICAL  
ATTAINMENT AND PROGRESS (IMAP)

**A TWO-YEAR PROJECT INVESTIGATING THE ATTAINMENT GAP BETWEEN HIGH AND LOW ACHIEVERS IN MATHEMATICS AT THE END OF KS3 HAS BEEN INITIATED AS A JOINT VENTURE BETWEEN CEM, THE UNIVERSITY OF NOTTINGHAM AND KING'S COLLEGE, LONDON.**

Work has commenced on the development of a computer-based assessment designed to examine patterns of strength and weakness in core mathematical constructs, in order to determine their relative impact in explaining the attainment gap.

The IMAP project also has the longer term aim of evaluating the effectiveness of current practice and strategies for educating low attainers in mathematics. Work has begun in earnest and we aim to report the findings of the study to educators over the course of the project and beyond.

If you would like further information about the project, contact [lee.copping@cem.dur.ac.uk](mailto:lee.copping@cem.dur.ac.uk)

## LOOK OUT FOR CEM'S NEW BROCHURES



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