

# Learning Progressions in the new National Curriculum for England

## Contents

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Introduction	3.
NFER Letter	4.
Instructional Planning Report - Class	5.
Instructional Planning Report - Student	6.
STAR Record Book	7.
Featured testimonial	9.
Pilot school feedback	10.
Conclusion	11.
Research & Appendix	12.
STAR Early Literacy	13.
STAR Maths	13.
STAR Reading	15.
Multiple products	16.
Appendix	18.

## Introduction

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It is clear that UK schools should be providing a consistent assessment and reporting system showing what students understand and what they are expected to learn. In this way teachers and parents will know what they need to do to help. To achieve this schools need to describe a fully formed learning pathway along which students progress.

Renaissance Learning has developed Learning Progressions in the United States that detail every incremental skill for Reading, Early Literacy and Maths from early years through the entire school age range. Renaissance Learning's London office is working with the National Foundation for Educational Research (NFER) to fully align these progressions with the new National Curriculum for maths and reading (see letter overleaf). We will ensure that progression within a year is presented in a logical teachable order which always refers to the Government's End of Year expectations and targets.

Each step of the Learning Progression subsumes and builds on the previous one, describing a pathway of increasing expertise within a skill area. The focus skills and prerequisites act as building blocks, each representing a specific stage of competency or understanding that rests on prior development and provides a foundation for the next stage of learning. Moving towards increased complexity requires continually building upon a solid foundation of knowledge, concepts, and skills. For each focus skill, the associated prerequisites necessary to understand that skill are identified across years, skill areas, and domains.

After a STAR assessment has been taken, our reporting system will enable teachers and parents to see immediately where a student is on the Learning Progression and the next skills to be taught. In this way assessment becomes a key for progression.



## Evidence for Excellence in Education

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The National Foundation for Educational Research (NFER) has been commissioned by Renaissance Learning to develop detailed learning progressions in reading and mathematics that are based on the new national curriculum for England (2014). The progressions will be mapped to STAR Early Literacy, STAR Reading and STAR Mathematics assessments. This covers the twelve school years from reception (age 4-5) to year 11 (age 15-16).

The work starts with the establishment of a hierarchy within which the knowledge and skills outlined in the new national curriculum are identified. There follows a very detailed analysis of the progression of these skills including the development of more finely grained skill descriptions and exemplification, and the identification of key skills, which are crucial for future development, and their prerequisite sub skills. Then the skills addressed by the STAR assessments will be mapped to the new national curriculum-based learning progressions.

This work will ensure that Renaissance Learning's STAR assessments reflect the requirements of the new curriculum in England and provide valuable assessment information for teachers. This will include allowing schools to find the exact placement of each student within the learning progressions and easily track their progress and growth over time.


NFER's Centre for Assessment comprises a group of researchers who specialise in test development, and assessment and curriculum research. NFER is the UK's largest independent provider of research, assessment and information for education, training and children's services and is a registered charity. Founded in 1946, NFER's purpose is to provide independent evidence which improves education and training and thereby the lives of learners.



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## Instructional Planning Report - Class

Teachers and parents will be provided with an on-going source of evidence of learning and progression from Instructional Planning Reports. These reports use the Learning Progressions to identify the range of skills students are ready to develop next. The Planning Report also shows an individual student's current performance in relation to pre-selected benchmarks, so teachers can see whether a student is on track to meet targets.



**STAR<sup>™</sup>**  
Reading

### Class Instructional Planning Report

Printed Thursday, September 12, 2013 3:15:42 PM

1 of 3

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School: Green Vale Secondary School

Reporting Period: 14/8/2013 - 12/9/2013

**Class: G3 (Vega)**  
Teacher: Vega, P.

Instructional Groups	Number of Students	Scaled Score	
		Median	Range
Group 1	10	436	371-512
Group 2	5	353	318-366
Group 3	4	264	174-281

**Suggested Skills**

Skill recommendations are based on the median score for each Instructional Group. These skills are a starting point for instructional planning. Combine this information with your own knowledge of the student and use your professional judgment when designing an instructional program.

**Group 1**

Students
Leona Rasmussen, Jamar Henry, Jeanette Huffman, Samantha Cash, Joseph Perez, Randolph Harper, Judy Dean, Mark Haynes, Elias Clark, David Solomon

**Reading: Foundational Skills**

GR	Fluency
5	» Identify purpose for reading (e.g., for enjoyment, to answer a question, to learn about a subject, to solve a problem, to answer a research question) and comprehend on-level texts demonstrated in a variety of ways (e.g., by writing or selecting an accurate summary, writing an answer to the question, writing about the solution, or discussing/drawing conclusions about the research question)
5	» Read on-level texts aloud at the estimated oral reading fluency (ORF) to meet grade-level benchmarks
5	» Read on-level prose and poetry aloud with expression (e.g., appropriate phrasing, pauses, and stresses and matching the rhythm of speech)
5	» Confirm or correct understanding of text by previewing and setting a purpose for reading, using word-attack skills, and by rereading and/or reading ahead or around as necessary


**Reading: Literature**

Key Ideas and Details
5 Summarize a story, drama, or narrative poem, describing the main characters, details, and key events including conflict and resolution
5 Compare and contrast characters using specific details and describe how they interact with other characters
5 Describe plot structure and explain how key events advance the plot of a story or drama
5 » Compare and contrast key events in the plot of a story or drama (e.g., compare how a character acts when facing similar circumstances)
5 Describe the influence of the setting on the plot and characters and compare and contrast the effects of different settings
5 » Determine themes in a story, drama, or poem that are stated directly or indirectly (e.g., revealed by details in the text such as how characters respond to challenges or how a poem's speaker reflects on a topic)
5 » Cite accurate evidence from a literary text to support inferences and to explain the text's explicit meaning
5 Use textual evidence to distinguish between valid and invalid conclusions drawn in and from literary texts (e.g., note when a character makes an incorrect conclusion)
Craft and Structure
6 Use a range of strategies to determine or clarify the precise meanings of general academic words and phrases in grade-appropriate literary texts more efficiently, including reference materials, affixes and roots, context clues such as word relationships, parts of speech, and the overall sentence or paragraph meaning

»Designates a focus skill. Focus skills identify the most critical skills to learn at each grade level.  
\*This student was given extra time to complete the test.

# Instructional Planning Report - Student

Skills-based information for students is provided by the Planning Reports produced instantly by STAR after a student completes a test. These reports use the Learning Progression to identify the range of skills students are ready to develop next. The Student Planning Report also shows an individual student's current performance in relation to pre-selected benchmarks, so teachers can ascertain if a student is on track to meet school or government targets.



## Instructional Planning Report

### for Tom Simmons

Printed Monday, April 17, 2014 4:15:12 PM

1 of 4

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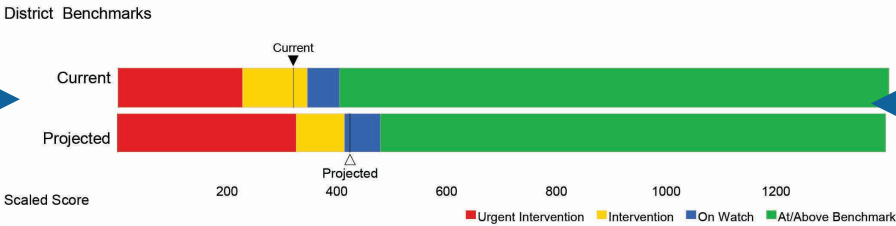
School: Green Vale Secondary School  
Class: Mrs. Fox's Class
Teacher: Mrs. S. Fox  
Year 7

### STAR Reading Test Results

Current SS (Scaled Score): 318	Test Date: 12/3/2014
IRL: 2.6	ZPD: 2.4-3.4
Projected SS for 16/06/14: 424	Based on research, 50% of students at this student's level will achieve this much growth.

### Tom's Current Performance

District Benchmarks



Scaled Score: 0, 200, 400, 600, 800, 1000, 1200, 1400

■ Urgent Intervention  
 ■ Intervention  
 ■ On Watch  
 ■ At/Above Benchmark

### Suggested Skills

Tom's recent STAR Reading scaled score(s) suggests these skills from learning progressions would be challenging, but not too difficult for him. Combine this information with your own knowledge of the student and use your professional judgment when designing an instructional program. Use the learning progressions to see how these skills fit within the larger context of the progression.

#### Reading: Foundational Skills

GR	<p><b>Fluency</b> This score suggests Tom should work on the following to increase fluency and comprehension of texts at Tom's reading level.</p> <ul style="list-style-type: none"> <li>4 » Identify purpose for reading (e.g., for enjoyment, to answer a question, to learn about a subject, to solve a problem) and comprehend on-level texts demonstrated in a variety of ways (e.g., writing in a reading response journal, writing an answer to the question, discussing/writing about the solution)</li> <li>4 » Read on-level texts aloud at the estimated oral reading fluency (ORF) to meet grade-level benchmarks</li> <li>4 » Read on-level prose and poetry aloud with expression (e.g., using the meaning of the text to dictate the expression with regard to pauses, pitch, and stress)</li> <li>4 » Confirm or correct understanding of text by using word-attack skills and syntax (i.e., part of speech, position of the word within the sentence) and by using an increasing variety of repair strategies (e.g., slowing reading pace, rereading, and reading on)</li> </ul>
	<p><b>Phonics and Word Recognition</b> This score suggests Tom should continue to work on decoding and comprehension skills when reading text at Tom's reading level. There are no suggested skills in this domain.</p>

#### Reading: Literature

4	<p><b>Key Ideas and Details</b> This score suggests Tom should practice the following skills to improve comprehension of the key ideas and details of a literary text at Tom's reading level.</p> <ul style="list-style-type: none"> <li>» Summarize a story or drama including the main events and key details</li> </ul>
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» Designates a focus skill. Focus skills identify the most critical skills to learn at each grade level.

The scaled score range is 0 to 1400. Only part of that scale is shown here.

Graph shows Tom's current and projected Scaled Score against benchmarks

Find more information using Learning Progression

Use this list of skills to help plan teaching for Tom.

# STAR Record Book

The STAR Record Book highlights suggested skills from the Learning Progression that a student is ready to learn. It is a tool that bridges assessment and teaching. The Record Book places the student's STAR scaled score on the Learning Progression and suggests the focus for teaching. The figure below illustrates a Planning Report after a STAR Maths assessment.

The system is also able to suggest grouping of students in the class to provide learning/teaching groups. These groups can be edited by the teacher. Group skills are then reported based on the median scores for each group, see the example below from STAR Reading.

The result of this process is that learning is not conceived of as a series of discrete, disparate chunks, but rather as a connected, integrated framework of understanding and skills. Such a framework enables students to apply what they have learned in novel situations, as well as acquiring related new learning more quickly.

The STAR Record Book offers a streamlined way for teachers to plan for individuals or groups of students, by providing details on students' current performance, projected growth and a suggested focus for new skills. The class can be grouped and then the teacher can view suggested skills for focus, to advance students in their understanding. In Resources, educators will quickly find the Teacher Activities and Sample Items available for selected skills.

The Suggested Skills Page in the Record Book not only provides a way to view the prerequisite skills, but it also shows the next skills in the progression. Educators will be able to reference the year-level domain expectations to help see how the discrete skills will move students through the different levels of understanding.

The screenshot displays the STAR Reading Record Book interface. At the top, it shows the user's name (Karen Jones, Teacher) and the school (Pine Hill Primary School). The main section is titled "Record Book" and shows a table of student data for "Year 7, Mrs. Jones class".

Student	Scaled Score	Percentile Rank	Test Date	Instructional Groups
Rice, Heather	1342	97	13/9/2012	1
Curtis, Jason	1193	85	13/9/2012	1
Hunger, Stephanie	1165	83	13/9/2012	1
Clark, Darius	804	53	13/9/2012	1
Johnson, Tim	794	51	13/9/2012	1
Thorns, Christina				
Mackowski, Gregory				

Below the table, there are sections for "Suggested Skills" and "Core Progress Learning Progression". The "Suggested Skills" section lists various skills such as "Reading: Informational Text" and "Reading: Foundational Skills". The "Core Progress Learning Progression" section provides detailed information about the skills, including objectives, materials, and lesson plans. A "Teacher Activity" section is also visible, along with a "Sample Item" section.

Annotations on the screenshot include:

- "Create groups" pointing to the "Edit Groups" button.
- "View Suggested Skills" pointing to the "Suggested Skills" section.
- "Find Resources" pointing to the "Teacher Activity" and "Sample Item" sections.

# Featured testimonial & pilot school feedback

Featured testimonial 09.

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Pilot study school feedback 10.

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## Featured testimonial

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*“Recently, we have had the chance to run the new STAR Reading programme, currently only on general release in the United States, in an English Primary School in London, and it is an opportunity for which we have been very grateful. Having fielded it at first on a Year 6 class, we are now ready to roll it out across the school as we have found it to be the most precise analytical tool that we have ever seen as regards showing the development of children’s English Comprehension skills.*

*For ourselves, it makes the perfect complement to the detailed reporting we get from Accelerated Maths (AM) (which we began to use a little over two years ago). The precision of the ‘next steps’ and the clarity with which it shows where the children actually are that we were so delighted with in AM is transferred perfectly to the Reading – arguably a much more difficult skill to pin down – and is already informing our planning and the development of our children.*

*We have been particularly impressed by the ‘tree-like’ pattern of development of skills, allowing drilling backwards to see the building blocks that build the next skill. Equally impressive is the specific nature of the objectives, looking at comprehension on a skill-by-skill basis, rather than as a somewhat amorphous whole.*

*We intend to roll new STAR out across the whole school, probably beginning the week after half-term, and I will keep you up-to-date on how that process pans out. In the interim, Anna is already adjusting her medium term planning in accordance with the data we were able to produce today.”*

Anthony Wilson

Deputy Head Teacher, Sir William Burrough Primary School

Full letter available to read in Appendix A

## Pilot study school feedback

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We are currently piloting Learning Progressions and new STAR with a number of schools. Here is some of their feedback.

“Learning progressions are excellent, logical and what we use on a daily basis! Having an arrow in the middle of a big red bit has a dramatic effect on pupils and parents! One pupil cried when told he was in the bottom Percentile Rank, but this was a good thing as it was a turning point for him! We are literally prioritising the ‘urgent’ kids for intervention and then using the diagnostics as the basis for the intervention.”

*Andrew Otty, The Taunton Academy*

“With STAR, you get an incredible amount of information on students and the key skills they can and cannot perform. I think the reports are very explicit and if I was teaching I’d find the learning progressions extremely useful to target weaknesses and build into planning, how to address specific skills with specific groups of students.”

*Chris Clews, Marine Academy*

“The new STAR reports make...the provision of individual support much easier.”

*Dave Edwards, Hazlegrove Preparatory School*

“I like the colour coding and depth of detail of what students already know and where their weaknesses lie are very clear. Record Books, where groups can be sub-divided, are innovative.”

*Katrina Piggott, Weston Favell Academy*

“I particularly like the detail and areas to improve on the diagnostic report, I also feel that the ‘Class Instructional Planning Report’ will give staff groups of student with differing areas of weakness to focus on, which should improve student skills and assist differentiation in lessons. This can be backed up with the student instructional planning report, which can be used with parents and shared with other colleagues, e.g. SEN and Learning Support with weak students. It will also be useful for the high achievers.”

*Nikki Heath, Wemeth School*

“I thought that the new STAR test was excellent -- very comprehensive. It mirrors very well our curriculum. The most useful information is standardised scores. I can see these new reports informing our schemes of work and our half termly planners.”

*Tommy McDermott, Holy Family Primary School*

## Conclusion

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Renaissance Learning has developed complete sets of Learning Progressions for reading and maths to fill a need that is only now becoming fully realised in education.

Developed by experts in content and Learning Progressions, and supported by a framework of assessments and teaching tools, each has been designed to help educators connect data to teaching. The aim is to ensure that all students in all schools be fully prepared for on-going education or career by the time they leave secondary school. The benefit of Learning Progressions is that they provide a pathway to guide teaching and learning over time so that student competence in the domain can be advanced coherently and continuously.

# Research & appendix

STAR Early Literacy	13.
STAR Maths	13.
STAR Reading	15.
Multiple products	16.
Appendix A	18.

## Research

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### STAR Early Literacy

Borman, G., & Dowling, M. (2004). *Assessment committee analysis of reading assessment measures coding form: STAR Early Literacy (SEL)*. Madison: University of Wisconsin, Department of Educational Leadership and Policy Analysis. Available online from <http://doc.renlearn.com/KMNet/R004079234C6FFDF.pdf>

In May of 2002, the University of Oregon published the Analysis of Reading Assessment Instruments for K-3. In the executive summary of their final report, the University of Oregon Assessment Committee identified some of the limitations of their work. “The most conspicuous limitation to the Assessment Committee’s effort is the limited number of assessment instruments analyzed, coded, reviewed, and evaluated. Clearly, more assessment instruments must be reviewed and evaluated” (p. 10). The University of Oregon could not evaluate STAR Early Literacy (SEL), because it was released after the Oregon Committee began their work. For this reason, researchers from the UW-Madison reviewed SEL using the same rigorous methodologies used by the Oregon group. In order to replicate the process as closely as possible, they analyzed how the Oregon Committee evaluated other instruments, including DIBELS and TPRI. Then, following the same procedures, the researchers reviewed SEL separately using the Analysis of Reading Assessment Instruments for K-3. After completing the reviews, an inter-rater reliability check was performed to identify discrepancies, and the researchers then discussed and resolved any discrepancies between the two reviews. Through the analysis, researchers found SEL to be a reliable and valid instrument, like the other assessments reviewed by the University of Oregon.

McBride, J. R., Ysseldyke, J., Milone, M., & Stickney, E. (2010). Technical adequacy and cost benefit of four measures of early literacy. *Canadian Journal of School Psychology, 25*(2), 189–204.

This research investigated the validity of the domain scoring approach to early literacy development. Students in grades K-2 were assessed on STAR Early Literacy, a computer-adaptive test of early literacy skills. Using modern item response theory (IRT), items on a common scale were grouped into 41 specific skill sets. Student ability estimates were used to estimate each student’s proficiency on the 41 skill sets based on the expected percent correct for each set of items. Students were also measured on the same domains of early literacy, phonemic awareness, phonics, and comprehension by 3 external measures: DIBELS, TPRI, and GRADE. Concurrent validity between the measures was moderate to high, and confirmatory factor analytic studies indicated the domain scores from STAR Early Literacy were measuring similar constructs as the external measures. Overall evidence supported the use of domain scoring for making inferences about a student’s early literacy skills.

Renaissance Learning. (2013). *STAR Early Literacy: Technical manual (U.K.)*. London: Author. Available online from <http://doc.renlearn.com/KMNet/R004384710GJ119F.pdf>

This technical manual provides technical and statistical information regarding STAR Early Literacy and its use with Renaissance Place.

### STAR Maths

Conner, P. A. (2009). *The STAR Math test as a predictor of Arkansas Benchmark Test scores* (Unpublished doctoral dissertation). Lindenwood University, St. Charles, MO. Available online from <http://gradworks.umi.com/3372323.pdf>

From the abstract: “With the failure of the legislative branch to reauthorize the No Child Left Behind law in 2007 and recent reports that more schools than ever are failing to achieve Adequate Yearly Progress, educators are reviewing practices and curriculum. As a result of federal and state laws, it is necessary to identify an accurate predictor of student achievement prior to the administration of the state-mandated test. For this study, student samples were drawn from sixth, seventh, and eighth grade populations of a Northwest Arkansas Middle School. Samples were separated by grade level and ranked according to the grade equivalency on the fall STAR Math pre-test and the scores on the spring Arkansas Benchmark Test. A quasi-experimental design was implemented to test both the magnitude and reliability of the independent variable, the

STAR Math test, on the dependent variable, the Arkansas Benchmark Test. A Pearson  $r$  correlation was calculated in each grade level over a three-year period for the relationship between the STAR Math and Arkansas Benchmark. A strong positive correlation was found between the ordinal ranks of grade equivalence on the STAR Math pre-test and the ordinal ranks of the averaged raw score percent on the Arkansas Benchmark Test. Furthermore, a coefficient of determination, a line of best fit, an analysis of variance (ANOVA), and an Omega-squared were used to determine the statistical significance and develop a triangulation of data. Further study is recommended to predict a specific benchmark score based on a STAR Math grade equivalency.”

Reibel, T. (2009). *Exploring the correlation between the STAR Math test and the WASL Math Assessment at Wishkah Elementary* (Unpublished master’s project). Heritage University, Toppenish, WA.

Available online from [http://www.heritage.edu/library/mastersprojects/Reibel\\_Tove\\_2009.pdf](http://www.heritage.edu/library/mastersprojects/Reibel_Tove_2009.pdf)

This study sought to find out if there was a correlation between the Spring 2008 STAR Math scores and Spring 2008 WASL math scores. A significant correlation between the WASL math test and the STAR math assessment was found ( $r=.67$ ).

Renaissance Learning. (2013). *STAR Maths: Technical manual (U.K.)*. London: Author.

Available online from <http://doc.renlearn.com/KMNet/R004385110GJ395D.pdf>

This technical manual provides technical and statistical information regarding STAR Maths and its use with Renaissance Place.

Shapiro, E. S., & Dennis, M. S. (2014, February). *Comparing computer adaptive and curriculum-based measurement methods for monitoring mathematics*. Poster presented at the 22nd Pacific Coast Research Conference, San Diego, CA.

This poster presentation compared a computer adaptive assessment (STAR Math) and a curriculum based measurement (AIMSweb) for progress monitoring in math. STAR Math was found to be a significant positive relation to the outcome measure Pennsylvania System of School Assessment (PSSA) across all three grades (3rd, 4th, and 5th grade). The math growth of 4th and 5th graders as measured by STAR Math added unique information to predict PSSA above and beyond the predictability of the test taken at a single time point (4th time).

Shapiro, E. S., & Gebhardt, S. N. (2012). Comparing-computer adaptive and curriculum-based measurement methods of assessment. *School Psychology Review*, 41(3), 295–305.

This article reported the concurrent, predictive, and diagnostic accuracy of a computer-adaptive test (CAT) and curriculum based measurements (CBM; both computation and concepts/application measures) for universal screening in mathematics among students in first through fourth grade. Correlational analyses indicated moderate to strong relationships over time for each measure, with correlations between CAT and CBM measures across the three assessment periods low to moderate, with the strongest relationships between the CAT and CBM concepts/application measure. Relationships to the state assessment for math for third- and fourth-graders was found to be stronger for the CAT measure than for either the CBM computation or concepts/application measures, with the CAT measure the only significant predictor of the state assessment. Diagnostic accuracy indices found all measures to produce acceptable levels of specificity but limited levels of sensitivity. The study offered one of the first direct comparisons of CAT and CBM measures in screening for mathematics. Implications of using CAT and CBM measures in conducting screening in elementary mathematics were discussed.

Smith, M. (2012). *A study of the predictive validity of the STAR Math test for the Algebra 1 End of Course exam*. Maryville, MO: Northwest Missouri State University.

Available online from <http://www.nwmissouri.edu/library/researchpapers/2012/Smith,%20Molly.pdf>

This study was conducted to determine whether students in need of intervention in algebra could be identified earlier, providing more time for them to receive additional support. Scores from STAR Math (taken in grade 8) and the Algebra I End-of-Grade Exam (taken in grade 9) were examined for 200 students from a Midwestern suburban high school. A simple linear regression determined a student’s STAR Math score from eighth grade was a valid predictor of the student’s Algebra I End-of-Course test taken the following year, making the assessment helpful in identifying students in need of extra interventions.

## STAR Reading

Algozzine, B., Wang, C., & Boukhtiarov, A. (2011). A comparison of progress monitoring scores and end-of-grade achievement. *New Waves-Educational Research & Development*, 14(1), 3–21.

Available online from <http://www.caerda.org/journal/index.php/newwaves/article/viewFile/51/29>

This peer-reviewed journal article examined the extent to which an interim progress monitoring assessment in reading (STAR Reading) could predict later performance on a high-stakes test (Florida Comprehensive Assessment Test). STAR Reading was found to be a good predictor of FCAT.

Bennicoff-Nan, L. (2002). *A correlation of computer adaptive, norm referenced, and criterion referenced achievement tests in elementary reading* (Unpublished doctoral dissertation). The Boyer Graduate School of Education, Santa Ana, California.

This study of test scores from predominantly Hispanic students in the Dinuba Unified School District sought to determine the predictive ability of STAR Reading for high-stakes assessments that are part of the accountability system in California, including the SAT-9 and the CST for English/Language Arts. Moderately strong to very strong correlations were found between STAR Reading and these tests across all grades analyzed; correlation coefficients ranged from .69 to .87.

The author concludes that STAR Reading is an efficient use of time and labor in monitoring student progress in reading in the classroom, and recommends its use by California school administrators to measure progress toward state accountability goals.

Betts, J., Topping, K., & McBride, J. (2007, April). *An international linking study of a computerized adaptive test of reading with a traditional paper-and-pencil test of reading comprehension*. Paper presented at the annual meeting of the National Council on Measurement in Education, Chicago, IL.

Progress in reading is important for children. However, time spent measuring progress is time not spent enhancing it. Computerized adaptive reading testing might help resolve this tension, but can it do so reliably and validly and generate metrics of relevance to practitioners internationally? This pilot study linked data gathered in the UK from a computer-based adaptive test of reading developed and normed in the US to those from a different paper reading test normed in the UK and yielding different output metrics. It explored the effects of gender, mode of presentation, and the linkage between different output metrics. Concurrent validity and concordance between tests was substantial, suggesting it is possible to use a US computer adaptive test of reading skills to estimate reading ages for pupils in the UK. Results held similar for both males and females. Implications for future research and practice were explored.

Cyr, L. M. (2009). *A correlational study of the relationship of ELL student success on STAR and WASL reading tests of 3rd grade ELL students at McClure Elementary School Yakima Washington* (Unpublished master's project). Heritage University, Toppenish, WA. Available online from [http://www.heritage.edu/library/mastersprojects/Cyr\\_Lisa\\_M\\_2009.pdf](http://www.heritage.edu/library/mastersprojects/Cyr_Lisa_M_2009.pdf)

From the abstract: "The purpose of the present study was to determine whether a correlation existed between ELL student's success on the Renaissance Learning's STAR Reading test, and their success on the reading portion of the WASL. To accomplish this purpose, a review of selected literature was conducted, essential baseline data and information was obtained and analyzed, and related conclusions and recommendations were formulated. Data analyzed supported the hypothesis that there was a positive relationship between spring, 2008 STAR Reading scores and spring, 2008 WASL reading scores of 3rd grade MES students at .05 and .01. The hypothesis was not supported at .001."

Moore, D. J. (2012). *A case study of the analysis of factors that occur with reading proficiency in rural district in Southeast Missouri* (Unpublished doctoral dissertation). University of Missouri-Columbia.

Available online from <https://mospace.umsystem.edu/xmlui/bitstream/handle/10355/33091/Research.pdf>

This study found that there was a strong correlation between STAR Reading and third grade communications arts Missouri Assessment Program (MAP) scores ( $r=.695$ ).

Shapiro, E. S., & Gibbs, D. P. (2014). *Comparison of progress monitoring with computer adaptive tests and curriculum based measures*. Bethlehem, PA: Center for Promoting Research to Practice, Lehigh University.  
Available online from <http://doc.renlearn.com/KMNet/R0057324CE9DD5FD.pdf>

The purpose of this study was to compare both rates of reading achievement growth and predictive power of two widely-used assessments representing two different approaches to measurement – a computer adaptive assessment called STAR Reading and a curriculum based measurement called AIMSweb. A total of 117 students from a school district in Tennessee were included in the sample. Data collection spanned two school years, and included students who were progress monitored (taking a minimum of 4 tests per year) in grades 1 through 4 in one year, and in grades 2 through 5 the subsequent year. Across the two years, interventions for both groups of students were consistent. The results of this study indicate that both measures were able to detect incremental change, and provide further support that both computer adaptive measures such as STAR Reading and CBMs such as AIMSweb R-CBM are acceptable for progress monitoring. Of the two measures, only STAR Reading achieved a significant correlation with the state reading assessment.

Renaissance Learning. (2013). *STAR Reading: Technical manual (U.K.)*. London: Author.  
Available online from <http://doc.renlearn.com/KMNet/R004384910GJF6AC.pdf>

This technical manual provides technical and statistical information regarding STAR Reading and its use with Renaissance Place.

## Multiple products

Alabama Department of Education. (2011, August). *Problem solving team (PST) manual*. Montgomery, AL: Author. Available online from <http://www.alsde.edu/home/Sections/DocumentDownload.aspx?SectionID=54&SubsectionID=31&Year=2011&FileName=Sample Problem Solving Team Manual Revised August 2011.doc>

STAR computer adaptive assessments are referred to as commonly used screening and progress monitoring tools.

Kovaleski, J., VanDerHeyden, A. M., & Shapiro, E. S. (2013). *The RTI approach to evaluating learning disabilities*. New York: Guilford Publications.

Handbook provides examples of screening, progress monitoring (including rate of improvement) with both CBM and computer adaptive data. Within the book, there are sections for CBM and sections entitled “Illustrations from a non-CBM measure,” including STAR Assessments.

Renaissance Learning. (2014). *The research foundation for STAR Assessments: The science of STAR*. Wisconsin Rapids, WI: Author.  
Available online from <http://doc.renlearn.com/KMNet/R001480701GCFBB9.pdf>

Newly updated for STAR Enterprise! This document explains the science behind STAR Early Literacy Enterprise, STAR Reading Enterprise, and STAR Math Enterprise. Topics covered include computer-adaptive testing and item response theory, dynamic calibration, Core Progress learning progressions, reliability and validity, growth norms, SGP, state test linking study lists, high stakes purposes, score definitions, key reports, key research support, and National Center on Intensive Intervention and Response to Intervention (NCRTI) review information.

Renaissance Learning. (2014). *The STAR Assessments relate to state and other assessments*. Wisconsin Rapids, WI: Author.  
Available online from <http://doc.renlearn.com/KMNet/R0053964E87BAEC5.pdf>

This document demonstrates the large number of assessments that STAR Assessments have been correlated or statistically linked with.

Salvia, J., Ysseldyke, J., & Bolt, S. (2012). Using technology to help make assessment decisions: STAR Early Literacy, STAR Math, and STAR Reading. In *Assessment in special and inclusive education* (12th ed.). Belmont, CA: Wadsworth, Cengage Learning  
Assessment in special and inclusive education is an educational psychology textbook that contains reviews of numerous assessment instruments. The reviews of STAR Early Literacy, STAR Math, and STAR Reading in this textbook confirms the reliability and validity of the assessments.



Sewell, J., Sainsbury, M., Pyle, K., Keogh, N., & Styles, B. (2007). *Renaissance Learning equating study report*. Slough, England: National Foundation for Education Research (NFER). Available online from <http://files.eric.ed.gov/fulltext/ED502442.pdf>

An equating study was carried out by NFER on behalf of Renaissance Learning, to provide validation evidence for the use of the STAR Reading and STAR Maths tests in English schools. The study aimed to investigate the correlation between the STAR tests and other established tests. Between 11 and 16 schools were involved in the study. A strong correlation was established between STAR Reading and the Suffolk Reading Scale 2 tests (correlation coefficient of 0.91). STAR Reading scores were also related to reading ages derived from the Suffolk Reading Scale 2, providing an equating graph for comparative purposes. STAR Maths and PiM tests were shown to correlate reasonably strongly (correlation coefficients ranging from 0.58 to 0.75 for different PiM tests). Finally, the STAR tests and English national curriculum teacher assessment levels correlated well (0.85 for reading and 0.81 for mathematics), particularly in view of the short length of the tests. The strong correlations provide evidence that STAR Reading and STAR Maths are suitable for use in England.

Shapiro, E. S. (2011). *Academic skills problems: Direct assessment and intervention* (4th ed.). New York: Guilford Press.

Handbook provides examples of screening with both CBM and computer adaptive data, including STAR Assessments.

Shapiro, E. S. (2012). *New thinking in Response to Intervention: A comparison of computer-adaptive tests and curriculum-based measurement within RTI*. Wisconsin Rapids, WI: Renaissance Learning.

Available online from <http://doc.renlearn.com/KMNet/R00547943CE5AC66.pdf>

Expert reviewers include Drs. Jim Ysseldyke, Matt Burns, Mike Vanderwood, and Pat Quinn. This report provides a balanced look at two testing approaches: computer adaptive and CBM. The paper concludes that computer adaptive tests “offer an important and potentially valuable contribution to RTI.”

U.S. Department of Education: National Center on Intensive Intervention. (2012). *Review of progress monitoring tools*. Washington, DC: Author. Available online from <http://www.intensiveintervention.org/chart/progress-monitoring>

The technical adequacy of STAR Early Literacy, STAR Math, STAR Reading were reviewed as progress monitoring tools under the following domains: Reliability of the Performance Level Score, Reliability of the Slope, Validity of the Performance Level Score, Predictive Validity of the Slope of Improvement, Disaggregated Reliability and Validity Data, Alternate Forms, Sensitive to Student Improvement, End-of-Year Benchmarks, Rates of Improvement Specified, Decision Rules for Changing Instruction, Decision Rules for Increasing Goals, and Improved Student Achievement.

U.S. Department of Education: National Center on Response to Intervention. (2010). *Review of progress-monitoring tools*. Washington, DC: Author. Available online from <https://web.archive.org/web/20120813035500/http://www.rti4success.org/pdf/progressMonitoringGOM.pdf>

The technical adequacy of STAR Early Literacy, STAR Math, STAR Reading were reviewed as progress monitoring tools under the following domains: Reliability of the Performance Level Score, Reliability of the Slope, Validity of the Performance Level Score, Predictive Validity of the Slope of Improvement, Alternate Forms, Sensitive to Student Improvement, End-of-Year Benchmarks, Rates of Improvement Specified, and Disaggregated Reliability and Validity Data.

U.S. Department of Education: National Center on Response to Intervention. (2011). *Review of screening tools*. Washington, DC: Author. Available online from <http://www.rti4success.org/resources/tools-charts/screening-tools-chart>

The technical adequacy of STAR Early Literacy, STAR Math, STAR Reading were reviewed as screening tools under the following domains: Classification Accuracy, Generalizability, Reliability, Validity, and Disaggregated Reliability, Validity, and Classification Data for Diverse Populations.

## Appendix A

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Recently, we have had the chance to run the STAR Enterprise Reading programme, currently only on general release in America, in a British Primary School in London, and it is an opportunity for which we have been very grateful. Having fielded it at first on a Year 6 class, we are now ready to roll it out across the school as we have found it to be the most precise analytical tool that we have ever seen as regards showing the development of children's English Comprehension skills. For ourselves, it makes the perfect complement to the detailed reporting we get from Accelerated Maths (AM) (which we began to use a little over two years ago). The precision of the 'next steps' and the clarity with which it shows where the children actually are that we were so delighted with in AM is transferred perfectly to the Reading – arguably a much more difficult skill to pin down – and is already informing our planning and the development of our children. We have been particularly impressed by the 'tree-like' pattern of development of skills, allowing drilling backwards to see the building blocks that build the next skill. Equally impressive is the specific nature of the objectives, looking at comprehension on a skill-by-skill basis, rather than as a somewhat amorphous whole.

I write this to request that an English version is made available as soon as is possible as, whilst we can work around the American spellings (which, so far as I can see, are about the only things that do not match up directly) it will be far more saleable, both to my staff, and to the wider British Education community without concerns surrounding spelling of the word 'color'! As you may be aware, teachers can get fixated on small things and thus miss the bigger picture, and, here, the bigger picture, to my mind, is fantastic indeed.

To answer any concerns that you may have about its usage, let me ensure you that this would most definitely be a tool used by teachers. The class instructional guide, in particular, is an invaluable piece of reference material, allowing teachers to carefully plan next steps and, more importantly, drilling down to one or two specific purposes (objectives, to use the AM comparator) for their lesson rather than, as is so often the case when lacking this kind of detailed information, and as I mention above, just doing a series of generic lessons on the subject of 'comprehension' and hoping that enough will rub off. Already, my Year 6 teacher is rewriting her medium term planning to work precisely on what Enterprise has been able to tell her about her children and where they need to go in the future. As with AM, it is the specific, rather than the generalistic, that is the particular power of this programme. Similarly, the Core Objectives section – what James Bell describes as something being developed into a 'one-stop shop' – would, again, be used by teachers as a very powerful resource. I cannot see anything here in the American version that could not be used almost immediately in a British context, and am delighted that my school is able to access it now.

As you may be aware, the educational system in the UK is in a state of almost constant flux at the moment and of particular concern to many educationalists is the removal of the National Curriculum levelling, which makes it far more difficult to measure accurately progress and attainment. Here, again, Star Enterprise fills that gap very neatly as it does, indeed, measure both progress and attainment. Were it possible, it would be ideal to launch a British version in line with the launch of the new National Curriculum in September 2014, advertising it some distance ahead; I imagine that many schools, in an Ofsted framework which is obsessed by attainment and progress, will be crying out for a system which so clearly demonstrates the children's abilities and development. The fact that it so neatly covers the wider gamut of English ability – not just vocabulary, but interpretation of text and text types, use of definitions and so on – makes it rigorous enough, to my mind, to be satisfactory to Ofsted as a measure of said progress and attainment.

I also cannot imagine that it needs a great deal of re-alignment in order to match the UK educational standards. Obviously, there is the issue of the spelling, but, once that is sorted (presumably using a very large-scale 'find and replace' function!), there is just the case (I imagine), of a few pieces of re-alignment to match attainment expectations in year levels which differ from continent to continent. In the end, the ability to interpret a piece of writing, and the skills one needs for that, are the same the world over. Indeed, comparing the KS1 and KS2 (Grade 1 and Grade 5) expectations (which is where we are benchmarked) to the Core Progression lists of those grades, the overlap is clear. It certainly is sufficient for us to be prepared to use it with our children in its American version, without any realignment at all, because it is still so more powerful, in analytical and forward-planning terms, than anything else that we currently have available to us.

To summarise, I am most impressed by what I have seen of Star Enterprise, and, I imagine, as it continues in its development, will become even more so. I very much hope that the conversion to an British version will be considered something that should be a priority. I believe that something this powerful and precise, tied into the launch of the new National Curriculum next year and with the right advertising, would be of huge benefit both to your company and to the literacy education of the children in Britain. I am aware that it is a significant investment for yourselves, but feel very strongly that it would be an investment worth making. In the interim, once again, we are delighted that we are able to access the American version and will wait, with bated breath, for the British one.

Should you wish to discuss anything further with me, please do not hesitate to get in contact.

Anthony Wilson

Deputy Head Teacher

Sir William Burrough Primary School



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