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## The Phoneme Test: Should All Teachers Pass It?

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It is stated in the National Literacy Strategy (NLS) document Phonics with CD ROM (DfEE, 2000) that the phonic work in the NLS Framework is built around the idea that, “Children should learn to identify the phonemes in their spoken language and learn how each of these phonemes is commonly spelt”. Therefore, if the Standards and Effectiveness Unit, Department for Education and Employment (DfEE), aim to raise standards in literacy teaching, should all teachers not be tested on their ability to articulate the English phonemes accurately and on their ability to list common spelling choices for each of the phonemes?

Many people know that a phoneme is the ‘smallest unit of sound that changes the meaning of a word’. However, do you know how many phonemes there are in spoken English? The answer is on page 2 of the NLS document, “It is worth reflecting on the fact that everything that is said or written in contemporary English is encoded in approximately 44 sounds (phonemes) and represented by 26 letters in about 140 letter combinations”. Lots of people agree with the idea of 44 English phonemes – even Tony Blair, the Prime Minister! At the OFSTED Literacy Conference, 7 December 1998, Tony Blair defined phonics as, “The skilled process of teaching children how the 44 sounds in the English Language are represented by a letter or group of letters”. Also, the NLS Director, John Stannard, stated in the Times Educational Supplement, 19 March 1999, “Many teachers are doing the first stage of phonics reasonably – the initial letter sounds – well. But they are having more difficulty teaching children to identify and spell the 44 phonemes.”

In the dyslexia field, Professor Bevé Hornsby, The Hornsby International Dyslexia Centre, London, recently confirmed the existence of 44 phonemes when she wrote on matters relating to the literacy program THRASS (Teaching Handwriting Reading And Spelling Skills). The THRASS multisensory resources, of which there are now over thirty, are used in over 8,000 institutions worldwide to teach children and adults (including parents and teachers) about the building blocks of reading and spelling. Professor Hornsby wrote, “I think that the THRASS spelling choices charts would be very useful mnemonics for children to refer to when they are unsure of the letters needed to produce all the 44 sounds in the English language. However, if the children need to know more about the reasons that lie behind the various letter groupings so that in-depth understanding can take place, a book such as Alpha to Omega would be a happy companion to have around” (Hornsby 2000).

Alan Davies and Denyse Ritchie, the authors of THRASS (Teaching Handwriting Reading And Spelling Skills), also refer to the number 44 to indicate the number of phonemes in spoken English. In the THRASS Teacher’s Manual (Davies & Ritchie 1998a), they state that there are:

- 24 consonant phonemes.
- 20 vowel phonemes.

They state that the vowels consist of 7 short monophthongs, 5 long monophthongs and 8 diphthongs. To produce a diphthong we have to make a change in pronunciation. The vowel phonemes in the THRASSWORDS tray, hair, ear, fly, snow, toy, moor and cow, are diphthongs. Diphthongs still count as one phoneme but they are constructed from two vowel qualities, the first being longer in duration than the second. Each diphthong is responsible for only one beat (one syllable) so the eight THRASSWORDS, above, are all monosyllabic (they contain only one syllable) not polysyllabic (containing two or more syllables). However, Davies and Ritchie (1998a) acknowledge that they exclude the English triphthongs (such as in f-ire and s-our) and that there are different phonetic realisations of a phoneme (allophones). As they state, “It is helpful, nevertheless, to think that the smallest unit of speech sound to make a difference in meaning is a phoneme

(even if it is only an abstraction in our minds!). The example they give is, “The pronunciation of the phoneme ( t ) in ‘tap’ and ‘city’ is not actually the same” and they give the reason that, “This is usually because of the influence of the phonemes that come before and/or after the phoneme.”

If we include 24 consonant phonemes, 12 vowel monophthongs, 8 vowel diphthongs, leave out the vowel triphthongs, and take into account that each phoneme has slight variations (allophones), there are 44 English phonemes. This is based on the work done at the University College London about a hundred years ago, when phonetics was quite a young academic discipline.

Therefore, in order to raise standards in Word Level literacy teaching, shouldn't all teachers be tested on their accurate knowledge of the sounds of English? Isn't this testing all the more important if, as is stated by the NLS Director (Hackett 1999), teachers are having difficulty teaching children to identify the 44 phonemes?

As is stated in the opening paragraph of this article, the NLS framework is also built around the idea that children should “learn how each of these phonemes is commonly spelt”. Therefore, shouldn't all teachers be tested on their ability to list common spelling choices for English sounds? Isn't this testing all the more important if, as is stated by the NLS Director (Hackett 1999), teachers are having difficulty teaching children to spell the 44 phonemes?

Circular 4/98 (DfEE), the circular that deals with the requirements for courses of initial teacher training, makes it very clear that trainee teachers should not have difficulties in teaching the phonemes and graphemes of English, “As part of all courses, trainees must demonstrate that they know and understand (i) Phonology – the sound system of language (ii) Graphology – the writing system. i.e. the English alphabetic system (iii) How the writing system represents the sound system. Therefore, if trainees are required to “identify the phonemes in words and segment words into their constituent sounds” and they are also required to teach pupils “that phonemes may be represented by different graphemes”, shouldn't qualified teachers be required to demonstrate that they can do the same?

In Phonics with CD ROM it is stated that, “Through phonics, we should be teaching children to: Identify sounds in spoken words (phonological awareness); Recognise the common spellings for each phoneme (phoneme-grapheme correspondence); Blend phonemes into words for reading; Segment words into phonemes for spelling.” But what are the consequences if children do not receive good teaching about the phonemes and graphemes of English? It is stated that, “If children are left to guess or invent the alphabetic code without direct and systematic teaching, their progress is likely to be inhibited and the likelihood of failure for a substantial number of children is increased.” The ‘likelihood of failure’ is likely to be all the more so for dyslexic pupils. As stated by Goswami (1999), “Dyslexic children who are learning to read and spell non-transparent orthographies like English read and spell inaccurately, and extremely slowly.”

In the Phonics with CD ROM (DfEE 2000) notes, it is stated that, “Blending means merging phonemes together to pronounce a word. In order to read an unfamiliar word phonemically, a child must attribute a phoneme to each letter or letter combination in the word and then merge the phonemes together to pronounce the word.” Therefore, to deliver good instruction during Literacy Hour, teachers need to be able to merge the 44 English phonemes to pronounce English words.

It is also stated in the notes that, “Segmentation means hearing the individual phonemes within a word; for instance the word ‘crash’ comprises four phonemes – ‘c-r-a-sh’. In order to spell, a child must segment a word into its component phonemes and choose a letter or letter combination (e.g. ‘sh’) to represent each phoneme.” Therefore, to deliver good instruction during Literacy Hour, teachers need to be able to segment the 44 English phonemes to spell English words.

In the Teacher Training Agency (TTA) folder, Supporting Induction for New Qualified Teachers (NQTs) 1999-2000 (TTA 1999a) it is stated in the Support & Monitoring (TTA 1999b) document that, “Before the school can provide an NQT with targeted and effective support, it needs to identify accurately the NQT's priorities for professional development.” However, what information is a school presently given about an NQT's knowledge, understanding and skills to teach the phonemes and graphemes of English? Also, if an NQT's Career Entry Profile does indicate a difficulty in blending phonemes, segmenting phonemes and/or listing the spelling choices of English, what is the evidence to suggest that the Induction Tutor or, indeed, other staff in the school, have the knowledge, understanding and skills to teach the NQT?

Davies and Ritchie (2000b) believe that their THRASS printed, audio, video and software resources should be used to both train and test teachers. The class size THRASS Picturechart, and the related class size THRASS Graphemechart, are used in pre-school, primary, secondary and tertiary classrooms to provide concrete whole picture focal points for the Word Level Work of literacy teaching, that is, work related to the 44 phonemes (speech sounds) and the graphs (one-letter-spelling-choices), digraphs (two-letter-spelling-choices), trigraphs (three-letter-spelling-choices) and quadgraphs (four-letter-spelling-choices) of English. The large laminated charts have 44 phoneme-boxes, one box for each phoneme, which contain the main graphemes for the phoneme. For example, the phoneme heard at the start of jam has the graphemes ‘j’, ‘g’, ‘g’ e’, ‘d’ ’g’ ’e’, as in the words jam, giant, cage and bridge.

Illustration 1. **jam, giant, cage and bridge / [ j g ge dge \* ]** phoneme-box from the THRASS Picturechart.

The charts would be difficult to use if all the English graphemes were included. Graphemes not included on the chart are represented by an asterisk, called the Grapheme Catch-All or GCA. For example, the “quad” ‘e’ ’i’ ’g’ ’h’, as in the word eight, should be in the same phoneme-box as ‘a’, ‘a’-‘e’, ‘a’ ’i’, ‘a’ ’y’ (as illustrated by the THRASSWORDS baby, tape, snail, tray). GCAs are acknowledged by temporarily writing them on the class or desk size laminated charts (using a Dry Wipe Marker pen) and/or adding them to GCA Boxes in the THRASS Dictionary (Davies & Ritchie 2000a), or the photocopyable GCA Sheet or Grapheme Group Word Sheet from the THRASS Resource File (Davies & Ritchie, 1998b).

Illustration 2. **baby, tape, snail and tray / [ a a-e ai ay \* ]** phoneme-box from the THRASS Picturechart.

The instruction book for the boardgame, THRASSWORDS, (Davies and Ritchie 1999) gives a good summary of how the various THRASS resources teach children and adults about the links between the phonemes and graphemes of English.

“The THRASSBOARD has 44 phoneme-boxes – one box for each phoneme. The phoneme-boxes are divided into two halves by a thick dark line called the Vowel Line. The 24 consonant phoneme-boxes are located above the Vowel Line and the 20 vowel phoneme-boxes are located below the Vowel Line.

There are three phonemes in the spoken word “knight” (as represented by the ‘k’ ’n’, ‘i’ ’g’ ’h’ and ‘t’ respectively). The first phoneme is a consonant phoneme, as heard at the start of the THRASSWORD “knee” (located in the Consonant Phoneme-Boxes above the Vowel Line). The second phoneme is a vowel phoneme, as heard in the middle of the THRASSWORD light (located in the vowel Phoneme-boxes below the Vowel Line). The third phoneme is a consonant phoneme, as heard at the start of the THRASSWORD tap (located in the Consonant Phoneme-Boxes above the Vowel Line).

The building blocks of written words are graphemes (spelling choices). There are hundreds of graphemes in written English. For example, there are three graphemes in knight (as represented by the letters ‘k’ ’n’, ‘i’ ’g’ ’h’ and ‘t’ respectively). The first grapheme is a digraph (a two-letter-grapheme). The second grapheme is a trigraph (a three-letter-grapheme). The third grapheme is a graph (a one-letter-grapheme). In the written word knight, the ‘k’ ’n’ is a consonant digraph (because the grapheme represents a consonant phoneme and the spelling choice has two letters), the ‘i’ ’g’ ’h’ is a vowel trigraph (because the grapheme represents a vowel phoneme and the spelling choice has three letters) and the ‘t’ is a consonant graph (because the grapheme represents a consonant phoneme and the spelling choice has one letter).”

With over 8,000 institutions worldwide using THRASS the demand for training courses is high, especially for courses in the UK and Australia, where the largest numbers of institutions are to be found. Alan Davies and Denyse Ritchie have considerable experience of presenting one, two and three day accredited courses and the written evaluations for their courses can be found on the UK & Europe, Australasian and North American websites (the UK address is <http://www.thrass.co.uk> and the evaluations are in the TRAINING section). The courses focus on the phrases, “Blending phonemes for reading” and “Segmenting phonemes for spelling”. To do this the teachers (and parents) are taught to accurately articulate, identify, read and spell the 24 consonant phonemes and to accurately articulate, identify, read and spell the 20 vowel phonemes, using the THRASS Raps & Sequences Tape, a musical audio tape, and the yellow THRASS Picturechart (in the demonstration lessons children are taught to locate the pictures, words and/or graphemes on the whole-picture charts). The raps include the Letter Name Rap, Consonant Phoneme Rap, Vowel Phoneme Rap and two Grapheme-Word

Raps. In this way teachers/parents are shown that, as is stated in the THRASS 500 SERIES Big Books (Davies & Ritchie 1999), “Your children will, understandably, continue to decode these words, and other similar words, using wrong phonemes (resulting in them creating Wrong-Phoneme-Words) and encode these words using the wrong graphemes (resulting in them creating Wrong-Grapheme-Words) until they are taught, or they learn for themselves, the correct phonemes and graphemes”.

In the Phonics with CD ROM notes it is stated that, “The most effective phonics instruction teaches children to identify phonemes in spoken language first, then to understand how these are represented by letters and letter combinations (graphemes).” Given the now widespread agreement on the importance of phonemic and graphemic knowledge in reading and spelling (as predicted by dyslexia institutions world-wide), isn't it about time that all teachers are tested on a) their ability to accurately articulate the English phonemes and b) their ability to list common spelling choices for each of the phonemes?

The training and testing for The Phoneme Test is simple. Teachers (and trainees!) play the THRASS Raps & Sequences Tape until they are familiar with the 24 consonants and the 20 vowels (using both the musical ‘Raps’ side and the spoken ‘Sequences’ side of the tape). Then, they trace over the graphemes on the THRASS Overwrite Chart (an A4 version of the class size THRASS Graphemechart) until they are ready to do the THRASS GRAPHEME CHALLENGE, that is, from memory, fill-in the 120 graphemes on the Combined Say, Name and Write Chart (see illustration). When tested, the examiner can ask the teacher/trainee to point to the graphemes in each phoneme-box and to articulate the phoneme for each box, starting with Row 1 of the Consonants and ending with Row 4 of the Vowels. In this way, each examiner will not have to be subject to a ‘random firing of phonemes’ from each teacher/trainee. If desirable, the teachers/trainees could even do the THRASS PHONOGRAPHIC TEST on the interactive computer program THRASS-IT, to obtain totals and percentages for their spelling, phonemic awareness and graphemic awareness (Davies & Ritchie, 1998c).

Illustration 3. Combined, Say, Name and Write Sheet with the graphemes **j g ge dge** and **a a-e ai ay**.

Once teachers have passed The Phoneme Test, children learning the non-transparent orthography of English will be receiving tuition from someone that can both accurately articulate the 44 English phonemes and list their common spelling choices.

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