Beyond Phonics: In conversation with Professor Jeff Bowers





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In this article **Gill Cochrane**, Programme Manager for the postgraduate Professional Programme talks to **Professor Jeff Bowers** of Bristol University and considers the subject matter of his recent research paper.

n this article we consider the subject matter of the research paper *Beyond Phonics: The Case for Teaching Children the Logic of the English Spelling System* (Bowers & Bowers, 2017) in an interview with its lead author, Professor Jeffery Bowers of Bristol University. The topics arising include what sort of system is the English language, what sorts of educational interventions and approaches promote and enrich children's literacy knowledge-base and the quality of evidence used to bolster educational policy.

Few topics in psychology have generated so much heat as the recognition of words. Reading, whether of books or of briefly exposed words with emotional connotations, has been a source of continuous controversy since the nineteenth century. Yet despite its liveliness, an author who approaches this subject has some reason to fear that his readers may find it tiresome or even painful (Neisser, 1967. p. 105).

Neisser's words in his seminal work Cognitive Psychology ring as true today, more than 50 years after their publication, as the 'reading wars' (Pearson, 2004) concerning the best way to develop early reading and literacy skills continue. Pearson was writing about the continuing skirmishes between the 'whole-word' approach and the 'phonics-based' approach to reading. His paper sought to recommend a more balanced and considered stance on reading instruction policy. This balance was and continues to be difficult to achieve because in this age of sound-bytes and hash-tags we face the '... persistent problem of interpretation that tends toward oversimplification' (Pearson, 2004, p. 238) rather than attempting to process and report nuance in research findings. Pearson goes on to state: 'Research is often used in a selective, uneven, and opportunistic manner by policy makers', but problems with bias and not processing the nuance of research findings can have other consequences as well. This sort of 'confirmation bias' (unwittingly only accepting new information when it confirms what we already believe), is something we must all guard against - even if we are cognitive psychologists or teachers. People who display confirmation bias tend to purposefully seek out evidence that bolsters their current belief set and tend to purposefully reject any evidence that contradicts it. To link this back to reading research and educational policy, it matters how we conceptualise literacy-related difficulties and indeed the very nature of the English language. It matters because our assumptions predispose us to think of strategies to support learners in particular ways. Our assumptions bias our attention and screen out research evidence concerning the efficacy or theoretical significance of certain methods that we might otherwise carefully consider.

I opened the interview by asking Professor Bowers about the rationale for the paper which explains that the predominance of phonics-based approaches in schools was based on a mistaken premise:

"The main logic of my paper is people have a misunderstanding of the writing system... they think English is an alphabetic system that is shoddy and needs to be reformed. They say: 'if only we had Spanish....'"

We discussed the fact that every language has its particular challenges, if not for all its speakers, then for some who may have particular cognitive profiles/information processing difficulties. These sorts of difficulties may not be helped by rote-learning of grapheme-phoneme and phonemegrapheme links. We touched upon the orthographic transparency of Spanish, but noted how the commonplace phenomenon of elision (missing out segments of words in speech) can make it a challenging language to learn beyond an elementary stage for non-native speakers. This shows us that languages are complex, dynamic phenomena that change over time. These factors need to be taken into account when we try to quantify a language's ease of adoption or 'teachability' (Cahill & Karan, 2008, p.3) this takes us 'beyond phonics' as so many other factors associated with spoken language and its written form need to be taken into account. As Frith puts it:

"When alphabets have been in use for a particular language for centuries, then there are likely to be many changes to the spoken language and even in the meaning of words. Writing systems, like ships at sea, tend to take on extra cargo and end up encrusted in barnacles. This changes their efficiency but also gives them their character and history. English orthography is one of the 'ships' that exemplifies a writing system that has grown to be particularly complex and historically rich" (Frith, 2010, Foreword).

Bowers returned to the mis-characterisation of English as a purely alphabetic language, he contests that English has a reduced 'efficiency'. He argues that English is a morpho-phonemic language system that has developed to represent the intersection of morphological, etymological and phonological elements. A quote from Venetsky (1999) used within the Bowers and Bowers paper, sums up this more positive view of the orthography of English: 'English orthography is not a failed transcription system invented out of madness or perversity. Instead, it is a more complex system that preserves bits of history (i.e. etymology), facilitates understanding, and also translates sound' (p.4). I asked how difficult it had been to get across the importance of morphology (and etymology) as elements of a balanced literacy 'diet' and for the need to reappraise the level and purpose of phonics-based input in the school curriculum:

"People don't hear what we say. They think that we are anti- the idea that letters have something to do with sounds: we're not saying that. We're saying that we have to understand how grapheme-to-phoneme correspondences work but within the context of morphology. To ignore the role of morphology is the mistake. It's not that we claim there is no phonology relevant to reading... There is a lot of consistent structure to English organised largely by morphology, so why would you not teach all regularities? Why are people so fixated on only one sub-set of regularities (grapheme-tophoneme mappings)?"

A key message of the paper is that the role of morphology and etymology in literacy learning have been underestimated and that the use of morphological and etymological approaches are not as widely used as they should be. The role that morphological awareness, that is explicit knowledge about the morphemic structure of words, which enables the manipulation of and reflection upon those structures (Carlisle, 2003; Tong, Deacon, Kirby, Cain & Parrila, 2011; Gombert, 2003), plays in literacy development is still relatively under-emphasised. There is a good range of evidence that substantiates the positive influence morphological awareness has in the following areas:

- Typical comprehension skills (Tong et al., 2011; Berninger, Nielsen, Abbott, Wijsman & Raskind, 2008) including reading comprehension (Kirby & Deacon, 2004; Reid, 2009; Kirby, Deacon, Bowers, Izenberg, Wade-Woolley & Parrila, 2012).
- To inform speech (Berko, 1958).
- Several aspects of reading including word reading (Devonshire, Morris & Fluck, 2013; Roman, Kirby, Parrila, Wade-Woolley & Deacon, 2009; Burani, Marcolini, De Luca & Zoccolotti, 2008; Pollatsek, Hyönä & Bertram, 2000; Elbro & Arnbak, 1996), and reading fluency/ speed (Burani et al., 2008; Pollatsek, et al., 2000; Elbro & Arnbak, 1996; Kirby et al., 2012; Nagy, Berninger & Abbot, 2006).
- Vocabulary acquisition (Anglin, 1993; Bertram, Laine, & Virkkala, 2000).
- Spelling (Devonshire & Fluck, 2010; Devonshire et al., 2013; Trieman & Cassar, 1996; Wolter, Wood & Dzatko, 2009).
- Development of writing skills (Berninger, et al., 2008; Green, McCutchen, Schwiebert, Quinlan, Eva-Wood & Juelis, 2003).

In spite of a wide evidence base for the importance of morphological input in literacy instruction, the emphasis still rests heavily upon phonics input: it is overwhelmingly seen as the sole kick-start mechanism for literacy development by many if not most practitioners. This can leave some learners in a phonological corral: repeatedly going over the same small numbers of grapheme-phoneme and phoneme-

grapheme links and consonant blends, as it is assumed if these cannot be grasped that work on other aspects of literacy (syntax, punctuation, suffixing etc.) will be futile. Bowers notes:

"Most kids will learn to read (in spite of the method) but some are struggling and it's got to be so disheartening to repeatedly fail at a task that is intrinsically meaningless (converting letters to sounds). If you can get kids succeeding on other word-related tasks – it boosts their confidence and they are succeeding. My co-author and brother, Peter, has this great anecdote about a conversation he had with a teacher: [see box at end]. It sums up the sort of enthusiasm that the Structured Word Inquiry (SWI) approach can stir up in a child who's been struggling to read."

This links to an interesting point raised in the paper: a discussion of whether the strategic support given to learners should be intent upon compensating for the weaknesses/difficulties of the struggling reader, or to be focusing on restoring or improving particular skills that the struggling reader might be lacking (that is compensatory versus ameliorative instruction). Phonics-based instruction is clearly an ameliorative strategy (i.e. that seeks to remediate deficiencies), but can we assume that all children will be helped by it? Anecdotally, there is evidence that not all children thrive on a synthetic phonics diet. Yet standard synthetic phonics programmes do not have an alternative to suggest in such cases (except 'more phonics'). An example of this from a question asked during a teacher training session for a popular phonics-based intervention programme:

Specialist Teacher: What would you suggest I do if the child I was working with, perhaps a child with a poor working memory, couldn't grasp the link between the phoneme and the grapheme using the drill outlined by you?

Synthetic Phonics Trainer: We recommend going over things again and again until the link is secured.

Another example, of the 'more phonics' response, comes from a research paper. In 2014 Snowling and Hulme pondered over the unexpectedly disappointing set of results of a series of phonology-based intervention studies:

Current causal models of reading development arguably have focused almost exclusively on the cognitive processes underlying reading development and how best to remediate deficiencies in such processes. Such models are typically silent on broader influences (motivational, attentional, and socio-cultural) on learning, however. It is concluded that future theories will need to be broadened in order to develop more effective interventions for children with a variety of reading and language learning difficulties (p. 300).

But the role of morphological awareness and the enriching types of word-study found when work on etymology is carried out with learners was not even mentioned as a potential way to 'broaden' future theories. Instead the authors consider that the disappointing results could arise from the fact that 'the intensity of interventions may simply be insufficient' (p. 303) or that the interventions in the studies did not last long enough. Similarly, back in 2006, a randomised controlled trial for beginning readers with literacy delay (Hatcher, Hulme, Miles, Carroll, Hatcher, Gibbs et al., 2006) found that around a guarter of the children 'resisted' treatment (failed to respond/improve). Furthermore, '... the children with severe reading problems at the beginning of the study (indexed by low scores on word recognition, letter knowledge and phoneme manipulation) and children in receipt of free school meals tended to respond less strongly to the programme' (Hatcher et al., 2006, p. 825). In other words, those who needed strategic support the most were not helped by the type of input given. Compton, Miller, Ellemann & Steacey (2014) also suggest the limited success of approaches (like phonics-based approaches) in remedial instruction is they are not rich enough to engage the cognitive processes necessary to facilitate a breakthrough in reading skills in such children:

'... [we question] the effectiveness of the prevailing interventions intended to improve word-reading and reading comprehension skills in children with reading disability (RD). Our hypothesis is that we as a field may have inadvertently diluted reading theory in ways that compromise the power of intervention programs. For both word reading and reading comprehension we argue that current intervention programs target instruction at a knowledge level below that which is necessary to foster reading skill development that is "generative" in children with RD. (p. 55)

However, other researchers, echoing Bowers & Bowers (2017) position, have noted the need for enrichment tasks to ensure that children fulfil their 'language potential'. For example, Roy and Chiat (2013) examined the impact of low socio-economic status on language development in the UK. They argue that: "... a proportion of children from low SES backgrounds who perform poorly on standard measures of language have intact language potential. Hypothetically, if they had grown up in a more advantaged environment, they would perform in the normal range. For these children enhanced input is needed to realise their language potential. If home and community environments remain unchanged, they will continue to lag behind peers" (p.21, 2013). Again the type of 'enhanced input' needed is not going to be provided by a phonics-based approach alone. Bowers advocates the use of compensatory strategies:

"I think it's a false theoretical claim that if a learner has phonological deficits, that therefore we need to target phonology, logically the answer could equally be because learners like this have a phonological deficit let's try to teach them in a different way..."

The approach advocated by Bowers and Bowers (2017) is Structured Word Inquiry (SWI, Bowers, P.N. & Kirby, 2010). Interestingly, SWI provides both compensatory forms of instruction (a focus on morphemes within words and word roots), as well as ameliorative forms of instruction (looking at how phonemes are represented within the context of morphology). It is a predominantly explorative mode of learning, that encourages relational understanding (Skemp, 1989) – the appreciation of patterns in bodies in knowledge, and the drive to find out the connections between things rather than a surface understanding of rules or rote learning of facts. As Bowers puts it:

"If you understand that spellings are in a fundamental way organised around meaning as well as phonology there's a whole range of new methods of instruction. One thing we know from psychology is that the best way to learn is to attach meaning and organise things. That is a fundamental, uncontroversial, transparent truth... so if you can attach meaning to something, you should."

I asked him about the 'structure and meaning test' (part of the process of SWI) that is mentioned in his paper. He gave me an example:

"If you have two words, for example, 'corner' must be somehow related to 'corn'... if they are morphologically related they have to share the same structure, so 'corner' passes that test : it's 'corn' + <er>. But is 'corner' in anyway related to the meaning of 'corn'? That's the meaning test. Kids in First Grade are using this amazing resource, The Online Etymology Dictionary (https://www.etymonline.com/) to check if words like this are related... Structured word inquiry is not the end goal. The goal isn't to have someone name accurately a bunch of words that are connected It's the importance of the act of organising things and relating things- that involves a lot of meta-skills."

An excellent illustration of the use of the Online Etymology Dictionary with younger learners is given in a YouTube clip: https://youtu.be/53iJ4AnMRLU. The quality of the discussion between the children and the amount they draw from the activity demonstrates the potential of this approach to engage and empower young learners and to develop them metacognitively. Matrices (as in Figure 2) are used both to capture 'morphological families': words that share a common root. They act as very succinct records and reference cards that can be used for a wide variety of wordbuilding and word-exploration activities.



Figure 2

Finally, we returned to the issue of 'confirmation bias' in the field of reading research and how this might be reducing the potential for researchers to conduct intervention studies that featured morphological/etymological approaches to language learning and language enrichment. Bowers is about to publish a paper that systematically reviews the evidence-base for phonics-based interventions, he states: "People accept such lame evidence as supporting the efficacy of phonics, but the actual evidence for phonics is so weak ... it doesn't justify the absolute commitment to this approach. People need to understand that there is not very good evidence; this might make them more open to understanding other methods that support reading development ... Currently it is hard to conduct research in alternative intervention approaches to phonics... hardly anyone is talking about the work done by Devonshire and colleagues in this field."

To give just one example of the weakness of the actual evidence in support of systematic phonics, we discussed the National Reading Panel Report 2000. This report is one of the most quoted pieces of evidence in defence of the predominant use of synthetic phonics to exclusion of other methods. Yet even around the time of its publication there was unrest, and in 2003 Camilli and Vargas, published a re-examination of the evidence. They '... arrived at substantially different interpretations of the same evidence' and noted that 'If the NRP results are taken to mean that effective instruction in reading should focus on phonics to the exclusion of other curricular activities, instructional policies are likely to be misdirected' (pp. 36-37).

As Professor Bowers suggests, his current work in this area should not be taken collectively as an argument in support of 'whole language' and related methods of instruction as opposed to synthetic phonics, but rather, as a sincere and thorough initiative that seeks to highlight the need for alternative approaches to reading instruction and to champion learner-centred and metacognitively-oriented approaches to study in our classrooms.

The Bowers and Bowers (2017) research paper discussed in this article can be downloaded from Professor Bowers blog site:_https://jeffbowers.blogs.ilrt.org/ - it is found under the PUBLICATIONS tab.

Anecdote from Dr Peter Bowers:

This quote came from a conversation I had with a friend and colleague of mine called Gail. Gail had worked as an Orton-Gillingham tutor for 30 years and had thus taught through a phonologically-focused method for all that time before encountering the Structured Word Inquiry system (SWI)¹.

This was about a year or two into her work with SWI. She was excitedly telling me about the fact that a struggling child who could not read had started to come to their sessions with a little notebook in which he wrote words he noticed during the week between their sessions that he wanted to investigate with her. His notebook would be full of misspellings, but the point was that their work together had obviously provoked this nonreader to notice and think about interesting words and their spellings outside of their sessions.

My friend was rightfully very excited. Not only could she now just start lessons on a word that her student was inherently interested in — and had been wondering about — but that interest in and of itself was clear evidence of this student's learning. This was a child who would throw levelled books and phonics activities across the room in frustration in traditional remediation programs.

When Gail told me about this student bringing his notebook of noticed words to her sessions, the contrast regarding motivation struck me immediately, so I asked her that question. "In your 30 years of tutoring kids before SWI, did you ever once have a learner come to your session and ask, "Can we work on /f/ today?"

Of course, my question answers itself. The point being that phonemes and graphemes are definitionally abstract things — and things we *must* help children understand if we want them to learn to read and write. What this little story illustrates is something that should be obvious anyway. We don't help learners gain an understanding of abstract concepts by removing them from their meaningful context, practising them, and then later bringing those abstract content to its meaningful context. Any instruction that practices grapheme-phoneme correspondences outside of the context of a word is doing just that. Of course, my friend taught grapheme-phoneme correspondences in the context of words all the time as well. However, not in the context of a *word family*.

What makes a grapheme-phoneme convention particularly interesting to a learner is when surprising correspondences are explained in a meaningful way — by how they link meaningfully related words.

In the link below¹ you can see a story that is actually about this exact learneer with another SWI tutor who also worked with him. It's worth a read. The relevant example in here is how Beckett got excited about encountering the word <magician> and noticing that the <c> was writing different "sounds" (phonemes) in its relative <magic>. The interest in learning about this grapheme-phoneme correspondence of the <c> — that it can write both /s/ and /ʃ/ (of course it can write /k/ too) is provoked by seeing how that feature of the phonology of <c> is serving a useful, meaningful function - to link the obviously related words <magic> and <magician>.

This aspect of the phonology of <c> is often not taught explicitly in phonics programs. But even when it is, the comparison of teaching these possibilities with example words — but not showing how this feature functions to link related words is clearly sub-optimal pedagogy as it removes the meaningful context... Instead the SWI approach suggests ensuring that orthographic phonology is taught in the contexts of *morphological and etymological* families. In this way, key concepts of orthographic phonology will surface in a meaningful context. The key is that the teacher has the orthographic knowledge to be able to leverage those learning opportunities.

¹https://tinyurl.com/learningSWI

References

Anglin, J. M. (1993). Vocabulary development: A morphological analysis. Monographs of the Society of Research in Child Development, 58 (10, Serial No. 238).

Berko, J. (1958). The child's learning of English morphology. Word, 14, 150–177.

Berninger V. W., Nielsen K. H., Abbott R. D., Wijsman E. & Raskind W. (2008) Writing Problems in Developmental Dyslexia: Under-Recognized and Under-Treated. Journal of School Psychology, 46(1): 1–21.

Bertram, R., Laine, M., & Virkkala, M. M. (2000). The role of derivational morphology in vocabulary acquisition: Get by with a little help from my morpheme friends. Scandinavian Journal of Psychology, 41(4), 287-296.

Bowers, J. S., & Bowers, P. N. (2017). Beyond phonics: the case for teaching children the logic of the English spelling system. *Educational Psychologist*, *52*(2), 124-141.

Burani, C., De Luca, M., Barca, L., & Zoccolotti, P. (2008) The Effect of Word Length and Other Sublexical, Lexical, and Semantic Variables on Developmental Reading Deficits. Cognitive & Behavioral Neurology, 21(4), 227-235

Cahill, M. & Karan, E. (2008) Factors in designing effective orthographies for unwritten languages, SIL International. Retrieved 28/03/12: http://www.sil.org/silewp/abstract. asp?ref=2008-001

Carlisle, J.F. (2003) Morphology matters in learning to read: a commentary, Reading Psychology, 24, 3-4, 291-322

Compton, D. L., Miller, A. C., Elleman, A. M., & Steacy, L. M. (2014). Have we forsaken reading theory in the name of "quick fix" interventions for children with reading disability? *Scientific Studies of Reading*, *18*(1), 55-73. Retrieved 25/04/18 from: http://www.psy.cmu. edu/~siegler/418-compton2014.pdf

Devonshire, V., & Fluck, M. (2010). Spelling development: Fine-tuning strategy-use and capitalising on the connections between words. *Learning and Instruction*, *20*(5), 361-371.

Devonshire, V., Morris, P., & Fluck, M. (2013). Spelling and reading development: The effect of teaching children multiple levels of representation in their orthography. *Learning and Instruction*, *25*, 85-94.

Elbro, C. & E. Arnbak (1996). The role of morpheme recognition and morphological awareness in dyslexia, Annals of Dyslexia, 46: 209-240. Retrieved March, 28, 2012, from: http://www.staff.hum.ku.dk/ce/annals_1996.pdf

Frith, U. (2010) In S McDougall, N. Brunswick & P de Mornay Davies (Eds) *Reading and dyslexia in different orthographies.* Hove: Psychology Press

Gombert, J-E. (2003) Implicit and explicit learning to read: Implication as for subtypes of dyslexia. Current Psychology Letters, 10, 1, 1-8

Green, L., McCutchen, D., Schwiebert, C., Quinlan, T., Eva-Wood, A., & Juelis, J. (2003). Morphological Development in Children's Writing. Journal of educational psychology, 95(4), 752. Hatcher, P. J., Hulme, C., Miles, J. N., Carroll, J. M., Hatcher, J., Gibbs, S. et al. (2006). Efficacy of small group reading intervention for beginning readers with reading-delay: a randomised controlled trial. *Journal of Child Psychology and Psychiatry*, 47(8), 820-827.

Kirby, J. R. & Deacon, S. H. (2004). Morphological awareness: Just "more phonological"? The roles of morphological and phonological awareness in reading development. Applied Psycholinguistics, 25, 223–238

Kirby, J. R., Deacon, S. H., Bowers, P. N., Izenberg, L., Wade-Woolley, L. & Parrila, R. (2012) Children's morphological awareness and reading ability. Reading and Writing, 25, 2, 389-410.

Nagy, W., Berninger, V. W., & Abbott, R. D. (2006). Contributions of morphology beyond phonology to literacy outcomes of upper elementary and middle-school students. Journal of Educational Psychology, 98, 134–147

National Reading Panel Report (2000) https://www1.nichd. nih.gov/publications/pubs/nrp/Documents/report.pdf

Pearson, P. D. (2004). The reading wars. *Educational policy*, *18*, 216-252

Pollatsek, A., Hyönä, J. & Bertram, R. (2000) The role of morphological constituents in reading Finnish compound words. Journal of Experimental Psychology: Human Perception and Performance, 26(2), 820-833

Reid, G. (2009). Dyslexia: A practitioner's handbook, 4th Edition. Chichester: Wiley Blackwell

Snowling, M. J., & Hulme, C. (2014). Closing a virtuous circle: Reciprocal influences between theory and practice in studies of reading intervention. *Journal of Research on Educational Effectiveness*, 7(3), 300-306.

Roman, A. A., Kirby, J. R., Parrila, R. K., Wade-Woolley, L., & Deacon, S. H. (2009). Toward a comprehensive view of the skills involved in word reading in Grades 4, 6, and 8. Journal of Experimental Child Psychology, 102, 96–113

Roy, P. & Chiat, S. (2013). Teasing apart disadvantage from disorder. The case of poor language. In: C. R. Marshall (Ed.), Current Issues in Developmental Disorders. Current Issues in Developmental Psychology. (pp. 125-150). London: Psychology Press

Tong, X., Deacon, H.S., Kirby, J.R., Cain, K. & Parrila, R. (2011). Morphological awareness: a key to understanding poor reading comprehension in English. Journal of Educational Psychology, 103, 3, 523 – 534.

Treiman, R. & Cassar, M. (1996) Effects of Morphology on Children's Spelling of Final Consonant Clusters. Journal of Experimental Child Psychology, 63, 141–170

Wolter JA, Wood A, & D'zatko KW. (2009). The influence of morphological awareness on the literacy development of first-grade children. *Language, Speech and Hearing Services in Schools*. Jul;40(3):286-98.