How It All Began

Sound Training (previously known as Sound Training for Reading Ltd) started trading in September 2011. I had developed the programme now known as Lexonik when I was employed by Middlesbrough Education Authority as their Senior Learning and Language Team Coordinator.

During this time, I found myself responsible for developing the skills of secondary-aged students who were underachieving in reading. A firm believer in small group intensive tuition, 'No problem', I thought. I would provide them with instruction in groups of four, using reading material at instructional level, employing a method which was very similar to what is now referred to as Reciprocal Reading, and encourage them to break the more challenging words down into syllables. That surely would do the trick.

How naïve! It was the reaction from one particular 14 year old student, when he found himself unable to read a word within a passage of text, that started my amazing Sound Training journey. He stood up in front of me and shouted,

*"You tell me to break the words down and then you tell me that word says **'patient'**!"*

How does a weak reader make sense of this word? If you do not understand the written 'code' it would read as 'pǎt ī ěnt', or pā tǐ ěnt, but not 'patient'. My teaching at that time, despite my years of experience, was not nearly explicit enough to be of any use to the students I was responsible for.

This was the start of my action research!

From September 1999, over the next few years I focused my efforts on developing an effective way to teach secondary-aged students the decoding aspect of reading.

The next student to make me re-evaluate my work was one who had made dramatic progress in her reading ability (decoding), but was not making the progress expected in the mainstream classroom. She explained to me that although she was now able to read more challenging words, she was unable to make sense of what she was reading. Not only that, she didn't understand the spoken language her teachers were using in class.

She had pointed out the obvious: students have got to be able to read for meaning, and reading for meaning must start with vocabulary knowledge. Without this, the teaching of higher order reading skills simply doesn't work.

At this point I started some serious active research and data collection, combining it with my studies at Northumbria University. I set up control and experimental groups in a secondary school, ensuring both groups were as balanced as possible in terms of gender, ethnicity, teaching sets, initial reading ages, behaviour and attendance. I assessed all students, delivered the original version of Sound Training to the experimental group, and re-assessed all students eight weeks later. The reading gains in the experimental group completely

outstripped the control group, and at the end of the year the KS3 SAT data proved that the reading gains had transferred through to national tests.

I completed this same piece of research for three consecutive years and found the results were being replicated. So I moved away from thinking that I had an idea that might work, to knowing that my idea did work. Not content with that, I continued to gather more data and carried out small alterations, e.g. delivering the programme to groups of six and in one-to-one settings, but results consistently showed that students taught in groups of four were making better progress than other sized groups.

Now we have over 50,000 pieces of individual student data, along with some amazing case studies and comments from students and teachers, providing evidence that proves my idea really does work! In just one hour of tuition over a six-week period the average gain in reading is 27 months. This data has been validated by Northumbria University.

Lexonik is a fast, focused and fun programme, enjoyable for all ages and all mainstream abilities. It stretches everyone, allowing them to achieve success at a higher level than they are currently achieving. The teaching sessions are very intensive and highly effective, and for this reason must be delivered by experienced, trained teachers to groups of four students. In addition, we also have an online resource product which supports mainstream teaching.

Lexonik is based around the following five key areas:

- **Setting high expectations** – build self-belief and aim high

- **Phonological awareness** – awareness and manipulation of the sound structure held within speech

- **Vocabulary** – developing root-word knowledge and an understanding of how prefixes and suffixes alter meaning

- **Metacognition** – the awareness and understanding of how you think

- **Automaticity** – direct teaching, repetition and speed is key if students are to master their own learning.

Set High Expectations
Aim high and they will achieve!

A great deal of research has been carried out by Stanford University's Dr. Carol Dweck, Lisa Blackwell Ph.D. and their colleagues (2007), which found that student mindsets - how they perceive their abilities - played a key role in their motivation and achievement. I truly believe this to be the case.

We must believe in our students, have confidence in them, show them how they can improve, and yes, praise them for their effort - but never give false praise. Their effort must also show improvement; if effort is being praised yet there is no improvement I would suggest that the support being provided is at fault and not the student's ability. When they can see improvement for themselves, their self-belief, self-confidence and motivation to succeed automatically improve.

Students need to be shown explicitly how to improve. They need to be provided with scaffolding - a method which they can take away and build upon independently - and they need instant feedback. But the instant feedback needs to be of use to them:

What was good about a piece of work? What would make it even better and take it to the next level?

If there are errors or misunderstanding, students must be shown why there was an error and what can be done about it. That way they can see progress and learn quickly from mistakes. If students learn quickly they will see progress and the upward spiral begins!

Phonological Awareness
Sounds like fun!

Phonological awareness involves the detection and manipulation of sounds within speech, both of which are crucial for the development of reading at all stages from reception onwards. Adams (1990) describes five levels of phonemic awareness in terms of abilities:

• to hear rhymes and alliteration as measured by knowledge of nursery rhymes

• to do oddity tasks (comparing and contrasting the sounds of words for rhyme and alliteration)

• to blend and split syllables

• to perform phonemic segmentation (such as counting out the number of phonemes in a word)

• to perform phoneme manipulation tasks (such as adding, deleting a particular phoneme and regenerating a word from the remainder).

Phonological training in our core product Lexonik begins at the syllable stage and does not include any phoneme matching or onset and rime tasks.

The terms phonemic awareness, phonics and phonological awareness are often used interchangeably; however, these terms have very different meanings:

- **phonemic awareness** focuses specifically on recognising and manipulating phonemes, the smallest units of sound

- **phonics** requires students to know and match letters or letter patterns to sounds and to use this information to decode words

- **phonological awareness** relates only to speech sounds, not to alphabetic letters or letter strings; it does not require knowledge of written alphabet letters or letter patterns.

Phonological awareness is an important determiner of the success in learning to read and spell. Effective readers have strong phonological awareness, whereas poor readers are weak in this area. The levels of phonological skill in preschool children strongly predict how well and how quickly children will develop reading skills. In addition, interventions aimed at improving phonological awareness lead to significantly improved reading skills, proving that phonological awareness can be taught.

Shaywitz (2003) strongly supports the idea that explicit phonological awareness training is essential for, and should be provided to, secondary-aged students. The relationship between phonological awareness and reading acquisition is complex, and there is strong evidence to suggest that difficulty with manipulation of verbal sounds inhibits the ability to read.

Chard & Dickson (1999) believe that phonological awareness can be developed through carefully planned instruction. Teaching programmes, therefore, need to include activities that focus on the sounds in spoken English. As students progress, focus needs to be given to phonological awareness in relation to the words they are encountering in the classroom, in order to develop a more sophisticated phonological ability at the appropriate level.

Lexonik's methodology insists upon active learning and focuses on developing the students' phonological skill so that they can use phonics effectively and read unfamiliar words, at the same time realising the immense importance of building vocabulary knowledge. We have different levels of resources and tasks depending on the age of the student, ensuring they encounter the vocabulary appropriate for their level.

There has been further debate about the method of teaching phonics, in particular, over analytic phonics and synthetic phonics. The analytic method, as it suggests, encourages the reader to look at the word as a whole and break it down, taking clues from recognition of the whole word. Thus reading becomes about memorising the look of the whole word. I believe this to be a hit-and-miss approach, which encourages 'guessing' as a first reading strategy. It is hardly a surprise, therefore, that we find many of our older students struggling to decode.

The synthetic method begins with the individual sounds and builds these sounds into words. This method teaches sound very rapidly. The synthetic method used in the Clackmannanshire study in 2005 was found to be the most effective, yet received criticism from some educationalists because of its lack of impact upon comprehension levels (Johnston & Watson, 2005).

Lexonik begins with the synthetic approach (encoding), teaching students to process sound very quickly, but almost immediately moves to the analytic approach (decoding). The programme then teaches students how to analyse words to extract meaning, encouraging students to become more actively involved in their own learning. Equal importance is placed on both decoding for reading and decoding for meaning.

Building Vocabulary Knowledge
A word a day keeps the OFSTED doctor away!

The most compelling reasons for providing students with instruction to build vocabulary is the contribution that vocabulary knowledge makes to reading comprehension. Indeed, one of the most enduring findings in reading research is the extent to which students' vocabulary knowledge relates to their reading comprehension (Anderson & Freebody, 1981; Becker, 1977). The National Reading Panel (2000) concluded that comprehension development cannot be understood without a critical examination of the role played by vocabulary knowledge. Given that students' success in school and beyond depends, in great measure, upon their ability to read with comprehension, there is an urgency to provide instruction that equips students with the skills and strategies necessary for lifelong vocabulary development.

Without this instruction, the well-known 'Matthew Effect' (Stanovich, 2000), is set in motion: 'the rich get richer and the poor get poorer'. In terms of vocabulary development, good readers read more, become better readers, and learn more words; poor readers read less, become poorer readers, and learn fewer words.

Research emphasises that vocabulary development is a vital part of all content learning, but it is often ignored. The link between vocabulary knowledge and comprehension is undeniable. While wide reading increases a student's vocabulary significantly, teachers must realise that direct and explicit instruction in vocabulary must also occur daily in all classrooms. Students enter school with vastly different levels of word knowledge. Many of our students may have had little opportunity to develop their language skills at home. Teachers must therefore build word-rich environments in which to immerse their students, and must teach and model good word-learning strategies.

Below are quotes taken from the Government document 'Teaching Effective Vocabulary' (DCSF, 2008):

> 'Children start school with a vocabulary which has been learned mainly from their contact with parents and the literacy environment at home, as well as their experiences with the wider world...' (DCSF, 2008:4)

> 'Children mainly use words their parents and other adults use with them in conversation. Vocabulary is a strong indicator of reading success.' (DCSF, 2008:4)

> 'It was established in the 1970s that children's declining reading comprehension compared to more able peers from age 8 onwards largely resulted from a lack of vocabulary knowledge (Becker, 1977), and that this was primarily caused by a lack of learning opportunities, not a lack of natural ability.' (DCSF, 2008:5)

'Having a low vocabulary can trap children in a vicious circle, since children who cannot read more advanced texts miss out on opportunities to extend their vocabulary (Fisher and Blachnowicz, 2005).' (DCSF, 2008:5)

'Becker (1977) identified poor vocabulary knowledge as the primary cause of academic failure of disadvantaged students. This means that children with low vocabularies need to be targeted early, since catching up is very difficult.' (DCSF, 2008:5)

Research suggests that although many children acquire vocabulary through activities at school, this cannot be left to chance, particularly in the case of children with poor vocabularies. Practical ideas to support vocabulary development can include pre-teaching of vocabulary before reading a text, and checking the understanding of vocabulary meaning, but this is not enough. Teaching lists of unconnected subject-specific vocabulary is not an effective way to develop and expand students' vocabulary knowledge.

Rather than teach individual words, we should teach students how to make links between unknown words and to look for the meanings of common prefix, root words and suffix definitions. This method of instruction will empower them to develop their own vocabulary knowledge and learn independently, away from their teachers.

Teaching the meanings of root words, prefixes and suffixes instantly promotes vocabulary knowledge and therefore must be taught, and this is a key component of Lexonik.

Lexonik recognises the need to teach vocabulary explicitly, along with the need to revisit the same words repeatedly to ensure the learning of any new vocabulary takes place. We also recognise the importance of targeted questioning to encourage students to think about word definitions. By providing explicit teaching around prefixes, suffixes and root words students are taught how to expand their own vocabulary knowledge, and they really enjoy doing it.

Teaching Metacognition
We all need to think about this one!

One of my students, at the beginning of a teaching session, said,

"I just LOVE this. It really makes you THINK."

I took this to mean that she was beginning to understand the real key to 'learning' and not just learning to read; she was engaged in metacognition, engaged in the thinking process and engaged in her own learning.

Metacognition can be defined simply as thinking about thinking. Learners who think metacognitively know what to do when they are unsure of an answer. In other words, they have found a way to figure out what they need to do for themselves, making them an independent learner, not waiting to be spoon-fed or at a loss when not provided with the answer. The use of metacognitive strategies ignites one's thinking and can lead to more active engagement and improved performance, especially among learners who are struggling. Understanding and controlling cognitive processes may be one of the most essential skills for students to have in order to develop their own understanding. It is therefore imperative that teachers teach metacognitive skills.

In Daniel Willingham's brilliant book Why Don't Students Like School? (2009), he talks a lot about thinking and makes statements such as: "The brain is not designed for thinking. It is designed to save you from having to think, because the brain is actually not very good at thinking." He then goes on to explain that the human loves to learn and is extremely capable of learning, as long as there is effective scaffolding around the thinking process. I wholeheartedly agree.

Metacognitive strategies allow students to plan, control, and evaluate their own learning and have a crucial role to play. Although the metacognition taught within Lexonik relates mainly to reading and vocabulary development, students should and are able to transfer these skills across a broader curriculum. We combine various thinking and reflective processes, which our teachers demonstrate to our students.

Preparation and planning are important thinking skills. Students need to be given very explicit learning goals and to be provided with strategies in order to achieve them. The clearer the goal, the easier it will be for students to measure their own progress.

To be effective, students need to be explicitly taught how to select and apply appropriate learning strategies for any given context. This allows them to think and make conscious decisions about the learning process. Applying this thinking process to reading means that when students come across vocabulary they do not know, they should be able to attempt to work out the meaning for themselves.

The Importance of Automaticity
We simply don't want to waste time thinking about it!

Fluent readers appear to recognise most of the words they read automatically and this automaticity frees cognitive space, thus allowing the reader to gain meaning from text. This implies that good readers are also good decoders. In fact, fluent readers characteristically seem to be able to decode, not by guessing from context or prior knowledge of the word, but by a kind of automatic identification that requires no effort.

Gough (1972) believed that when word recognition becomes automatic, the reader is not conscious of the process. Many adults do not realise or acknowledge that they use phonics to help them to read. It is only when they are faced with vocabulary which is well outside their knowledge base, that they realise that they do in fact use their phonic knowledge because previous sight knowledge is not available to them.pp

Most fluent readers read quickly, automatically recognising words and maintaining a flow that allows them to make connections and pick up on inferences. They find themselves able to fully understand the text they are reading.

So if this is what fluent readers can do, the opposite is true for the weaker reader.

It would seem that weaker readers are hindered by a number of factors that do not allow them to develop fluency. This prohibits them from performing the complex tasks expected of them during the whole reading experience.

It may also be true that progress for many students may be hampered because of miscommunication between teacher and student. Yoshimura (1999) suggests that teachers assume that it is the learner's responsibility to practise a new skill until they have acquired proficiency. However, many students seem to think they have practised enough after only a few attempts, even if they fall short of being fluent and proficient in the task. Because of this miscommunication, many weak readers do not reinforce the skill sufficiently to become fluent. I agree with Yoshimura: we must ensure students are encouraged to practise repetitive tasks rigorously until automaticity has been reached, but we must ensure that this is done in a manner which is acceptable to the student.

Adams (1990) discusses the importance of repetition and the need for less proficient readers to be taught and consistently exposed to multiple sounds for letter combinations. This helps the memory to link sounds automatically to letter patterns, and increases students' ability to recognise words automatically. Lexonik ensures this automatic stage is reached in a fun and motivational way. Activities and procedures are constantly repeated until automaticity with syllable recognition is achieved. This is why activities are always timed; students have to 'beat the clock'. This empowers them to move the decoding process out of the working memory, freeing up cognitive space so that reading comprehension can take place.

Automaticity, memory and reading are very closely linked. Weakness in working memory can cause difficulties with decoding and reading comprehension. Specific memory-related difficulties will increase with the challenge of reading.

The working memory is an especially significant area for learning to read, but the information required by the learner to help with comprehension is held within the long-term memory. Working memory involves cognitive processes that maintain information in the mind during active processing of information. It enables the coding, processing and recording of current information, whereas long-term memory holds everything we know and can do.

Distinguishing and combining speech sounds and then linking them with letter patterns are necessary skills for reading development, and phonological working memory plays a key part in this. This refers to a process of receiving, analysing and processing sounds within spoken language, allowing the student to remember the connection between spoken and written language. The establishment of memory pathways makes it possible to remember, on hearing a speech sound, which letter pattern matches the sound. Should the activation of this memory trace in the working memory take a lot of time, it slows down the reading event, makes the memory trace vulnerable to mistakes and, above all, ties up capacity.

As the reading skills become stronger, the functioning of the phonological working memory becomes automated. When this happens, the working memory has more capacity left over to support the understanding of words and text.

One of the main findings in Reading for Purpose and Pleasure (Ofsted, 2004:4) states:

> 'The teaching of phonics was good in schools with high standards. Rapid coverage of phonic knowledge and skills ensured that students had a strong foundation for decoding. In the ineffective schools, low expectations of the speed at which students should acquire phonic knowledge and skills often hindered their progress in achievement.'

Therefore, if a reading intervention is to be successful it must improve the quality and speed of decoding, so that reading comprehension can take place. The Lexonik programme develops working memory by providing fast, effective delivery of phonological awareness training.

Lexonik is intensive, effective and great fun. It ignites enthusiasm within our students. It makes them curious about language and allows them to understand the academic language they are exposed to at school and beyond.

We asked a 15 year old student from Brynmawr Foundation School in Wales who had completed his six-week Lexonik course: "If you were talking to other students about Lexonik, what would you tell them?" He said,

"NEVER BE AFRAID OF YOUR OWN LANGUAGE!"

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