

## Reversing Letters: reasons why.

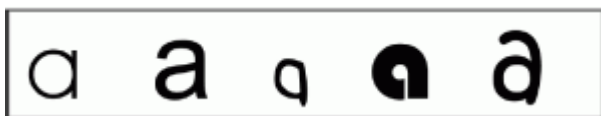
Many parents become quite concerned when looking at their child's writing and see that their child is confusing letters such as b/d, p/q or m/w. Letter and word reversals have become so strongly associated with dyslexia that it's no wonder why parents are anxious when they see such confusions. As educators, it is important for us to understand why students reverse letters and to provide parents with the best information possible.

### Learning to Read

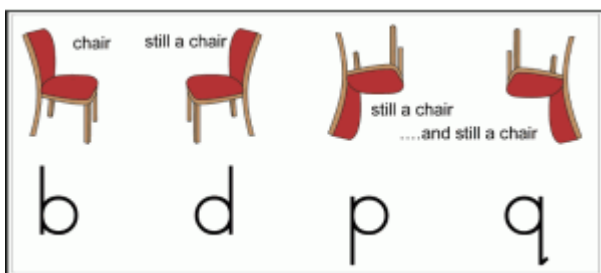
In thinking about why children reverse letters, we have to consider how they learn to read. In our system, learning to read is based on the *alphabetic principle*. This means that a child must understand that letters have sounds that make words when combined together. Letters are *abstract*. There are 26 letters of the alphabet and letters consist of a series of lines, circles and curves that when combined in different ways, make different letters. Each of the 26 letters has an uppercase and a lowercase letter. Sometimes the letters look similar and sometimes they look very different.



Sometimes letters look very different depending upon if they are handwritten or typed. Even typed letters look different depending upon the font.



There are certain letters that have the same lines, circles and curves, but if you switch the direction, they are different letters with different sounds. Up until this point, the child knows that an object is an object no matter if it's upside down or turned about, but not so with letters. Direction now matters.



Well, then each letter has a sound. Wait-not so simple-some letters have two sounds. The letter "c" has the /k/ sound as in the word "cat" and a /s/ sound as in the word "circle". The sound that is used depends upon the position it is in the word and the other letters around it. Sometimes letters are in a word, but they say nothing at all (like the "e" in "name"). Sometimes two letters are put together to make a whole different sound ("s" and "h" together make the /sh/ sound). When you think about it, it is amazing that most of our young children learn to read relatively easily.

### What we know about reversals and dyslexia/reading disabilities (RD)

Neuroscientists have brain imaging techniques (fMRI, PET) that allows them to see exactly what is happening in the brain as a person reads. Such techniques have helped us understand the nature of learning to read as well as differences that are present in people who struggle with reading. Current research tells us that the root cause of dyslexia/RD lies in the way the brain processes sounds. With the large majority of children, the issue is with language processing at the phoneme (sound) level and not a problem with visual

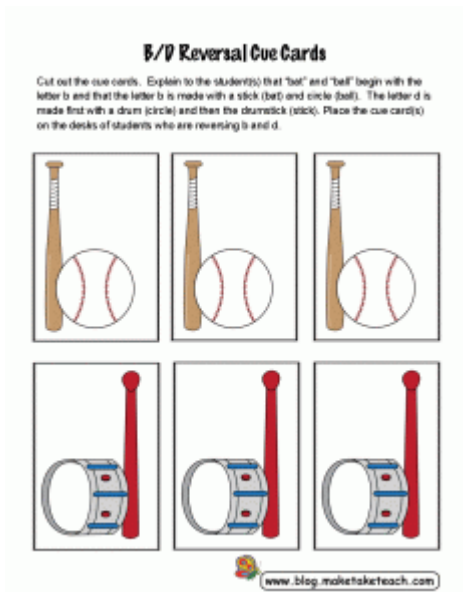
processing.

There is no evidence to suggest that children with dyslexia/RD see letters and words backwards. Backwards writing and letter reversals are very common in the early stages of writing. Children who have dyslexia/RD do not “mirror write” or reverse letters with any greater frequency than those who do not have reading difficulties. When children reverse letters, it is a sign that orthographic representation (forming letters and spelling) is not fully developed. While it is true that children with dyslexia/RD continue to reverse letters longer than children without reading difficulties, this is primarily due to delayed development in reading rather than a separate issue with visual processing.

### Addressing Reversals

Although reversals are common in early years and year 1 to 2, pupils who continue to reverse letters past year 2 should receive targeted intervention. There are several strategies that can help cue pupils, regardless of age, that can be used.

- For children who reverse multiple letters (b/d, m/w, p/q), address one discrimination at a time. Over-teach one of the letters before introducing the other. For example, if you are addressing the b/d reversal, over-teach writing of the “b” before introducing the “d”.
- Use multi-sensory materials while teaching the letter(s). Making and tracing the letters using playdoh, shaving cream, cornflour and water in a tray, puffy or glitter glue will help. Be sure the child says the letter name and sound while tracing the letter (“b” *(letter name)* says /b/ *(sound)* while tracing the letter: **repeat multiple times**).
- Use visual cues to cue correct letter formation. A common visual cue is to teach the “b” as a “bat with a ball” to cue that the stick is formed first while writing the letter. The “d” is cued as a “drum and a drum stick”. Placing a visual cue on the child’s desk or in front of the classroom also helps.



- Another strategy that may support a child is using mouth formation as a cue: “Get your mouth ready”. This strategy doesn’t take the child out of the reading process. Using this strategy, children are taught that when they make the /b/ sound, the crease between the upper and lower lip is straight just like the line in the “b”. When making a /d/ sound, the tongue is curled just like the curl is first when writing the “d”.