Research into practice

Fluency

Deslea Konza, Associate Professor, Faculty of Education and Arts, Edith Cowen University, Western Australia

Introduction

Fluency is the ability to read text accurately, quickly and with expression. It occurs without conscious effort when all the component skills of reading are in place, so the reader can focus on the meaning of a text. Fluent readers can maintain their skill over very long periods of time, and can generalise across texts.

Fluency requires background knowledge of the material being read, rapid retrieval of the relevant vocabulary, and knowledge of syntax and grammatical forms that allow the reader to predict upcoming words to assist speed and accuracy. All these processes must be integrated and highly automated, so that maximum cognitive energy is available to focus on meaning.

Fluency was one of the key contributors to reading development as identified in the Report of the National Reading Panel (NICHD, 2000), and in the past decade it has been the subject of renewed attention (Kuhn et al, 2010). The most compelling reason for this renewed interest is because of the strong correlation between reading fluency and reading comprehension (Allington, 1983; Samuels, 1988; Schreiber, 1980). The link is so close that fluency and comprehension can be seen as interdependent. Fluency can only occur if the reader comprehends the material as it is read in order to pause and phrase groups of words appropriately. Similarly, if reading is hesitant and disjointed, meaning is lost. The two elements support each other.

The Core Components of Fluency

Accuracy

Inaccurate word reading will logically lead to a breakdown in meaning. Reading will not be accurate unless the sub-skills of reading are secure.

Accuracy is the first requirement in achieving fluency. Inaccurate word reading will logically lead to a breakdown in meaning. Reading will not be accurate unless the sub-skills of reading are secure. It is impossible to be fluent if the reader is continually stopping to work out what a word is, therefore fluent readers have moved beyond the decoding stage and are accurately reading whole words. A fluent reader has a vast store of words that are immediately recognised, and can be accessed in different contexts. These words constitute the reader's "sight vocabulary". This term does not just refer to those irregular high frequency words like *said* and *put*, but to all those words that are immediately recognised. Even words that originally had to be decoded – for example, *distinguish* or *misrepresentation* – but which can now be recognised on sight, become part of the reader's sight vocabulary or mental dictionary (lexicon) of words. This also requires that the reader knows the *meaning* of the words – that they are part of the reader's receptive vocabulary. The greater the number of words that are understood and recognised on sight, the greater the range of accessible texts. For this reason, developing children's receptive vocabularies and number of words that can be immediately recognised are some of the best ways to develop both fluency and reading comprehension.

Of course, even highly competent readers will not be fluent when the text material contains many unfamiliar or technical words that are beyond the reader's knowledge base, and are not part of that reader's mental lexicon. Fluency demands that the text is at the reader's independent reading level. This is why beginning and struggling readers need simple text at their independent level to build speed and confidence. Home readers should fit into this category. Some parents want "harder books" because their child can already read those being sent home. Yet those books provide children with opportunities to develop appropriate expression, practise chunking and pausing, and most importantly build confidence and belief in themselves as readers.

Rapid rate of reading

The rate at which readers can access connected text has been found to be almost as important as word reading accuracy (Kuhn & Stahl, 2000) and is strongly correlated with reading comprehension (Fuchs et al, 2001). When a reader is both accurate and rapid, it means that the word identification processes have become *automatised* – they no longer require conscious attention. This frees cognitive space for higher order comprehension processes.

Reading quickly but without regard for punctuation, expression and comprehension does not constitute fluency. Building students' reading rates is important but not at the expense of comprehension.

There is, however, cause for caution when discussing this point. Because a rapid reading rate is one of the key indicators of fluency, some people confuse rate with the entire package of skills that contribute to fluency. Reading too slowly is an indicator of poor reading but over-reliance on increasing rates is not an appropriate interpretation of reading fluency research. Reading quickly but without regard for punctuation, expression and comprehension does not constitute fluency (Rasinski, Rikli & Johnston, 2009). Concentrating on developing more rapid reading can, if not handled well, result in students believing that speed is the ultimate goal. Students can become faster readers without the corresponding improvements in comprehension (Rasinski, 2006). Many teachers will attest to the fact that some students can read very quickly without a clear understanding of the text material. The fact that reading rate is easily measured, and is often used as the only measure of this important aspect of reading, further complicates the issue. Building students' reading rates is important but not at the expense of comprehension.

Prosody

Prosody is the third core element of fluency. It is defined as reading with expression, and is often the forgotten component of reading fluency. It is certainly not assessed as regularly or as easily as reading accuracy and rate. Prosody involves appropriate phrasing, stress, pitch, and rhythm. Prosody is essential to make oral reading meaningful and is critical for reading stories aloud, and for other oral reading presentations such as poetry reading or Readers' Theatre.

Prosody involves appropriate phrasing, stress, pitch, and rhythm. Prosody is essential to make oral reading meaningful and is critical for reading stories aloud, and for other oral reading presentations such as poetry reading or Readers' Theatre.

Kuhn et al (2010) found that prosody predicts children's reading comprehension skills. Poor prosody can lead to confusion by reading inappropriate word groupings and with incorrect application of expression (Hudson, Lane & Pullen, 2005). Prosody also has an impact on readers' interest and motivation to read (Rasinski et al, 2009). It makes oral reading "come alive" and reflects the author's message more accurately and more meaningfully.

Average Rates of Reading in the Primary Years

Table 1 provides guidelines for average rates of reading development in the primary years. The rate required for basic comprehension is around 90–100 words per minute, a rate usually achieved around the end of year 2. At this stage, children should be able to read and understand simple text (Armbruster et al, 2001). For typically developing students, increasing rates of reading in the secondary years will continue and the best readers will reach several hundreds of words per minute if they continue to read widely.

Table 1

Average Rates of Reading in the Primary Years	
By end Year 1	60 words/min
By end Year 2	90/100 words/min
In Years 3–6	100–120 words/min (with < 3 errors with material getting progressively harder)

Assessment of Fluency

Teachers should assess fluency regularly in addition to other important elements of reading. Tracking children's *words correct per minute* (WCPM) throughout the year provides a clear record of their reading progress in terms of accuracy and rate. A simple way of assessing reading rate is presented below. Because expression in reading is difficult to quantify, checklists and assessment rubrics have been developed to assess this component of fluency. One such rubric has also been included.

Calculating words correct per minute (WCPM)

Follow these steps:

- select three passages of grade level material if assessing comparative fluency
- students read each passage aloud for exactly one minute
- count the total number of words read in each passage. Calculate the average number of words read per minute.
- count the number of errors in each passage. Calculate the average number of errors per minute.
- subtract the average number of errors from the average number of words. This is the average number of words correct per minute (WCPM).

Multidimensional Fluency Scale

The following scales rate reader fluency on the dimensions of expression and volume, phrasing, smoothness, and pace. Scores range from 4 to 16. Generally, scores below 8 indicate that fluency may be a concern. Scores of 8 or above indicate that the student is making good progress in fluency.

Dimension	1	2	3	4
A. Expression and Volume	Reads with little expression or enthusiasm in voice. Reads words as if simply to get them out. Little sense of trying to make text sound like natural language. Tends to read in a quiet voice.	Some expression. Beginning to use voice to make text sound like natural language in some areas of the text, but not others. Focus remains largely on saying the words. Still reads in a quiet voice.	Sounds like natural language throughout most of the passage. Occasionally reverts to expressionless reading. Voice volume is generally appropriate through-out the text.	Reads with good expression and enthusiasm through-out the text. Sounds like natural language. The reader is able to vary expression and volume to match his/her interpretation of the passage.
B. Phrasing	Monotonic with little sense of phrase boundaries, frequent word-by-word reading.	Frequent two- and three-word phrases giving the impression of choppy reading; improper stress and intonation that fail to mark ends of sentences and clauses.	Mixture of run-ons, mid-sentence pauses for breath, and possibly some choppiness; reasonable stress/ intonation.	Generally well phrased, mostly in clause and sentence units, with adequate attention to expression.
C. Smoothness	Frequent extended pauses, hesitations, false starts, sound-outs, repetitions, and/ or multiple attempts.	Several "rough spots" in text where extended pauses, hesitations, etc., are more frequent and disruptive.	Occasional breaks in smoothness caused by difficulties with specific words and/ or structures.	Generally smooth reading with some breaks, but word and structure difficulties are resolved quickly, usually through self-correction.
D. Pace	Slow and laborious.	Moderately slow.	Uneven mixture of fast and slow reading.	Consistently conversational.

Adapted from "Training Teachers to Attend to Their Students' Oral Reading Fluency," by J. Zutell and T. V. Rasinski, 1991, *Theory Into Practice*, 30, 211–217.

Strategies to develop fluency

Modelling of fluency in Read Alouds

One of the best ways that teachers can help build the desire for fluent reading in students is to read aloud engaging and motivating stories, so the students experience the excitement and pleasure that fluent reading provides. Adding sound effects, individual voices for different characters, dramatic pauses and emphasis on particular words will heighten children's engagement.

Letter fluency exercises

Fluency emerges from automatic recognition of words and word parts, and this includes letter sounds. "Fluency cards" that have lines of single letters and common letter combinations can assist students to build this automaticity. The competitive notion of "time trials", where students try to improve on their PB ("Personal Best" or previous score), often appeals to students as long as these activities afford them a good measure of success. Teachers can make their own cards using the particular letter combinations that are the focus of instruction.

Sight word building through word wall activities

One way to increase fluency is to recognise more words by sight.

One way to increase fluency is to recognise more words by sight. High frequency irregular words and words associated with class themes are good sources of words. Word wall activities such as timed "races" around the wall will build automatic recognition of words that will assist fluency.

Explicit teaching of punctuation

Students may need explicit instruction in how to read punctuation. Most students, although they know how to punctuate their writing, have no idea how to "read" punctuation in other people's writing.

Choral reading

Whole class reading of short pieces of dialogue or dramatic sentences following a fluent and engaging model is a low risk activity to build fluency in lower ability readers. After the teacher reads a short paragraph orally, teacher and students then read the same passage in unison. Practising how to chunk words in phrases, adjust rate and volume for emphasis, and use pause for effect, builds skill and confidence in less fluent readers.

Repeated readings

Repeated reading of text provides the rehearsal required to build accuracy, speed and confidence, and was one of the major recommendations of the NRP to develop fluency.

Repeated reading of text provides the rehearsal required to build accuracy, speed and confidence, and was one of the major recommendations of the NRP to develop fluency. A typical way of conducting this is with pairs of students that include a more fluent reader who models the appropriate rate and intonation for a weaker reader who then repeats the passage. This process is repeated three or four times. If the material is at the less able reader's independent level, by the third or fourth repetition, the two readers should sound very much the same.

Short passages of 50–250 words are preferred so the less able reader can hold within his working memory the pattern of the fluent reading modelled for him. Poems and even jokes can be useful texts for these activities.

Echo reading

The two readers read the text together but because of the greater skill level, the better reader will usually be fractionally ahead of the less able reader, modelling accuracy, rate and intonation. As the weaker reader gains confidence, they will blend together. If the less able reader falters, he can follow along and join in again when able to. Echo reading can be used with sections of storybooks, poems, and non-fiction books.

Paired reading

Both partners read the text together, the more able partner gradually fading out as the less able reader gains confidence, and joining in again for support where necessary.

Poetry reading

Exciting or humorous poems are perfect fluency exercises. Poetry assists reading fluency because it has a natural rhythm when read aloud. Phrases written onto sentence strips can serve as cue cards, to show students how good readers cluster portions of text rather than saying each word separately. The exercise is even better if the students are able to present the well-practised poem to another class or school assembly.

Song rereading

Older students often enjoy reading song lyrics rather than poems. Song lyrics are easily accessed on the web, although the content needs to be assessed for appropriate language and level of difficulty. Students can read and reread in pairs and eventually present to the class or to another class to provide a legitimate audience.

Readers' Theatre

In Reader's Theatre, students read aloud from a script. Unlike regular theatre, there are no costumes or memorisation. The focus is on interpreting the text with the voice. Students are encouraged to bring the story to life and to practise their part until they can read it smoothly and with expression. There are many websites that have Reader's Theatre scripts to download.

In Reader's Theatre, students read aloud from a script. The focus is on interpreting the text with the voice.

Dialogues and monologues from plays

Short scenes or monologues from plays can be used for fluency practice as they have inherent dramatic qualities that demand attention to prosody.

Partner Reading

Students pair up with someone at the same reading level, read for one minute while their partner takes a simplified version of a running record. Then they record their correct words per minute each day.

Partner reading with graphing

Students reread a selected passage of about 100 words until they reach a predetermined rate. Content could be taken from high interest materials such as surfing or BMX magazines. Students time each other. If the rereadings are conducted every day, the students should have a chance to practise by themselves a few times before being timed to ensure maintenance of progress. As reading times improve, longer passages could be used. Graphing their score on successive readings provides a visual record of progress and is very motivating. As long as this is only one of many fluency-building exercises, students should understand that speed is only one aspect of fluency.
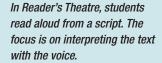
Read along Books with CD

Many popular children's books come with CDs so children can listen while following along in the book. Parents, volunteers or older buddy readers could also record favourite stories.

Wide independent reading

This, of course, is what struggling readers will avoid doing yet it is the most potent way to develop fluency and confidence. Students who read well, read more. Short decodable texts such as the Rigby or Dandelion series are very useful for children who are just beginning their reading journey, as they provide opportunities for the rehearsal and practice required to build fluency. The Talisman series is aimed at the interests of older students but the stories contain mostly decodable words that provide practice for older readers. Storybooks and novels have not been constructed around specific letter-sound combinations and will not be accessible for beginning or struggling readers. Halting reading of a storybook or novel will not build confidence and fluency.

The caveat is, of course, that these students still need to have vivid and exciting stories read to them, and opportunities to read them as soon as they are able. Nevertheless, insisting that high quality literature is the only source of reading material that should be accessed by all readers reflects a lack of understanding of the differences between a novice learning to read, and an accomplished reader.

Wide independent reading... is the most potent way to develop fluency and confidence. Students who read well, read more.

Conclusion

The achievement of oral reading fluency marks an important point in a student's reading journey. It reinforces the relationship between "learning to read" and "reading to learn": the mastery of the component skills of reading to a point where attention and cognitive energy can be directed towards gaining meaning – indeed a cause for celebration!

References

Allington, R.L. (1983). Fluency: The neglected reading goal. *The Reading Teacher*, 36, 556-561.

Armbruster, B.B., Lehr, F., & Osborn, J. (2001). *Put reading first: The research building blocks for teaching children to read*. Jessup, MD: National Institute for Literacy.

Hudson, R., Lane, H., & Pullen, P. (2005). Reading fluency assessment and instruction: What, why and how? *The Reading Teacher*, 58:8 702–714.

Kuhn, M., Schwanenflugel, P., Meisinger, E. (2010). Aligning theory and assessment of reading fluency: Automaticity, prosody and definitions of fluency. *Reading Research Quarterly*, 45:2, 230–251.

Kuhn, M., & Stahl, S.A. (2000). *Fluency: A review of developmental and remedial practices*. Ann Arbour, MI: Center for the Improvement of Early Reading Achievement.

Florida Department of Education. [n.d.] *Just Read, the Elementary Reading Block*. Retrieved September 17, 2010 from http://info.fldoe.org/justread/90-minute-block.pdf

Fuchs, , L.S., Fuchs, D., Hosp, M.D., & Jenkins, J. (2001). Oral reading fluency as an indicator of reading competence: A theoretical, empirical, and historical analysis. *Scientific Studies of Reading*, 5, 239–259.

National Institute of Child Health and Development (NICHD) (2000). *Report of the National Reading Panel: Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction* (NIH Publication No. 00-4769). Washington, DC: U.S. Government Printing Office. Available from http://www.nichd.nih.gov/publications/nrp/smallbook.cfm

Rasinski, T. (2006). Reading fluency instruction: Moving beyond accuracy, automaticity and prosody. *The Reading Teacher*, 59:7, 704–706.

Rasinski, T., Rikli, A., & Johnston, S. (2009). Reading Fluency: More than automaticity? More than a concern for the primary grades? *Literacy Research and Instruction*, 48:8, 350–361.

Rasinski, T., Rupley, W., & Nichols, W. (2008). Synergistic phonics and fluency instruction: The magic of rhyming poetry! *The NREA Journal*, 44:1d, 9–14.

Samuels, S.J., (1988). Decoding and automaticity: helping poor readers become automatic at word recognition. *The Reading Teacher*, 41, 756–760.

Schreiber, P.A. (1980). On the acquisition of reading fluency. *Journal of Reading Behavior*, 7, 177–186.

Zutell, J., & Rasinski, T.V. (1991) Training teachers to attend to their students' oral reading fluency. *Theory Into Practice*, 30, 211–217.