

Institution: 10007140 Birmingham City University		
Unit of Assessment: 04: Psychology, Psychiatry and Neuroscience		
Title of case study: Is there a right way to learn to read? Embedding rhythmic activities into literacy tuition		
Period when the underpinning research was undertaken: 2015 to 2020		
Details of staff conducting the underpinning research from the submitting unit:		
Name(s): Dr Emily Harrison	Role(s) (e.g. job title): Senior Lecturer in Psychology	Period(s) employed by submitting HEI: 2015 to present
Period when the claimed impact occurred: 2015 to 2020		
Is this case study continued from a case study submitted in 2014? No		
1. Summary of the impact (indicative maximum 100 words) Our research on the relationship between rhythmic awareness and reading development in children found that sensitivity to the rhythmic components of language is related to reading skills and can be trained in both beginning readers and older struggling readers. Our novel findings were used to develop a new range of 408 books with an external publisher. These books use rhythmic reading activities to increase children's reading proficiency. The Rising Stars: Reading Planet scheme for Key Stage One uses rhythmic reading activities to embed the speech rhythm sensitivity we found to impact children's early reading ability. This is the first literacy scheme to explicitly incorporate rhythmic training into its resources for teachers and parents. It is estimated that over 750,000 copies have been sold, including over 150,000 copies internationally, and that over 12,000 children in the UK have engaged with the Reading Planet scheme.		
2. Underpinning research (indicative maximum 500 words) It is estimated that one in five children leave primary school unable to read at a standard that will ensure they are well placed to succeed in secondary school (DfE, 2015). Traditional reading curriculums focus on developing readers' phonological awareness (awareness of grapheme-phoneme correspondences, commonly referred to as 'letters and sounds'), but do not incorporate the rhythmic components of language which accompany phonological awareness, such as linguistic stress, intonation and timing. Dr Harrison's research has demonstrated (a) the importance of sensitivity to these rhythmic components of language for the development of reading skills, and (b) that rhythmic sensitivity can be successfully trained in both beginning readers and older struggling readers. To address the absence of rhythmic tasks in reading curriculums, we undertook a review of existing rhythmic sensitivity assessments, and existing approaches to reading tuition (R01). By examining existing tasks used to assess speech rhythm sensitivity, we were able to specify areas where rhythmic tasks could be adapted for incorporation into early reading intervention. Dr Harrison then used this knowledge to develop a new speech rhythm-based intervention, and trialled it against a traditional phonological awareness-based intervention and a control group, with 73 4-5 year olds (R02) in the first randomised controlled trial of a rhythmic-based reading intervention in beginning readers. In a further study, Dr Harrison examined the effectiveness of this intervention in 49 struggling readers aged 7-8 years. Results from both studies showed that both beginning readers and older struggling readers who received our speech rhythm-based intervention made significantly larger pre-post-test gains in word reading performance compared to those who received either		

the traditional phonological awareness-based intervention or the control. Importantly, to ensure that this intervention had a lasting effect, Dr Harrison also conducted post-intervention trials and found that **those who received the new speech rhythm intervention continued to make the largest gains in word reading 3 months post-intervention, demonstrating the longer-term benefit of rhythmic-based training.**

The relationship between rhythmic sensitivity and various elements of literacy was explored further in a sample of seventy 5-7 year-olds, with results suggesting that rhythmic awareness may indirectly affect reading outcomes (**R03**). To understand the relationship between rhythmic sensitivity and reading in more depth, we explored the relationship between individual components of speech rhythm (including stress, intonation, and timing) and individual elements of reading (including decoding, comprehension and fluency) in a sample of 49 6-7 year-old children (**R04**). We showed that all rhythmic elements were significantly correlated with all reading measures as expected. However, findings for individual elements of speech rhythm demonstrated novel findings showing that stress awareness made the biggest contribution to reading comprehension and fluency, whilst intonation appeared to make the biggest contribution to decoding. **Our findings demonstrate the importance of individual elements of speech rhythm sensitivity to reading in early readers, which has been used to influence the development of literacy scheme Rising Stars Reading Planet (see section 4).**

3. References to the research (indicative maximum of six references)

R01) Harrison, E. C. J., & Wood, C. (2016) Towards a speech rhythm-based reading intervention. In J. Thomson & L. Jarmulowicz (Eds.), *Linguistic rhythm and literacy* (pp. 77-98). Philadelphia: John Benjamins. ISBN 9789027244079. <https://doi.org/10.1075/tilar.17>

R02) Harrison, E., Wood, C., Holliman, A. J., & Vousden, J. (2017). The immediate and longer term effectiveness of a speech rhythm-based reading intervention for beginning readers. *Journal of Research in Reading*, 41, 220–241. <https://doi.org/10.1111/1467-9817.12126>

R03) Deacon, S. H., Holliman, A. J., Dobson, G. J., & Harrison, E. C. J. (2018). Assessing direct contributions of morphological awareness and prosodic sensitivity to children's word reading and reading comprehension. *Scientific Studies of Reading*, 22, 527–534. <https://doi.org/10.1080/10888438.2018.1483376>

R04) Harrison, E., Coyne-Umfreville, E., and Mason, E. (2019) Examining the Relationship between Elements of Speech Rhythm Sensitivity and Reading. *Society for the Scientific Study of Reading, Toronto, July 2019*. <https://www.triplesr.org/examining-relationship-between-elements-speech-rhythm-sensitivity-and-reading>

4. Details of the impact (indicative maximum 750 words)

The impact of our research has been achieved through the following key activities:

Rising Stars: Reading Planet

Our research findings on the effectiveness of rhythmic training for enhancing reading skills in beginning readers (**R01**) gained the attention of external publisher, Rising Stars. We were approached to collaborate on the development of Reading Planet, the first literacy curriculum on the market to successfully incorporate rhythmic training for children alongside its books. We worked with Rising Stars to not only help develop the content of 408 children's books based on our research, but also to develop material for the teacher's guides,

providing a) guidance on the importance of developing children's awareness of speech rhythm for reading and b) related classroom activities based on our research.

Reading Planet was launched to schools with 132 titles in October 2016 (**S01**; **S02**). Rising Stars have since published a further 276 titles, taking the scheme to a total of 408 books. Specific information on sales data and data from independent trials conducted by Rising Stars is not accessible to us, however, it is estimated that over 12,000 children in the UK have engaged with Reading Planet and the rhythm-based activities developed by us, with additional interest in markets internationally (monetary sales data are confidential and not accessible to us, though some indication is provided in supporting statement **S01**). Over 750,000 copies of Rising Stars: Reading Planet books have been sold, including over 150,000 internationally. At least 20 schools who have utilised the scheme in the UK have provided positive feedback on the official Rising Stars website. The scheme also provides home learning resources to parents via its website (**S02**), including free reading advice (e.g. helping children to master phonics) and the opportunity to buy copies of the books provided in schools.

An independent evaluation of the impact of Reading Planet in 2017 yielded qualitative data from practitioners demonstrating the positive impact on the experience of learning to read for both children and their teachers. Unlike sales data, we were provided access to the qualitative feedback. Feedback from teachers describes the rhythmic activities within the books as *"...fun and engaging activities for the children and were used to help them learn about the importance of intonation, stress and timing. The activities match up with Letters and Sound phase 1 and seen as particularly useful for children struggling with phonics, helping them to become more aware of sounds before they start reading. Some schools are using speech rhythm activities as 1-2-1 interventions with lower achievers"* (**S02**).

Improving on teacher's knowledge and use of rhythmic reading activities

Despite research findings demonstrating the importance of rhythmic awareness for the development of literacy skills (**R01**), and the implementation of Rising Stars across primary schools in the UK and internationally, many teachers are still not aware of the benefits of including such activities in their teaching.

We provided a virtual CPD accredited workshop in July 2020 on rhythmic awareness and rhythmic training activities that can be used with primary school children. We assessed attendees' knowledge of speech rhythm both before and after the workshop, and also measured the perceived utility of rhythmic activities for attendees' teaching practice. The workshop was attended by a diverse range of 40 professionals including teachers, teaching assistants and assistant head teachers, from community, state and SEN schools (**S03**). **Our workshop was both effective in increasing delegates' knowledge of the importance of speech rhythm sensitivity, and increasing knowledge of rhythmic reading activities. Importantly, the activities were perceived by delegates as being suitable for use in their classrooms.**

Overall, 90% of the responding delegates reported a large increase in their knowledge of rhythmic reading activities after attending the workshop, that the activities were suitable for use in their classroom, and that they would be able to implement them with ease. Approximately 80% of responding delegates stated that they would be 'very' or 'highly likely' to include the activities in their teaching. Intention to share the content of the activities with colleagues was also high, with 90% of responding delegates indicating a likelihood to do so.

Comments from attendees also demonstrated how the workshop had improved their understanding of rhythmic reading and its implementation in their classrooms: *'It has given me more knowledge to know what to use and resources I will need', 'I am going to link this (activity) into our phase 1 letters and sounds planning'*.

Delegate feedback demonstrated both the suitability of rhythmic reading activities and their perceived ease of implementation into teaching practice across a diverse range of educational settings. A follow-up four months later, once teachers had had the opportunity to implement the new approach, demonstrated that teaching staff who engaged with the workshop have successfully embedded rhythmic activities into their teaching, and have observed benefits for their pupils. For example, one respondent stated that she had *“created PowerPoint presentations outlining activities which focus on rhythm, music and speech”*, and has *“integrated these into [her] teaching”*, as well as sharing materials, ideas and knowledge surrounding rhythmic awareness with her colleagues. Another explained how she had implemented rhythmic activities into her teaching to promote student engagement: *“I have used a drum skin to tap out the rhythm of poems with my students with profound and multiple learning difficulties. They have become highly engaged with this activity over time and a couple of them are usually very difficult to engage.”* This follow-up demonstrates that **attendance at our workshop had an impact on the teaching techniques used within the classroom.**

5. Sources to corroborate the impact (indicative maximum of 10 references)

S01 Testimonial Letter from Rising Stars [**Named corroborator 001**]

S02 Rising Stars: Reading Planet official website with testimonials from schools

S03 Questionnaire responses from the online workshop for rhythmic sensitivity