Teaching spelling and writing

In a nutshell

- When practising spelling in a transparent language, it is relevant to know how to separate syllables from words, and phonemes from syllables, and to practise phoneme-letter correspondence.
- The rhythm of spoken language, which is based on the division of syllables, enables syllables to be perceived within a word. Thus, highlighting syllable boundaries may also support spelling.
- At first, the heard word is specifically divided into syllables; then the syllables are analysed phoneme by phoneme and written as letters that merge the syllables and word, which is checked by reading.
- When evaluating support methods, it is necessary to consider the extent to which such methods are grounded on phoneme-letter correspondence. For example, methods developed for e.g. English language are different from methods needed in teaching spelling and writing in African local languages. Wrong method used in reading instruction can postpone children’s learning to read.

Supporting spelling skills

International research about supporting spelling skills has been mainly carried out in English-speaking environments. The English language has a very different orthography to

transparent languages; thus, findings from these studies cannot be directly applied to writing and supporting writing skills in transparent languages such as Bantu. When evaluating spelling, the language structure should be recognised as well as the subskills it requires. When evaluating support methods, it is necessary to consider the extent to which such methods are grounded on phoneme-letter correspondence and what is known from research about learning to spell and its background factors.

When practising spelling in a transparent language, it is relevant to know how to separate syllables from words, and phonemes from syllables, and to practise phoneme-letter correspondence. The rhythm of spoken language, which is based on the division of syllables, enables syllables to be perceived within a word. Thus, highlighting syllable boundaries may also support spelling. First, the heard word is specifically divided into syllables; next, the syllables are analysed phoneme by phoneme and written as letters that merge the syllables and word, which is then checked by reading. In addition, knowledge of spelling rules is needed, such as practice of word spaces, sentence markers, and compound words.

Planning of spelling support starts by recognising a child's difficulties, just as in the case of other problems. Children who have deficits in spelling usually need help with problems concerning phonological processing related to writing[1]Wolf, B., Abbott, R. D. & Berninger, V. W. (2017). Effective beginning handwriting instruction: multimodal consistent format for 2 years, and linked to spelling and composing. Reading & Writing, 30, 299–317.. It is essential to direct attention to typical spelling mistakes and phonological skills, such as a child's way of perceiving, finding, and recognising phonemes from words. In addition, the child's motor skills when using a pen, production of letter shapes, and stability of letter shapes can be observed, as well as whether the child can check what they are writing. It is important that the child's

strengths are also evaluated to obtain a whole picture of their skills. A child may, for example, have plenty of ideas about the content of text but lack the skills to produce them in writing.

A review of interventions for dyslectic children by Williams et al[2]Williams, K. J., Walker, M. A., Vaughn, S. & Wanzek, J. (2017). A synthesis of reading and spelling interventions and their effects on spelling outcomes for students with learning disabilities. Journal of Learning Disabilities, 50, 286–297. found that the most efficient spelling interventions focused on systematic phonological exercises or usage of self-correcting strategies. In the phonological interventions, practice focused on recognition, separation, and manipulation of phonemes from spoken language, strengthening the management of phoneme-letter correspondence, and writing pseudowords (words without meaning). In the interventions using a self-correcting strategy, the child first looked at or heard a word, then wrote it, and immediately afterwards checked the spelling of the word by comparing it to the original model word. If the child had misspelled the word, they immediately wrote the word again correctly, based on the model. In the interventions described in the review, the best results were found when practice lasted 15–20 hours in total. Interventions were carried out either with one pupil at the time or in small groups of pupils. Keep the practising sessions short (for example 15 minutes) but repeat it several time per week.

Supporting text composition

Support for planning text composition also starts with an evaluation of the writing difficulties of the pupil, so that it is known whether the problems are in prepared text, the writing process, or both. *In prepared text*, the writing difficulties may occur, for example, as unclear handwriting, spelling mistakes, sentence-level mistakes, inconsistency of

the text, content mistakes, or scarcity of the text. When moving from outcome evaluation to *writing process* evaluation, the evaluator needs to know the previously described subprocesses of the writing process and the skills needed to produce fluent text. When evaluating the writing process, it may perhaps be perceived that the pupil does not know how to plan and sketch out writing.

When producing the text, the student may have difficulties expressing their thoughts linguistically and in written form in general, or the problems may lie in spelling. Text evaluation is not possible if one cannot read one's own text or perceive what should be evaluated in the text and with what strategy. Perceiving these problems requires observation of the pupil's writing process and discussion with the pupil during such process. Problems may also be related to targeting and maintaining attention or to self-regulation.

In composition support, the focus is mainly on modelling different writing strategies and practising their usage. The aim of strategy teaching is that students learn to self-regulate single parts of the process and, eventually, the whole process. According to a meta-analysis by Rogers and Graham[3]Rogers, L. A. & Graham, S. (2008). A meta-analysis of single subject design writing intervention research. Journal of Educational Psychology, 100, 879–906., several forms of support are based on the cognitive strategy teaching of writing[4]Rogers, L. A. & Graham, S. (2008). A meta-analysis of single subject design writing intervention research. Journal of Educational Psychology, 100, 879–906., which has shown good results, especially in relation to *planning and evaluating processes of writing*. In the planning phase, ideas can be collected as *mind maps or word lists*, and the order in which they are to be handled can be planned. Concrete *goal setting* is also useful. In addition, *spelling* exercises, increasing *vocabulary*, practising *sentence structures* and text *editing*, and modelling different *text styles* support a person who

struggles with writing. In writing assignments, children often also need support directing and keeping up their attention, as well as practice of self-regulation skills[5]Hirvonen, R., Georgiou, G. K., Lerkkanen, M.-K., Aunola, K. & Nurmi, J.-E. (2010). Task-focused behaviour and literacy development: a reciprocal relationship. Journal of Research in Reading, 33, 302–319.[6]Torppa, M., Parrila, R., Niemi, P., Poikkeus, A.-M., Lerkkanen,M.-K. & Nurmi, J.-E. (2013). The double deficit hypothesis in the transparent Finnish orthography: A longitudinal study from kindergarten to grade 2. Reading and Writing: An Interdisciplinary Journal, 26, 1353–1380.. It is useful to practise only one writing strategy with separate exercises at first; however, it is important in strategy teaching that, as soon as the pupil starts to manage the basics of a strategy, it is applied to writing. Moreover, praising the pupil, encouraging persistence, and publishing the texts have been shown to support text production. Positive feedback helps in maintaining practice motivation as well as strengthening the child's self-esteem and estimation of their own knowhow as a text producer.

The communicative nature of writing – writing to an 'audience' – is easily forgotten if pupils only do dictations and writing exercises. Pupils need stimuli that produce the need to write. It is very difficult to write if you do not know what you should write about, or if writing is so rare in the class that you cannot practise text writing. In Frater's[7]Frater, G. (2001). A survey of effective practice in writing at key stage 2: Essential extras. London: Basic Skills Agency. study comparing schools, it was found that those schools who had plenty of good writers differed from other schools in many ways. First, they made time for reading and writing, and students read and wrote often at school. In the classes, whole texts and works of literature were read, and students examined their structure together. There was a great deal of text-level working, which happened in meaningful contexts for the

students. Spelling was also practised and investigated while the texts were being written. Particular attention was directed to following and evaluating the development of writing skills in the students. The students' progress and productions were published for an audience to see.

Dysgraphia and spelling problems

Developmental dysgraphia is a specific cognitive disorder related to acquiring spelling skills. In dysgraphia, children have problems remembering phoneme-letter correspondences and the written form of words needed in spelling, as well as drawing accurate letter shapes, although they may not have problems naming single letters[8]McCloskey, M. & Rapp, B. (2017). Developmental dysgraphia: An overview and framework for research. Cognitive Neuropsychology, 34, 65–82.. The prevalence of dysgraphia is approximately 7–15 percent of school-aged children, and it is also found in adults[9]Döhla, D. & Heim, S. (2016). Developmental dyslexia and dysgraphia: What can we learn from the one about the other? Frontiers in Psychology, 6, 700..

It has been also found that dyslexia and dysgraphia often appear in the same children[10]Marinelli C. V., Cellini, P. Zoccolotti, P. & Angelelli, P. (2017). Lexical processing and distributional knowledge in sound-spelling mapping in a consistent orthography: A longitudinal study of reading and spelling in dyslexia and typically developing children. Cognitive Neuropsychology, 34, 163–186.. Research on this topic is scarce, and researchers are trying to determine whether this is a single problem or two different problems, and whether the same linguistic and cognitive factors underlie both. Although the spelling of regular, often-appearing words

is stabilised in orthographically shallow languages during the early school years, the ability to write rarer words and pseudowords (words without meaning) differs between dyslexic and other children. For example, in the orthographically shallow Italian language, third- and fifth-grade children with dyslexia made more spelling mistakes in pseudoword spelling than other children, while in spelling regular, often-appearing words, there was little difference[11]Marinelli C. V., Cellini, P. Zoccolotti, P. & Angelelli, P. (2017). Lexical processing and distributional knowledge in sound-spelling mapping in a consistent orthography: A longitudinal study of reading and spelling in dyslexia and typically developing children. Cognitive Neuropsychology, 34, 163–186.. There is also evidence that not all reading difficulties are shown in spelling problems, especially if the difficulty appears in slow or inaccurate reading, which is often the case in orthographically shallow languages[12]Torppa, M., Parrila, R., Niemi, P., Poikkeus, A.-M., Lerkkanen,M.-K. & Nurmi, J.-E. (2013). The double deficit hypothesis in the transparent Finnish orthography: A longitudinal study from kindergarten to grade 2. Reading and Writing: An Interdisciplinary Journal, 26, 1353–1380.[13]Wimmer, H. & Mayringer, H. (2002). Dysfluent reading in the absence of spelling difficulties: A specific disability in regular orthographies. Journal of Educational Psychology, 94, 272–277..

Word reading entails combining phonemes to make syllables, and syllables to make words (synthesis), while in the case of word writing, the process is the opposite: words need to be divided into syllables, and syllables into phonemes (analysis). Reading requires automatization of letter-phoneme correspondence, while spelling requires the opposite, namely the use of phoneme-letter correspondence. Thus, spelling difficulties, in particular, are often related to deficits in phonological processing and phonological working memory[14]Wimmer, H. & Mayringer, H. (2002). Dysfluent reading in

the absence of spelling difficulties: A specific disability in regular orthographies. Journal of Educational Psychology, 94, 272–277.. Children who have deficits in phonological processing do not have a stable knowledge of phoneme-letter correspondences of words or word parts[15]Landerl, K. & Wimmer, H. (2008). Development of word reading fluency and spelling in a consistent orthography: An 8-year follow-up. Journal of Educational Psychology, 100, 150–161..

The First Steps follow-up study attempted to determine whether children who have either reading or writing difficulty in Grades 1–4 can be differentiated or whether both difficulties always appear in the same children[16]Torppa, M., Parrila, R., Niemi, P., Poikkeus, A.-M., Lerkkanen,M.-K. & Nurmi, J.-E. (2013). The double deficit hypothesis in the transparent Finnish orthography: A longitudinal study from kindergarten to grade 2. Reading and Writing: An Interdisciplinary Journal, 26, 1353–1380.. First, three groups were recognised: children with difficulties only in regard to spelling; children with difficulties only in regard to reading fluency; and children with difficulties in regard to both skills. It was found that children who had problems in regard to both skills were, by the end of kindergarten, weaker in all cognitive background skills (phonological awareness, letter knowledge, and rapid naming) and also displayed the most task-avoiding behaviour. Slow readers were slow only in rapid serial naming tasks and letter knowledge. On the other hand, children who had problems in regard to spelling only had deficits in phonological skills and letter knowledge. The results also showed that, while some deficits can underlie both reading and spelling skill difficulties, there are also different causes of specific problems in either reading or spelling. These are important to recognise when planning support for children who have reading and/or spelling difficulties.

References:

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Reseach briefs

Effective Beginning Handwriting Instruction: Multi-modal, Consistent Format for Two Years, and Linked to Spelling and Composition

A Meta-Analysis of Single Subject Design Writing Intervention Research