

ORIGINAL ARTICLE

A key to literacy? Exploring Bliss words combined with traditional orthography as a teaching strategy for language and literacy learning for learners with learning disabilities

Agnes Larsson¹  | Ensa Johnson²  | Ariné Kuyler²  | Margareta Jennische¹

¹Department of Public Health and Caring Sciences, Uppsala University, Uppsala, Sweden

²Department of Inclusive Education, University of South Africa, Pretoria, South Africa

Correspondence

Ariné Kuyler, Department of Inclusive Education, University of South Africa, Pretoria, South Africa.
 Email: kuylea@unisa.ac.za

Abstract

For decades, Blissymbolics (Bliss) has been used as a communicative symbol system for persons with complex communication needs. The linguistic features of Bliss words offer the potential for use with learners with learning disabilities to acquire literacy; however, no formal documentation of this is available. This qualitative study aims to describe how Bliss words, as a bridge to teaching and learning literacy for speaking learners with learning disabilities with diverse first languages, is perceived by learners, caregivers, and teachers at a South African school for learners with special educational needs. The study will further report on observations of learners' behaviours since Bliss was introduced. Semi-structured online interviews were conducted with learners ($n=16$) (aged 13–18), teachers ($n=14$) as well as caregivers ($n=2$). The reflexive thematic analysis developed three primary themes with 10 subthemes. Findings indicate that Bliss was perceived as a useful and enjoyable tool in teaching learners with learning disabilities who have different first languages. Furthermore, it was reported to improve learners' literacy and language skills as well as their psychosocial behaviour. Further studies are proposed to support these findings.

KEYWORDS

learning disabilities, multilingual learners, reading, writing

Key Points

- Blissymbolics is a graphic semantic language that includes all parts of speech and grammar. It may support reading as the focus is not on traditional language-based orthography.
- Blisswords highlight the distinctive features of the meaning of concepts. Therefore, teachers report Blissymbolics as a powerful visual tool for explaining concepts to children of various linguistic backgrounds. Blissymbols are easy to draw and easy to remember when explained.
- This study emphasises that students with learning disorders are interested in this new language, are motivated to learn, experience feelings of success, improved self-confidence and achievement. These attributes are important for their continued participation in other activities at school.
- Teachers reported that Blissymbolics provide a bridge to traditional reading for children. Additionally, teachers stated that linguistic knowledge in children transferred from using Blissymbolics to other activities in class and children's participation in class improved.

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INTRODUCTION

The 2016 Progress in International Reading Literacy Study (PIRLS), an international evaluation of Grade 4 learners' reading comprehension, revealed that 78% of the South African Grade 4 cohort could not attain the lowest benchmark, compared to the international average of 4% (Howie et al., 2017). This means that likely, these learners did not acquire the basic literacy skills needed by the age of 9 to 10 years (Howie et al., 2017). The PIRLS study also revealed that 6% of the learners never spoke the language used in the PIRLS test at home—an indication of the multilingual context in South Africa where many learners receive schooling in their second or third language (L2, L3) (Kathard et al., 2011). The language of learning and teaching (LoLT) in South Africa could result in further challenges to literacy learning (Nel & Grosser, 2016). Therefore, since 2014, a teacher at a school for learners with special educational needs (LSEN) in Mpumalanga, a province in South Africa, with English as the LoLT, identified the semantically based graphic language Blissymbolics (from now on referred to as Bliss words) as a possible method to support learners' language and literacy learning. Blissymbolics Communication International (2004) defines Bliss words as a single concept and spelt using one or more Bliss characters. The school accommodates speaking learners with learning and mild-to-moderate cognitive disabilities. Learners who experienced challenges developing language and literacy skills in English as a LoLT were accommodated in a class using Bliss words as a teaching strategy. A constructivist learning approach was identified to support the implementation of Bliss words for language and literacy learning (Bada & Olusegun, 2015). Figure 1 shows the goals of constructivist learning as suggested by Bada and Olusegun (2015) and Table 1 offers how these goals were applied to this study.

Bliss has been used since the 1970s as an augmentative and alternative communication (AAC) symbol system for people with complex communication needs (CCN), and eventually as a bridge to literacy (McNaughton, 2003). Archer (1977) postulates that Bliss contains several literacy features, such as the ability to synthesise elements to make a word. For example, combinations of graphic Bliss symbols can generate new meanings or new Bliss words. Bliss characters also express many grammatical functions such as tense, prepositions, possessives, plural, and conjunctions (MacDonald, 1982). Bliss has therefore the potential of being a threshold to literacy to a greater extent than pictographic AAC symbol sets (see Figure 2). Moreover, being semantically based, a Bliss text can be produced and interpreted without phonological skills (Bross, 2011). However, it remains unknown whether a semantically based language such as Bliss can be a bridge to phonological decoding, which is necessary for literacy (McNaughton, 1998).

It has been suggested that Bliss trains the ability to analyse and synthesise words and sentences visually before these skills are required in normal orthography (Alant, 1994; Moolman & Alant, 1997). Because of the structure of Bliss

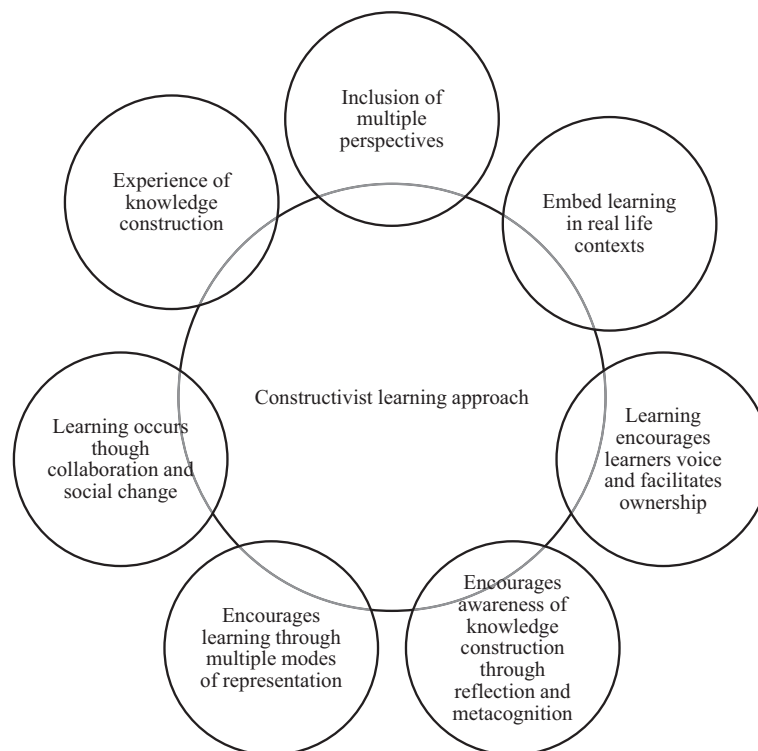
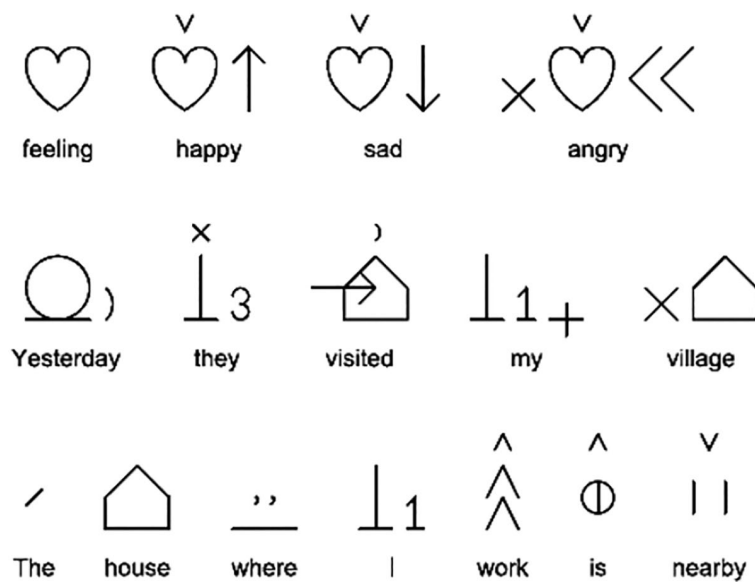


FIGURE 1 Goals of constructivist learning (Bada & Olusegun, 2015).

TABLE 1 Goals of a constructivist learning approach as applied to the study.

Constructivist learning approach goal (Bada & Olusegun, 2015)	Application to the study
<ul style="list-style-type: none"> Inclusion of multiple perspectives 	<ul style="list-style-type: none"> Both teachers' and learners' perspectives should be valued when considering the application of strategies to teach language and literacy learning
<ul style="list-style-type: none"> Embed learning in real-life contexts 	<ul style="list-style-type: none"> Learning occurs in the classroom
<ul style="list-style-type: none"> Learning encourages learners' voice and facilitates ownership 	<ul style="list-style-type: none"> When learners become familiar with Bliss words, new Bliss words are introduced
<ul style="list-style-type: none"> Encourages awareness of knowledge construction through reflection and metacognition 	<ul style="list-style-type: none"> The difficulty amount of Bliss words introduced is scaffolded to occur on the learner's individual level The use of Bliss words was also transferred to support learning of subject material in Mathematics and Life Skills
<ul style="list-style-type: none"> Encourage learning through multiple modes of representation 	<ul style="list-style-type: none"> Bliss words Traditional orthography
<ul style="list-style-type: none"> Learning occurs through collaboration and social change 	<ul style="list-style-type: none"> The teacher used this strategy daily including repeated exposure to Bliss words and traditional orthography Children were given paper-based worksheets for completion focusing on reading comprehension and accuracy (reading out loud) using traditional orthography and Bliss words
<ul style="list-style-type: none"> Experience of knowledge construction 	<ul style="list-style-type: none"> This approach includes consideration of the learner's background (including their first language) and teaches them semantics, syntax, lexicon and morphology of typical English language in combination with Bliss words

**FIGURE 2** Example of words and sentences written in Bliss using the online writing tool on www.blissonline.se. Source: © C.K. Bliss 1949. © Blissymbolics Communication International, 1982.

words, it trains syntactic, grammatical, lexical, and metalinguistic abilities, which are all important for the process of literacy acquisition (McNaughton, 1998). Since earlier research has reported that learning Bliss words is easier than learning alphabetic print (Clark, 1984; Luftig & Bersani, 1985); teaching literacy through Bliss words might therefore increase literacy motivation among learners as they will assume a reading and writing identity faster. Though, it is unclear whether these analytic and synthetic skills could be transferable from Bliss words to traditional orthography (Alant, 1994), especially among speaking LSEN.

Since the documentation of Bliss words as a linguistic platform for speaking learners with learning disabilities is lacking, an interview study at the aforementioned LSEN school in Mpumalanga, South Africa, would be of practical use to professionals and family members of such learners on how to approach and teach literacy. This might, in the long run, encourage inclusive education and school attendance across South Africa. Moreover, McNaughton (1998) emphasised the importance of identifying environmental factors that contribute to the literacy learning process. This proposed study could identify such factors. Finally, a qualitative method could also develop an understanding of the

potential suitability of using Bliss words in other schools nationally and globally and the necessary internal and external resources for eventual implementations. The purpose of this study is to describe how Bliss words, as a bridge to teaching and learning literacy for speaking LSEN with diverse first languages, is perceived by learners, caregivers, and teachers at a South African LSEN school. The study will further report on observations of learners' behaviours since Bliss was introduced.

MATERIALS AND METHODS

Participant recruitment

Non-probability convenience sampling was used to recruit participants. All the potential participants were invited to participate in the study—including learners who attended the class where Bliss was introduced as a teaching strategy and all teachers in the specific school who taught these learners. The participants were invited by the teacher who introduced Bliss to the school. Upon consent and assent the researchers received the contact details of the potential participants to arrange online Zoom meetings with them. Criteria for the inclusion of teachers and learners were that they had taught learners who attended the class where Bliss was used as a teaching strategy or had been taught literacy through Bliss for at least four weeks. The teachers taught different academic and practical subjects and used teaching strategies incorporating Bliss words to various extents. A total of 32 participants consented to participate in the 25 online interviews. The 25 interviews included individual and group interviews (2 members), with 14 teachers, 14 current learners, and two former learners and their caregivers, respectively. Before data collection commenced, informed written consent was obtained from all participants involved in the study.

Participants' biographic information

Table 2 shows that the teacher participants used Bliss in teaching to various extents.

Table 3 provides biographical information of the learner participants and the two caregivers. Learners spent on average between 2 and 60 months (mean=29 months, median=27 months) in the class where Bliss strategies were introduced. The learners were mostly male ($n=13$) and came from homes where the adults were mainly illiterate and had various language backgrounds and learning disabilities.

TABLE 2 Teachers' characteristics.

Participant	Subject	Currently using Bliss in subject	Plans on using Bliss in subject
T1	Mathematics	Yes	–
T2	Blissymbolics, AAC, English	Yes	–
T3	Arts and Culture	Yes	–
T4	ICT (computer), Arts and Culture	Yes	–
T5	Maintenance centrum for boys	To a small extent	Yes
T6	Mathematics, English, Life Skills	Yes	–
T7	Natural Science, Physical Education, Personal Social Well-being	No	Yes
T8	Welding and Electrician for boys	No	Yes
T9	Sewing and Design centrum for girls	To a small extent	Yes
T10	Physical Education	No	No
T11	Educational assistant in Bliss class	Yes	–
T12	Mechanics centrum for boys	No	Yes
T13	English (Deputy principal)	No	No
T14	Mathematics (Deputy principal)	No	Yes

Abbreviations: AAC, Alternative and Augmentative Communication; Bliss, Bliss words; ICT, Information and Communication Technology; T1, teacher participant 1.

TABLE 3 Learners' characteristics.

Participant	Bliss group	Gender	Time in Bliss class	First language	Learning disabilities
C1	Senior ^a	Male	5 years	Sepedi	Dyslexia, childhood aphasia (mild), short-term memory, general learning difficulty
C2	Senior ^a	Male	2,5 years	isiZulu	Dyslexia, dysgraphia, cognitive impairment
C3	Senior ^a	Male	5 years	isiNdebele	Dyslexia, dysgraphia
C4	Middle ^b	Male	2 years	SiSwati	Cognitive impairment (severe)
C5	Middle ^b	Male	3 years	SiSwati	Cognitive impairment
C6	Middle ^b	Male	2 years	isiZulu	Speech and language impairment (severe)
C7	Middle ^b	Female	>1 year	isiZulu	Cognitive impairment
C8	Middle ^b	Female	2 years	SiSwati	Reading and writing difficulties, cognitive impairment
C9	Middle ^b	Male	1 year	Afrikaans	Speech and language impairment
C10	Senior ^a	Male	2, 5 years	Afrikaans	Mild autism
C11	Senior ^a	Male	2, 5 years	Sepedi	Reading and writing difficulties, receptive language impairment
C12	Senior ^a	Male	3, 5 years	isiZulu	Speech and language impairment, ADHD (severe)
C13	Middle ^b	Male	2 years	SiSwati	Speech and language impairment (severe), neurocognitive impairment
C14	Middle ^b	Female	2 months	isiNdebele	Speech and language impairment, cerebral palsy
F1	Former learner	Male	Finished school	isiZulu	Hearing impairment (moderate)
F2	Former learner	Male	Finished school	isiZulu	Neurocognitive impairment, dyslexia, dysgraphia

Note: Learning disabilities according to the teacher who teaches Bliss words (T2).

Abbreviations: C1, current learner 1; F1, former learner 1.

^aSenior=learners between 15 to 18 years.

^bMiddle=learners between 12 and 14 years.

Research design

A qualitative semi-structured interview method based on the interpretivist paradigm was deemed suitable for the aim of the study since the studied phenomenon (learners who received Bliss as a teaching strategy for literacy learning) is relatively unexplored. It is important to be cautious about analysing the data obtained through semi-structured interviews as it cannot be generalised or may generate biased results. Therefore, the researchers aimed to describe the findings from the data as perceived by the participants without giving any further interpretation of the findings.

Procedure

Materials

An interview guide was used during the semi-structured interviews consisting of semi-open and open-ended questions focusing on experiences and views on teaching and learning Bliss words at the school, possible changes in learners after Bliss intervention, and its suitability for implementation in other schools for accommodating learners with different learning disabilities. The first author conducted a pilot interview with the South African teacher who implemented

the Bliss strategy in the class to establish data reliability, improve the interview guide and interview skills, evaluate transcriptions, and adapt the analysis method.

Data collection

Due to Covid-19 travel restrictions, the interviews ($N=25$) were conducted via Zoom between 22 February 2021 and 21 April 2021, by the first author. The audio-recordings were encrypted using the Zoom online platform. The teacher interviews ranged between 15 and 92 min (median = 33 min), and the interviews with learners and caregivers were between 10 and 32 (median = 20 min). Two teachers acted as interpreters to ensure a safe interview environment for the learners and to assist learners in expressing their views in their first language(s). The interpreters, who also participated in the study, translated learners' comments from isiZulu, SiSwati, Sepedi, and Afrikaans into the interview language (English). The second author, a South African researcher, attended and observed all the interviews to monitor the procedure and ensure that the interpreters provided a true reflection of the answers offered by the learners. Most learners were interviewed in pairs. Digital data is available on an external hard drive, in a sealed locker at the Department of Public Health and Caring Sciences, Speech and Language Pathology, Uppsala University, Sweden.

Ethics

Ethics approval was obtained from the relevant authorities in both countries before the recruitment process started. The Declaration of Helsinki was adhered to throughout the project (World Medical Association, 2013). The study was approved by the Institutional Review Board at the Programme for Speech and Language Pathology, Department of Neuroscience, at Uppsala University, Sweden (29/09/2020). Ethics approval was also obtained from the Department of Education, Mpumalanga province, South Africa (12/01/2021 and 27/01/2021). No ethical approval number was provided from either department, due to custom. Certificates of ethical approval and full statements can be provided and uploaded upon request. The research received no external funding.

Data analysis

A reflexive thematic analysis method was chosen, since it differs from other approaches to thematic analysis for it views researcher subjectivity as a resource rather than “a potential threat to knowledge production” (Braun & Clarke, 2019, p. 519). It also regards the analysis process as an active and generative process that develops themes, instead of passively “retrieving” themes emerging from the data as some kind of “truth” (Braun & Clarke, 2019, p. 519). Moreover, Braun and Clarke argue that reflexive thematic analysis is not only creative and interpretive but also a “rigorous and systematic approach to coding and theme development”; however, not as so rigid as codebook thematic analysis (Braun & Clarke, 2019, pp. 591, 592). Ultimately, the selected analytical approach does not aim to attain reliable or precise coding, nor does it pursue a consensus in coding among researchers, in contrast to the structured methodology of codebook thematic analysis. Instead, collaboration between researchers in the analysis process is “designed to develop a richer more nuanced reading of the data, rather than seeking a consensus on meaning” (Braun & Clarke, 2019, p. 594). Consequently, this method was believed to contribute to a deeper analysis of the interviews and the studied phenomenon. The six phases of the reflexive thematic analysis process for data engagement, coding, and theme development include: (a) engaging in data familiarization and drafting comprehensive familiarization notes.; (b) conducting systematic manual data coding; (c) generating initial themes from coded and collated data; (d) developing and reviewing themes; (e) refining, defining, and naming themes; and (f) writing the report (Braun & Clarke, 2021). The transparency and meticulous delineation of the analysis process contributed to the trustworthiness of the data. Dependability was enhanced through the second author checking the transcripts of the data done by the first author. These transcripts were compared to the recorded audio files of the interviews. Furthermore, the collaborative analysis process conducted by all three authors developed a richer understanding of the interview data (Braun & Clarke, 2019). The codes and themes were partly based on the research questions including new themes occurring in the data. Themes were regarded as patterns of shared meaning, not shared topics (Braun & Clarke, 2019). To enhance researcher triangulation multiple readings were carried out by all the authors to develop main themes and subthemes, and several discussion sessions resulted in the final definition of the themes. Data saturation was reached when participants' statements portrayed a broad and detailed image of the studied phenomenon, and no new codes or themes were developed. The codebook of themes can be obtained from the authors upon request.

Trustworthiness

Since English was the language of choice in the interviews, interpreters were used. Both interpreters were teachers who also participated in the study; therefore, the researchers acknowledge that their participation could have affected how questions were translated to the participants. The second author, a South African researcher, attended and observed all the interviews to monitor the procedures and to ensure that the interpreters provided accurate reflections of participant responses. The interpreters shared a familiar rapport with the learner participants, fostering a conducive interview environment characterised by a sense of ease, enabling learners to freely articulate their perspectives without apparent influence from the presence of their teachers. Data triangulation was employed through the inclusion of both teachers and learners as participants, supplemented to a lesser degree by input from caregivers. Researcher reflexivity was used to reduce bias through field notes and continuous debriefing with other authors.

RESULTS

Three main themes and 10 subthemes were developed, namely Learners' and teachers' experiences of literacy learning and literacy teaching before the Bliss implementation (Theme 1); Learners' and teachers' experiences of the Bliss implementation (Theme 2); and Participants' views on academic and psychosocial changes in learners since the Bliss implementation (Theme 3). The findings will thus be presented according to these three themes (see [Table 4](#)).

Theme 1: Learners' and teachers' experiences of literacy learning and teaching before the implementation of Bliss words

Subtheme 1A: Literacy teaching challenges

Before Bliss words combined with traditional orthography were implemented, teachers expressed challenges teaching literacy and language in English. Participants mentioned that they needed to be creative when teaching English as L2 or L3 to learners with disabilities, (T3) and “the opportunity to do one-on-one teaching” (T3) was limited. The teaching of literacy to learners with various first languages (T6) also posed a challenge. Before the adoption of Bliss words combined with traditional orthography, teachers used keyword signing, picture communication symbols and text to teach literacy. However, this approach did not meet the needs of the learners as they could still not read after years of instruction (more than six years) (T2).

Subtheme 1B: Literacy learning challenges

Both teachers and learners described challenges with literacy acquisition in mainstream schools from where most of the learners were referred. Some learners mentioned being excluded from learning in the classroom: “they [the teachers at the previous school] haven't really tried to teach [me] to write or to read” (C10).

TABLE 4 Themes and subthemes developed through reflexive thematic analysis.

Themes	Subthemes
1. Learners' and teachers' experiences of literacy learning and literacy teaching before the implementation of Bliss words	1A Literacy teaching challenges 1B Literacy learning challenges 1C Learners' Psychosocial challenges
2. Learners' and teachers' experiences of the implementation of Bliss words in combination with traditional orthography	2A Bliss is initially challenging for learners and teachers to learn 2B Learners enjoy learning Bliss 2C Bliss is beneficial for literacy and language teaching 2D Expanding Bliss as a useful learning strategy to other schools
3. Participants' views on academic and psychosocial changes in learners since the Bliss implementation	3A Improved literacy skills 3B Improved language and reading comprehension 3C Improved psychosocial behaviour

Subtheme 1C: Learners' psychosocial challenges

According to the participants, most of the learners displayed low self-esteem, and motivation to attend school among other psychosocial issues when starting at the LSEN school. This can be summed up by the following learner quote:

[I] wish there was Bliss in the previous school because there wasn't going to be issues with [my] self-confidence, with [my] behavior, because [I] feel that being excluded back then in the school has brought about lack of self-confidence and negative behavior in [me]: skipping classes, often wanting to go to the toilet and not respecting the teachers.

(C4)

Another issue highlighted by several learners was bullying, both being bullied but also bullying others.

Theme 2: Learners' and teachers' experiences of the implementation of Bliss words in combination with traditional orthography

Subtheme 2A: Bliss is initially challenging for both learners and teachers to learn

Both learners and teachers expressed initial challenges in learning Bliss words. Some teachers' first impressions were sceptical. However, this attitude quickly changed once teachers understood the structure and purpose of Bliss words. Teachers noted that other staff members appeared disinterested in the adoption of Bliss words due to a lack of comprehension regarding the system's rules (T9).

Subtheme 2B: Learners enjoy learning Bliss words

Teachers and learners alike described learning Bliss words as an enjoyable experience (T4, T10, T11, T13). The learners' responses to being in the class where Bliss words are combined with traditional orthography ranged from: "it's okay" (C11); to "[I'm] learning a lot, that's why [I'm] enjoying it" (C9); and "it's very exciting to be in the classroom" (C12).

Subtheme 2C: Bliss is beneficial for literacy and language teaching

Six teachers frequently taught using Bliss words (daily or several times a week), while two teachers used it to a lesser extent, e.g., adding Bliss on recycling bins or only using it for written end-of-term exams (see Table 1). Those teachers who were not using Bliss in teaching expressed interest in using it in their subjects (T7, T8, T9, T14). The Physical Education and English teachers did not use Bliss- words to teach their learners.

The school appointed a dedicated teacher responsible for creating an array of instructional materials, such as sight word cards, posters, oversized reading books, and storybooks (featuring dyslexia-friendly fonts) incorporating Bliss words alongside traditional orthography. Teachers described using Bliss words in combination with traditional orthography (following the English language structure) when teaching reading to learners with learning disabilities and diverse linguistic levels: "When they started to read...they [the learners] were very nervous to read text with Bliss-words, they reverted to signing keywords.... 'The cat is...' or pointing to a coloured line drawing such as a picture communication symbol to read the [next] word in their book (T2)." As mentioned earlier, teachers reported that using keyword signing, picture communication symbols and text to support learning language and literacy was unsuccessful. These teachers changed their approach to focus on combining Bliss words with traditional orthography to teach language and literacy learning. Teacher participants perceived the inclusion of Bliss words as a teaching method to be most valuable to improve learners' receptive language and literacy in various subjects (T3, T4, T6, T8, T13, and T14). For example, one teacher mentioned "when you have Bliss, you've got the key" (T6). Another teacher regarded Bliss words as an advantage for the teacher-learner ratio:

Now that there is Bliss, yes, we have got more learners that can be assisted [at the same time] by one teacher of 7 or 8, because they [the learners] see, they can see what they are doing, they can understand what they are reading.

(T13)

Several teachers reported the applicability of Bliss for learners with various learning disabilities and different languages (T2, T3, T6, T8, and T11). The Arts and Culture teacher went so far as to express strong beliefs about the suitability of Bliss for any disability: “Not one visual support [...] is suitable for one class except the Bliss one... You just get to all these children with Bliss, regardless of their disability... (T3).”

Due to the common occurrence in South African schools where the LoLT differs from learners' first languages, many teachers highlighted the potential utility of employing Bliss for learners proficient in other languages (T3, T6, T8, T10, T13, T14). A teacher described the challenges of teaching literacy in learners' first languages (L1s) with a limited number of speakers, and how a combination of Bliss words and traditional orthography are used to help the learners learn the reading of words.

Subtheme 2D: Expanding Bliss as a useful learning strategy to other schools

The prevailing sentiment among the participants was that Bliss could be used in other LSEN schools and mainstream schools in South Africa (T1–T3, T6, T9, T10–T14, and C11–C14). Learners mentioned the advantages they would have had if Bliss had been implemented at their previous (mainstream) school (C11–C14, F2). One learner, for example, argued that it would reduce referrals to LSEN schools (F2). While most teachers agreed on the suitability of adopting Bliss in other LSEN schools, some stated that it could not be used in mainstream schools due to the teachers' workload and big class sizes (T5, T8).

Theme 3: Participants' views on academic and psychosocial changes in learners since the implementation of Bliss with traditional orthography

Subtheme 3A: Improved literacy skills

Teachers reported various reading improvements, as some learners developed adequate word recognition and others decoded single words or simple short sentences. Some learners could read whole paragraphs fluently and were transferred to other classes in the school, where some coped and others excelled at reading. A caregiver of a former learner described the learner's literacy development as: “now he's able to write and [...] read, and even if he's given a form to fill in, he's able to understand what is actually needed from him” (G1).

Teachers also reported how learners improved on their writing since Bliss implementation—from copying single basic words from the board to writing short sentences, stories, and poems using Bliss words. Many learners who previously could not read without Bliss words progressed to write only traditional orthography and were able to cope in normal classes at the school: “Once they move from T2 [the class implementing Bliss-words and traditional orthography] to me, they write better, their sentence construction is better (T3).”

Furthermore, teacher participants believed that the visual features of Bliss made it easier to read compared to traditional orthography (written words). A teacher (T2) offered an interesting insight, stating that Bliss words provided a semantic cue, in contrast to written words, making it easier for learners to understand and complete the Bliss word and thereafter to write the traditional orthography.

Subtheme 3B: Improved language and reading comprehension

Teachers and learners reported improvements in learners' language and reading comprehension since the implementation of Bliss words and traditional orthography. Teachers noticed improvements in language and reading comprehension of subject matter in various subjects, such as Mathematics (T6, T7, and T11), English (T3, T9), Physical Education (T10), Computer classes (T4), mechanical subjects (T10) and Arts and Culture (T3, T4). They exemplified this with reports on improved receptive and expressive language when asking and answering questions in class (T4, T10, T13), improved communication with peers and improved comprehension of teacher instructions (F1, T1, T6, T7, T10, and T13). Learners also reported that they experienced improved subject comprehension in class, could assist their siblings with homework (C14), and had more confidence when interacting with their parents (C1). In sewing classes, learners who were taught with a combination of Bliss words and traditional orthography were able to understand the teachers' instructions in Bliss and assisted their peers by interpreting these instructions for other learners (T9).

Subtheme 3C: Improved psychosocial behaviour

All participants described changes in learners' previous psychosocial issues (see subtheme 1C) through improved psychosocial behaviour. All participants emphasised increased motivation to attend school and learn as well as stronger self-control (decreased bullying and anger issues, increased respect for teachers and peers). The participants also pinpointed improved well-being, particularly higher self-esteem and feelings of happiness, inclusion, and belonging in class. Moreover, several teachers mentioned the learners' increased confidence to do things independently and to participate in various activities such as sports, dancing, singing, poetry, and creative arts. One learner was even motivated to teach his peers Bliss (C2). A handful of teachers describe that the implementation of Bliss words in combination with traditional orthography developed the whole learner: "In essence, it [Bliss] tackles the whole person; not just one part of a person" (T3). While many learners mentioned a stigma outside their class where they were being mocked by learners and adults (C1, C2, C3, C12, C13), they also expressed feelings of belonging and improved self-esteem for being part of the class where Bliss words are combined with traditional orthography.

DISCUSSION

This study aimed to describe participants' views of using Bliss words in combination with traditional orthography, as a bridge to teaching and learning literacy for speaking LSEN with diverse first languages to support language and literacy learning in a South African school for speaking LSEN. Participants considered Bliss as a useful teaching and learning strategy to support learners' English language, literacy, and psychosocial development. The findings of this study will be discussed according to the goals of the constructivist learning approach.

Multiple perspectives were included in this study through the teacher, caregiver and learner interviews. Findings indicated that learners and teachers experienced barriers to language and literacy teaching and learning at the school before the implementation of Bliss words. Learning of Bliss words occurred in real-life contexts as participants reported that learners experience a lower average reading score due to absenteeism and bullying. No less than 29% of South African Grade 4 learners reported being absent weekly from school, compared to 9% internationally (Howie et al., 2017). South Africa also displayed the highest levels of bullying in PIRLS 2011. An average of 42% of South African learners reported that they were being bullied weekly, compared to 14% internationally (Howie et al., 2017). Consequently, the learner participants in the current study have experienced academic exclusion, bullying and truancy which may have hampered their literacy acquisition. The relation between bullying and literacy acquisition is evident from learners' perspectives in this study as they mentioned that they are bullied due to being illiterate. Yu and Zhao (2021) mention that learners who are bullied experience psychological trauma, score lower academically than their peers and have a higher probability of being absent and dropping out of school. Several environmental factors (McNaughton, 1998) enhancing literacy learning were identified in this study, such as learners' increased motivation to attend school, inclusive and welcoming classroom atmospheres, support from teachers and family, reading and writing motivation and motivating reading materials such as magazines. It is also possible that reciprocity exists since the experienced literacy gains are believed to influence psychosocial issues such as motivation and well-being.

Learning occurred through collaboration and social change facilitated by the integration of Bliss words and traditional orthography to enhance language and literacy skills. This integration fostered a sense of heightened self-confidence and emotional self-regulation among learners, particularly in situations involving bullying. The learners were more willing to interact with others by interpreting Bliss symbols for peers or assisting their siblings with homework. A plausible explanation as to why the learners enjoy being in a class that employs Bliss words as a teaching strategy might be found in the teaching methods offered to them. Many participants spoke highly of how the Bliss teacher succeeded in teaching literacy and language on an appropriate level for the learners, as well as creating a warm classroom atmosphere where the learners feel included and participate.

Learning should encourage the learner's voice and facilitate ownership. Learners mentioned that they preferred using a combination of Bliss words and traditional orthography, due to becoming familiar with the semantic cue that facilitated the transfer of Bliss words to other environments at school. Learners in the current study received several hours of literacy instruction per day, compared to the average South African student who receive a maximum of five hours per week on language and reading (Howie et al., 2017). This is per the statement that Grade 1–3 LSEN should receive a minimum of 130 min of literacy instruction per day (Rhea & Baenen, 2007; Vaughn et al., 2007).

Learners mentioned that Bliss words could be used when teaching other languages and they requested Bliss words to be employed earlier to support their language and literacy learning. This aligns with the goal of constructivist learning specifically experience in knowledge construction as previous modes (keyword signing, picture communication symbols and text) were used to support literacy learning but these techniques were reportedly less beneficial. Furthermore, the findings of this study support the use of multiple modes of representation during learning. This

study confirmed the perceived need for adaptive teaching and additional aids for language and literacy learning in an LSEN context. Participants mentioned that combining Bliss words with traditional orthography and adopting a holistic approach may improve language and literacy learning.

Learners had greater awareness of knowledge construction through reflection and metacognition as they were able to comprehend subject matter better and were able to understand the teacher's instructions in various subjects. The teachers implemented Bliss words in combination with traditional orthography to build positive support and motivate learners to read. The fact that the learners experienced reading success when Bliss words were combined with traditional orthography seemed to improve their self-esteem.

Guthrie (2011) emphasised that the implementation of new pedagogical approaches can be challenging for learners and teachers regardless of their complexity. Similarly, in this study, teachers and students viewed the implementation of Bliss words in combination with traditional orthography as challenging for learning literacy and language in English as an additional language. Despite their initial opinion, teachers acknowledged the value of Bliss words in combination with traditional orthography for literacy and language learning in participants. English and Afrikaans speaking learners scored highest in PIRLS assessments while Sepedi speaking learners achieved the lowest scores (Howie et al., 2017). These outcomes can be due to English and Afrikaans learners receiving teaching in their first language, whilst learners with other first languages often receive teaching in their second or third language. According to a strong body of evidence, a possible solution for African-language speaking learners, is to use L1 as the language of instruction for as long as possible, at least until Grade 6, while the child acquires their L2 and L3 simultaneously (Department of Basic Education, 2013; Emsley, 2020; Obondo, 1997).

The teachers in this study targeted learners' language and literacy skills specifically semantics, syntax, lexicons and morphology based on English language. The appropriateness of Bliss words for learners with learning disabilities and varying linguistic backgrounds may be attributed to its ability to enhance learners' semantic understanding of the words they are reading or writing. This is because each Bliss word is consistently accompanied by a written word (traditional orthography). In that way, the common problem in literacy teaching for learners with low L2 proficiency is eliminated, specifically that of simply learning to decode print without understanding the meaning of the decoded words (Pretorius & Spaul, 2016). Furthermore, Manten et al. (2020) expressed the need for an adapted literacy curriculum in South Africa from Grade R to improve literacy acquisition in L2 learners and learners from print-poor environments.

Clinical implications

This study presented participants' views on the use of Bliss words in combination with traditional orthography as a teaching strategy to support language and literacy learners for speaking learners with learning disabilities in one LSEN school. Based on the opinions of teachers and learners, it is proposed to investigate the implementation of this strategy for language and literacy learning in other schools.

Limitations and future directions

To the best of the researchers' knowledge, this is the first study to determine participants' perceptions on the implementation of Bliss words accompanied by traditional orthography as a teaching strategy to support language and literacy learning in South African schools. Therefore, some limitations should be acknowledged. Only one school in South Africa implemented Bliss words in combination with traditional orthography as a teaching strategy for language and literacy learning for learners with learning disabilities. As such, the perceptions of participants are from one school in South Africa could not be generalised to the larger population. However, further research in using Bliss words combined with traditional orthography is needed to accommodate learners with learning disabilities and diverse linguistic backgrounds to facilitate a deeper understanding of literacy development using symbol-based systems such as Bliss words (Erickson et al., 2010; Fossett & Mirenda, 2006). Apart from valuable information gathered from qualitative studies, quantitative studies such as an intervention study are needed to evaluate different teaching methods and their impact on language, literacy, and psychosocial development. Research is needed to explore the advantages of Bliss in contrast to other visual supports to develop different basic and advanced literacy skills.

CONCLUSION

The findings of this study imply that Bliss could be used for language and literacy learning in an enjoyable and useful way for learners as well as teachers. This is valuable information for teachers and other professionals working with

LSEN as well as caregivers. Findings also emphasise the importance of allocating time for literacy activities, and the importance of addressing psychosocial issues by building learners' self-esteem and literacy motivation. Moreover, the findings support earlier research stating that Bliss has features supporting literacy acquisition to a greater extent than other visual supports.

AUTHOR CONTRIBUTIONS

AL conceptualised the study, conducted data collection and data analysis, wrote the first draft of the manuscript and contributed to updated versions; EJ co-supervised the study, assisted with data analysis and worked on all manuscript drafts; AK updated the last few versions of the manuscript drafts; MJ supervised the study and assisted with the writing of various manuscript drafts.

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The authors declare no conflicts of interest.

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No data available.

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ORCID

Agnes Larsson  <https://orcid.org/0000-0003-1011-6966>

Ensa Johnson  <https://orcid.org/0000-0001-6203-1433>

Ariné Kuyler  <https://orcid.org/0000-0003-2784-4601>

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