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Teaching Literacy through Braille in Mainstream Settings whilst promoting inclusion: Reflections on our practice

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Abstract

We would describe teaching literacy through Braille as one of the most rewarding and challenging aspects of the role of a QTVI (Qualified Teacher for Visually Impaired). This article focuses on teaching literacy through Braille in mainstream settings whilst promoting inclusion and meeting the social emotional needs of children who use Braille. It aims to share good practice and is based on reflections from our own practice and research carried out by some of the authors.

The article considers the impact of vision impairment on opportunities for literacy development, the main challenges QTVIs working in a peripatetic (itinerary) way face, as well as what works well and how we can overcome these challenges.

It describes what characterises good practice in teaching Braille, effective collaborative work between teachers, other professionals and parents, and analyses how to promote inclusion whilst ensuring pupils access the specialist curriculum and individualised instruction.

Introduction

Vision impairment is a very low incidence disability and only a few children use Braille as their literacy medium. Recent reports state that the proportion of children and young people receiving specialist educational VI (vision impairment) services in England is 0.3% (Keil, 2012). And only approximately 5% of these children and young people use Braille, 3.7% of these as their sole literacy medium and 1.7% use Braille as one of their literacy mediums (Keil, 2012).

Schools and local authorities are required to improve access to the curriculum, the physical environment and access to information for disabled pupils. Teaching Braille to pupils who benefit from it ensures effective access to literacy, the curriculum and positive future outcomes (Rex et al, 1994).

In the UK most children and young people with VI attend mainstream schools (Keil, 2012) where they often are the only pupil using Braille. This also means that QTVIs (Qualified Teacher for Visually Impaired) may often not be involved in teaching pupils to become literate through Braille. So it is important that QTVIs share good practice, access continuous professional development and build their confidence to ensure effective teaching of Braille.

It is also crucial to recognise that for pupils to succeed academically we cannot ignore their social emotional needs. Academic achievement and social emotional well being are interlinked. For children to develop and be successful in many contexts they require good levels of development in social/emotional and academic achievement. Unless children have healthy social emotional development they will not be prepared and ready to learn (Aviles et al., 2006).

The potential negative impact of vision impairment across all areas of development is well documented (Warren, 1994; Harris et al, 2012) and early intervention and specialist support are crucial to reduce any disabling effects of vision impairment. Each individual child is different and how they behave and develop will depend on their own experiences, personality and opportunities (Webster and Roe, 1998). It is important that professionals do not identify barriers to learning solely as being inner child barriers but do consider how the quality of interactions and of the learning environment can either promote develop or create constraints (Webster and Roe, 1998).

The development of inclusive practices is more likely to take place where the ethos of an educational setting reflects an understanding attitude that looks at the context characteristics and how it impacts on the children rather than seeing children as having problems and difficulties (Webster and Roe, 1998, Buultjens & Stead, 2002).

Inclusion is about belonging and being able to access and participate in the same activities as other children and young people. Children and young people with VI who do not develop good levels of independence do not do so because of vision impairment per se but because of lack of access to opportunities to develop these skills.

Support services have been shown to promote inclusion and improve the life chances of many vulnerable pupils. Support staff are particularly valued when they bring knowledge and skills that are not usually available within mainstream schools (Ofsted, 2005). For external SEN services to be effective they need to work effectively with school improvement and to have good quality staff committed to inclusion (Ofsted, 2005).

Within our service (large service covering 4 local authorities) we have had the experience of seeing blind children go through the process of becoming literate, access books and use them for their own enjoyment. We find this one of the most exciting and challenging areas of our work. As a service we have a strong self-improvement culture (NHSP, 2008), we have been involved in a

number of research projects, provide training to other QTVIs and have published some of our work (Webster and Roe, 1998; Rogers, 2007; Rogers and Roe, 1999; Roe, 2008).

The education system within the UK has gone through different changes and developments, e.g. the introduction of the literacy hour, increased level of autonomy of schools and changes brought up by current SEN (special education needs) reforms. There is a need for QTVIs to understand the needs of their pupils, how to effectively teach specialist skills, how to work with schools and other professionals and to adapt to their context amidst constant changes. So to be effective a QTVI not only has to have a good understanding of the skills they are teaching but also the context in which they work.

One of the challenges for QTVIs is to consider the range of needs of children and young people who use Braille. They need to be part of their class and participate in activities their sighted peers do, they need individualised teaching, opportunities to develop the extended curriculum and to access opportunities outside school too.

There is some concern that whilst there is evidence that children with vision impairment can be supported to achieve academically, this may be at the cost of less experiences for incidental interaction and learning with peers (Ofsted 2010; Khadka et al 2012 in Harris et al., 2013).

It is important to get the balance right if we are going to be effective in teaching Braille and providing opportunities to be part of their class and community.

1. The early years

Young children with severe vision impairment have limited access to incidental learning opportunities that may impact on all areas of development (Warren, 1994; Webster and Roe, 1998). So they need to have a variety of experiences that help them make sense of the world. Adults have a crucial role in bringing the world to the child in an organised and consistent way, which promotes the development of meaning (McLinden and McCall, 2002).

Sighted children learn a lot by observing others doing things, e.g. parents cooking dinner, washing the clothes, warming something in the microwave, etc. Children with vision impairment need access to hands-on activities that help them understand the world and they may need to experience the overall process to understand events, e.g. understanding that a raw potato feels in a certain way, when we peel it feels different but it is still a potato just without skin, and when we boil it feels different again and we may even mash it or cut it in different shapes, etc.

QTVIs can support parents to enable them to provide rich experiences based on everyday activities. Parents need to understand how important it is for their child to develop these early stages of language and literacy development and how much impact they can have in their child's learning. Adults can promote language development by describing the world and providing time to explore real objects, using their child's interests and progressively bringing new experiences, promoting understanding of the feelings, expand on their language and give time to listen, etc.

Acquiring language is linked with experiences and understanding. For blind children, the first 50 words tend to refer to here and now, e.g. food, people, routines bye, bye etc. Blind children's first words may differ in content because of differences in experience but there is no evidence of major delays in the onset of language (Urwin, 1983; Bigelow, 1987).

Often adults speaking to children with vision impairment tend to use more questions, more adult directed activities, more directives (possibly to encourage children). Blind children need more descriptions but often get less, e.g. they may get labels instead of descriptions (Andersen et al, 1993).

Language is crucial for children with VI as it plays a major role in establishing social contact with others and through social contact with others, children with VI receive additional information about their environment.

To develop early stages of literacy through Braille children need to develop language skills, early book skills, understanding of the world to ensure comprehension but they also need to develop tactile skills including tactile discrimination of Braille letters. Braille requires advance skills in perceptual and cognitive processing skills. However, because Braille is complex there is a risk that we may decide when the child is ready rather than give the child opportunities to show us when they are ready.

Adults can also develop the awareness of reading and writing of the blind child by reading aloud and raising awareness that written language is part of everyday life – we can find it in cereals' packets, menu's, street signs, etc. Sharing a book and encouraging children to feel the Braille while we read, explore tactile pictures or using sound effects can be really motivating for the child.

When reading with children there are opportunities to discuss the title and predict what the story is about, discuss illustrations or tactile pictures, letting the child turn the pages and discuss book concepts, use oral closure, repetitive story lines and rhyme patterns or retell the story together. Children can also access brailled copies of the story and feel your hands as you moved them along the Braille lines which is a way of showing the child what they need to do to read Braille (Lamb, 1998).

From a very early age sighted children enjoy books that they could not access without an adult and their shared attention is held by the visual content (photographs, pictures, drawings, flaps etc). An adult sharing a book with a child can model reading and introduce young children to a wide range of genres and concepts beyond their direct experience (for example a poetry book may contain a picture of a desert island, stars etc).

Children who are blind can miss out on these experiences and listening to stories without visual clues requires different skills and a higher level of concentration. 'Sound stories' consist of sounds recorded onto an electronic device and are played as the adult reads the story to substitute pictures. Some books lend themselves more than others and books that work well include those with text that is repeated (e.g. The bear hunt), books containing lots of known sounds (e.g. Tiger who came to Tea), books that have sounds where children can appreciate humour such as everyone falling out of the boat (Mr Gumpy's Outing) or a character making a funny noise (Daddy Bear snoring in Peace At Last)

It is also necessary to develop the early stages of writing alongside reading and mark making is a vital part of a child's development. It is a creative process-the beginning of the child's ability to independently create something of a permanence which can be referred to and shared. Many activities in the early years involve making things-models, playdough and clay shapes, picture painting, drawing etc. For the child who has a vision loss access to these activities is as important a part of their development as it is for the sighted child.

Many children who will go on to learn Braille have some vision. Experience shows that these children have a natural desire to mark make whether it is with pencil, pen or paint. It is important that this aspiration is supported as it will help with the child's later understanding of the link between reading and recording, a link which needs to be made as early on as possible. If a child can understand that they are able to create a shape or pattern independently which they can see or feel then their understanding of the link between making Braille marks which can be read back (and ultimately reading Braille words and sentences they have written themselves) will begin to be made.

Supporting children in understanding their ability and desire to share their thoughts is part of the literacy process and so the development of mark making and emergent writing has a strong social element. Creating a picture is an expression of a child's inner world and their desire to share. When a child makes a picture they will often ask adults to look at it, they will explain the dots and squiggles and they will expect a response which shows understanding.

Mark making has both a kinaesthetic element and a useful language element. Whilst drawing, painting or pattern making children move the writing implement up, down, left, right, diagonally. They do wavy lines, zig zags, straight lines, wobbly lines. They support understanding of movement, pattern and the words used to describe those things. This links with mobility later on and is also relevant to the ability to negotiate a page, develop tracking skills and tactile scanning skills.

There are many ways to support early mark making such as using sand trays with coloured sand, wet sand, combs, blunt pencils etc to draw patterns, paint on a light box, using clay for creating models, making marks which can be altered or copied, pressing shapes, rolling, squashing, poking and making a range of marks in using hands or other implements, using German film with a range of mark making items for thick, thin, spotty patterns, thicken paint with sawdust, sand or PVA so the child can feel their painting when it has dried or using a braille to make a dotty picture.

It is also important that children hear others braille on the braille and understand that we write for different reasons, e.g. to write a shopping list, a card to a friend, a story, labels for drawers, etc. They need to develop emergent writing – blind children can pretend that they are writing just as sighted children scribble on a page.

Whilst developing early reading and writing skills it is important not to undermine the importance of developing listening skills. Opportunities to access a quiet environment so children can use their hearing such as being able to identify different sounds in their environment and the direction or location of sounds as well as discriminating different sound in words – developing phonological skills. Music activities and nursery rhymes help children developing these skills. As children develop it is particularly important to help them make links between sounds and Braille letters (McCall et al., 2011).

It is important that early literacy experiences are positive and contribute to the development of attachment and bonding between adults and child. These activities need to be enjoyable and given high importance. Parents need to be supported to feel confident in engaging in activities such as sharing Braille books, exploring tactile pictures and encouraging mark making. If the experiences are positive for both parents and children they are more likely to happen often which will give children increased opportunities to develop these skills. Accessing appropriate resources plays a role in supporting adults sharing activities with children.

A study looking at early literacy practices of teachers of young children with vision impairments (Murphy et al., 2008) found that there was a lack of explicit phonological awareness instruction, limited emphasis on shared storybook reading and limited access to low vision devices and writing technology. It

found that, possibly due to the lack of access to current resources on early literacy for all children or due to teachers' need of support and resources accessible to children with vision impairment, many teachers were not implementing recommended practices such as promoting phonological awareness and understanding the function of writing (Murphy et al, 2008).

Literacy through Braille and social interaction

Using a different means of communication such as Braille has the potential to reduce opportunities for social inclusion. The level of support and individual tuition required may mean that the child has reduced opportunities to interact with a wider range of adults and peers. Learning has been influenced by social cultural approaches in which adults or more experienced peers guide the learner in acquiring new skills. Good quality meaningful interactions are crucial for learning and social development.

Children with severe VI often face barriers to social interaction as early interaction is characterized by a lot of non-verbal communication and is obviously more difficult for the child with VI. Often in early years' settings, children with severe VI may tend to spend a lot of time with adults, participate more easily in structured play rather than free play, find it difficult to imitate others and tend to spend time on their own (Roe, 1998).

Children becoming literate through Braille require a significant amount of one to one tuition in the first years of instruction and it is also common that children learning through Braille require extra time to become fluent readers, which can mean that these children miss out opportunities to participate in all activities sighted children do. However it is crucial that Braille users develop effective literacy skills and a positive attitude towards reading and writing if they are going to fully participate in activities later on.

So adults need to create optimum environments to promote the development of literacy through Braille whilst considering the child's needs for social inclusion.

Starting school

Whilst recognising that becoming literate through Braille requires specific skills, there are also similarities in learning to read through Braille and print. Children using Braille need to develop the enjoyment and love for reading and the vehicle to provide this is not that different from that sighted children.

There is a core set of skills that children have in common independently of the medium they use, i.e. they will all need to have some book awareness, phonic

awareness, motivation and enjoyment in reading, etc. However, Braille does bring some extra complexities such as the fact that there are a larger number of symbols, the fact that a change of a simple dot changes the meaning completely (there are no approximations, Braille has to be very exact), children will also need to develop effective hand movements and reading and writing Braille are very distinctive skills (Swenson, 2008). And often when compared to sighted children, blind children show differences in the ability to decode (Emerson et al, 2009).

However we need to be mindful of messages we give the children and other adults. All children may find learning to read a hard process. If we give the message that Braille is very difficult, expectations will be lowered and any progress may be seen as exceptional progress when in reality may be just what would be normally expected and not exceptional. It is important that we provide realistic feedback whilst being encouraging.

When considering early Braille instruction it is important to take a balanced approach to literacy instruction. This includes specific individual instruction in the Braille code as well as components of reading instruction, such as phonic awareness, fluency, vocabulary and importantly comprehension (Koenig & Holbrook, 2000).

When considering effective strategies for teaching reading through Braille there is a need to provide a Braille rich environment by immersing pupils in Braille, to integrate listening, speaking, reading and writing, to work with a strong focus on meaning, to model literacy behaviours, to emphasize process as well as product and to encourage pupils' participation in decision making (Swenson, 1999, Barclay et al., 2010).

Listening to stories that are relevant to their experiences and taking part in hands on activities related to the stories they heard are ways that motivate children to read through Braille.

Using a combination of different types of books for different purposes is also important such as story and non fiction books, commercially available books produced to teach Braille, teacher produced books specifically to teach Braille and those with stories made up by the child.

Contracted versus uncontracted Braille

When introducing Braille to children one question QTVIs face is whether to introduce contracted (by using symbols that represent a group of letters) or alphabetical Braille. If a young child is developing within normal range it is reasonable to assume that learning contracted braille would be appropriate and therefore the question would be how quickly to introduce contractions. The ABC study (Emerson et al., 2009) has shown that although there are no significant differences in reading efficiency between students who are introduced to contracted and those who are introduced to alphabetical Braille,

students who were introduced to contractions earlier on has higher literacy performance. However, it was not clear whether the students were more efficient because they were introduced to contracted Braille earlier on or whether they were showing an aptitude for reading and therefore were introduced to contractions earlier on (Emerson et al., 2009).

In our experience, we would introduce contracted Braille but it is a good idea to gradually get the child used to the concept of a contracted code (or 'shortcuts in braille which are different to print') at the earliest stage while they are learning the alphabetic code and learning to decode simple words. In fact the braille code lends itself well to this as very early it introduces letter word-signs. A young child can understand quickly that the b they have learnt also represents the word but in braille while in print it has to be written b-u-t. In this way the concept of difference between the codes and the concept of an alternative to phoneme/grapheme correspondence can begin to be learnt.

Clearly it depends on the child's ability and reading progress as to how soon different contractions are taught. There needs to be formal teaching of them but always reinforcing how it these would be spelt out in print. As well as formal teaching it is possible to 'immerse' the child in contracted braille meaning provide the child with appropriate levelled text with some contractions that have not yet been learnt. An able child will pick up some contractions in this way as long as there are explanations. Then when the child learns the contraction formally, they will are likely to learn quicker.

Braille-n-print

Another aspect that QTVIs need to consider is how to introduce Braille to children who may use dual media, i.e. both Braille and print. Children who have some vision may be able to access large print and enjoy looking at brightly coloured pictures. The challenge for QTVI's is to be able to work with the other professionals (educators) and the family taking a lead in assessing the child's access to print and giving direction on learning routes (visual, tactile or both) that will enable the child to have the best opportunities for the future. Ascertaining the direction that is best for a learner can be complicated by a number of factors: the child's eye condition may not be stable, a young child may be able to access the same visual information as other children at an *early* stage when the level and pace of the curriculum and size of print is still accessible. In addition, parents and other educators may not appreciate the priority for tactile skills to be introduced as part of a long term plan alongside learning print. The development of materials to provide assessments that support decisions around the choice of primary literacy media such as the Learning Media Assessment (Koenig and Holbrook, 1995) has been recognised as an useful way forward in the review of literature into effective practice in teaching literacy through braille (McCall et al, 2011).

Children we have worked with who have had access to both braille and print at school are a diverse group. As students and young adults, some only use braille occasionally (reading a bank statement, a personal letter) and choose to predominantly use an auditory access, others reject braille along the route and for some this is a result of an improvement in their vision, others use a mixture of both braille and print (e.g. numbers in print but texts in braille) and some students opt to predominantly use braille.

Young people need to have skills in place in order to be able to make decisions about their preferred access. The factors that we have identified as promoting good outcomes for this group of children include: a commitment and understanding from the whole team in ensuring that braille is valued and tactile learning is regularly built into the child's day, the adults teaching braille on a daily basis have training and knowledge of braille (not just a little in advance of the child), links with print are made and success in learning is achieved. It is important that the child's levels in braille is similar to print so they are genuinely able to use the media that is most appropriate for the task (Rogers, 2007).

Literacy and inclusion

To have a child learning braille presents a unique challenge to a class teacher who may never have come across Braille. In what other situation would it occur that a child is learning something that is unknown to the class teacher and something as important and fundamental as literacy too? It would be easy for a class teacher to feel divorced from the child's learning and delegate responsibility to other adults supporting the child. Although you cannot expect a class teacher to take all the responsibility it is crucial that the child using Braille is one of her or his pupils. Therefore it is important for QTVI to feedback meaningful information regarding the child's progress as often as possible and that collaborative working practices are developed to ensure good practice in supporting a child who requires input from a range of adults to develop efficient literacy skills, experience social inclusion and promote independence (Davis, 2003).

The whole school needs to embrace Braille and recognise it as a valued means of communication. You may have a smaller team of professionals supporting the individual child more directly but there is also a much larger team enabling the creation of the right environment. This may include the head, deputy, governors, special educational needs coordinator (SENCO) and any adult who may come in contact with the child, e.g. play or meal time supervisors, librarian, etc. For example, lunch menus could be provided in Braille and meal time supervisors could facilitate the use of these. Throughout the school there could be displays of children's work including work produced in Braille, or a Braille club could be introduced, etc. Sighted children often are very interested in Braille and can be involved in decoding messages, by

playing treasure hunt games where they need to use an alternative code for example.

Once again, parents play a major role in their child's education and they need to be supported so that they can support their child with homework

To provide meaningful and inclusive learning opportunities, good quality advice and teaching from a QTVI, advance planning, good team work and preparation time are required. This requires effective communication and feedback to staff/team as well as being honest when things have or haven't worked. A supportive environment where professionals understand each other's roles and the outcomes the team is trying to achieve will enable professionals to learn and share from their experiences in teaching literacy to the child.

Effective deployment of TAs is very important to ensure that actually promotes positive outcomes in terms of pupils' progress and well-being. Despite the fact that TAs can have a crucial role in enabling access to the curriculum and promote participation of many pupils, recent research has shown that the impact of TAs on pupils' progress can be inadvertently negative (Blatchford et al., 2012).

It is therefore, crucial to ensure that TAs supporting Braille users are used effectively which means having a clear understanding of their role, establishing good quality interaction with the child including an understanding of when to stand back as not to interfere with opportunities for social interaction, having a good understanding of the objectives of sessions and communicate these to the rest of the team, have a positive view of Braille, promote understanding of the child's needs amongst his or her peers and very importantly in promoting independence.

Opportunities for the class teacher to be directly involved in Braille lessons with the child can also be created through shared planning. QTVI, class teacher and TAs can observe each other working with the child occasionally ensuring that there is a consistent approach. This can also be achieved through the use of video. Video profiling can also be used to demonstrate progress observed and for training purposes.

One issue professionals need to consider when teaching literacy through Braille is how they are going to organise time so that a child has opportunities to access individual tuition, to spend a significant amount of time dedicated to learning literacy and which activities can be done with peers in whole class or small group. To include a child means that they have an opportunity to develop the skills they need to be able to fully participate, it does not necessarily mean doing exactly what their peers do if that means that they will not develop the required skills to participate later on. There is a danger that too much focus is put onto adapting everything sighted peers are doing so

that the child using Braille does the same. The focus needs to be more on the outcomes we are aiming for so that the child using Braille

Research has shown that Braille users lag behind their peers and do not acquire reading skills at a rate they should (Emerson et al., 2009). As the child moves through the primary phase it remains important that additional input continues so that after the initial instruction years a child is able to access learning through literacy alongside sighted peers. Even so it remains the case that braille reading will be slower than print reading and braille has additional 'tricky' perception problems i.e. even if a child is reading age appropriately she or he is likely to continue to make basic errors such as confusing (m / sh) or (and / you).

Including a Braille user in whole class literacy activities can be challenging for teachers. The fast pace of the session may not give enough time for a child using Braille to scan text and follow the teacher. The child with VI will not fully access the class teacher's modelling of reading and writing, nor the visual information presented in big books, white boards, etc. There may be also issues around lack of adapted resources and time to prepare them, especially when plans are changed at last minute.

To support the child so that they are able to take part in a whole class lesson as successfully as possible, a useful and effective strategy is to pre-tutor the text; in other words provide opportunities for the child to become familiar with the text before the lesson. In this way the child is more likely to keep up with the reading, visual concepts can be explained and therefore the child is more likely to feel confident to take a full and active part in the lesson.

QTVIs have expressed concerns that although children using braille may be doing well, it may be hard for them to feel they are which may affect their self-esteem. Using an Assessment for Learning approach by sharing learning objectives with the children, providing regular realistic feedback about the quality of their work whilst enabling the child to evaluate their own work and sharing next steps and encouraging children to be involved in decision making and understand what they have learnt as well as what they need to learn.

Opportunities for peer evaluation can be a useful way to promote inclusion. This means that children can share their work orally or their work can be brailled or written in print so that both sighted and blind children can share and participate in peer evaluation.

To ensure learning is interesting and fun for the child it does help knowing the child and what interests them, adults can support them writing their own stories, which are relevant to their experiences. For some children, using rewards regularly such as using a stop watch to see whether you can do a task in a certain amount of time, getting a toy monster for each word read and then play a game, using games such as reading some random words and then making silly sentences with them, finding out what to dress a doll by

reading simple instructions and then getting to dress the doll. Using interesting sounds can also be motivating and encourage curiosity as well as learning new facts and experience hands on activities related to them.

Accessing tactile pictures with different textures to provide interesting tactile experiences (think about how things feel rather than look) are often very rewarding for children. Tactile pictures do not have to be complex or high time consuming in their production. A simple soft texture can represent a bear – it does not have to be cut out in the shape of a bear.

Technology plays a huge and ever changing role in education and in the inclusion and future employment opportunities for pupils who are blind and use braille. Younger children with limited vision sometimes have little interest in the same culture as their peers especially when it is visual such as games involving TV characters. As children mature, access to the internet and social networks can become a prime motivator. Access via Smart phones and braille computers, keyboards and refreshable braille cells are now available in different sizes and prices and enable braille users to be included educationally and socially. Yet there is little research in the potential of using technology to support Braille (McCall et al., 2011).

Conclusion

In ensuring the effective teaching of literacy through Braille our focus should be on long term positive outcomes, which enable individuals to be independent and live fulfilling lives.

Ensuring parents of young children who will use Braille feel confident in providing early positive literacy experiences is an important aspect of ensuring effective teaching of Braille. These children miss out on many incidental opportunities and support in overcoming these barriers can contribute to a readiness for school and more positive outcomes later on.

This requires access to a literacy rich environment with opportunities to come across Braille in their environment, experience the joy of sharing tactile and Braille books and make links between sounds and Braille letters.

Having high aspirations and a positive attitude that expects children to achieve by giving them opportunities well before they are ready to formally learn Braille allows them to lead the way and adults and opportunity to scaffold early literacy experiences more appropriately (working on the zone of proximal development).

The QTVI has an important role in providing information about what needs to be provided at school, what skills staff need to have, in making decisions around primary learning media and approaches taken as well as in developing individual programmes of work for the child. In developing these programmes

it is important to listen to the child so that programmes of work can be tailored to their needs and interests. They also need to ensure Braille is valued across the school and the child is included in the school whilst accessing the specialist tuition that is required.

Collaborative working between professionals involved enables shared understanding of learning aims, joint advance planning and a consistent approach to be implemented. Children learning literacy through Braille require a significant amount of specialist teaching which must in part be provided by the QTVI and then complemented by teaching assistants trained to support children with VI.

There needs to be a recognition of the significant amount of time required to learn literacy through Braille and the need to continue accessing specialist provision to ensure that the complexities of Braille do not mean that the gap between sighted and blind children does not widen. There is a need for professionals to focus on preparing children for the future, developing skills now to enable participation later on. Further research would inform future practice and looking at how to make the best use of technology in supporting Braille literacy would be useful.

There is a need for QTVIs to access guidance and training to ensure that they themselves are confident and have updated skills to support the teaching of literacy through Braille. RNIB is currently working on developing an online course for QTVIs with funding from DfE (Department for Education) and NATSIP (National Sensory Impairment Partnership) on teaching literacy through Braille as an outcome of the literature review carried out by the University of Birmingham in 2011 (which the authors are contributing to). Further opportunities to share good practice, engage in enquiry based practices and carry out action research should be encouraged.

Finally whilst ensuring appropriate levels of specialist tuition in literacy through Braille, careful management is required to ensure children access opportunities for inclusion and to develop social skills which are crucial to achieve positive later outcomes as well.

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