

Abstract

The two case studies reported in this Clinical Forum describe the way in which iPads can foster children's motivation to engage in communication and literacy-related activities. A detailed description of a particular iPad app (Our Story) is provided, along with observations of the implementation of this app in two special schools. The benefits and limitations of this approach for children with complex language and communication difficulties are identified. Recommendations are provided for future support of children's literacy-related skills with iPads, with observations made about implementation issues related to the Our Story app.

Keywords: iPads, personalization, story-creation, story sharing, multimodality

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STORY-MAKING ON IPADS

Introduction

Since their launch in 2010, an increasing number of schools have introduced iPads to their classes to provide tools and mechanisms for supporting a large range of activities, from simple games to apps related to specific educational purposes (Heppell, 2012). For children with complex needs, several iPad apps have been designed to bring traditional resources to a touch-manipulative, multimodal and highly visually attractive platform (see for example <http://a4cwsn.com/>). The possibility for customization (through the hardware settings as well as those of the individual apps) fits well with the special needs education agenda which places emphasis on individualized intervention plans and programs (Cook, Klein, Tessier & Daley, 2004). In addition, iPads have been reported to change the ways in which children with communication difficulties, including children with autistic and other pervasive developmental disorders, can access or share information (see e.g., Jowett, Moore & Anderson, 2012) and in which children with physical impairments can participate in a number of activities which would otherwise require specific technology-manipulation skills (Hager, 2010; Beck, 2012).

Although there has been documentation of the use of iPads to facilitate and enrich storytelling of typically developing children (Hutchison Beschoner & Schmidt-Crawford, 2012; Kucirkova, Messer, Sheehy and Flewitt, in print), the process and impact of implementation of iPads to support story-sharing in children with language, speech and hearing difficulties has so far not been described in academic literature. This article presents a detailed description of a specific iPad app-called Our Story- which is designed to engage children and young people in the creation of personal multimodal stories. The app incorporates audio-textual presentation and customization of pictures which together can play a significant role in motivating children with complex language and communication needs to share their own personal stories. In addition, a major advantage of the app is that it is open-ended, i.e., can be adjusted to meet specific targets and specific implementation procedures.

Description of the Our Story app and Significance of Multimodal Personal Stories

iPads and the Our Story app affordances. There are currently three generations of iPads on the market, with varying memory and data capacity, and an additional iPad mini version, which is

STORY-MAKING ON IPADS

half the weight of the iPad original model. iPads provide significant advances over previous technology in that they allow for control with touch screen operations (e.g., a touch sensitive keyboard) and provide a large range of apps that are suitable for children with various abilities and different learning styles. For example, there are apps for emotion cards, touch talking, visual routine or social stories (see <http://a4cwsn.com/>). In addition, iPads are extremely convenient for mobile use, and this is a considerable advantage in comparison with PCs or even laptops. iPads weigh about 600g and with a rechargeable, long-use battery they can easily be moved within a classroom or taken outside. For children with limited mobility there are fixing devices which can be used suitably to position iPads on wheelchairs. As for content-generation activities, there is an easy-to-use system where several operations (e.g., recording sounds or taking pictures) can take place at one location. Furthermore, the 'intuitive', touch sensitive interface of iPads enables even young users to control these and other functions, which means that the creation of visual (pictures) and audio-content can be delegated to the children who might otherwise struggle with a button-or keyboard-based operating system. As such, children with special needs have increased possibilities to use apps which allow them to create their own multimodal stories which are attractive and professional in appearance. One such an app called 'Our Story' has been developed for smartphones and tablets at the Open University, England. The app was designed with a range of users in mind and its associated website describes several possible applications with children of various language abilities (see <http://creet.open.ac.uk/projects/our-story/>). The app capitalizes on the iPads' potential for the delivery of stories in three modes (i.e., audio, pictures and text), and the possibility of turning them into a customizable digital record. The app allows for user-led content in each mode and contains elements of selection and sequencing, with a user interface consisting of a gallery of pictures and a filmstrip. Individual pictures can be enriched by text or audio and can be dragged onto and positioned within the filmstrip at the bottom of the screen. This filmstrip can then be displayed full screen with sound and text, in a similar manner to a picture book (see Figure 1).

Figure 1 to be inserted about here

STORY-MAKING ON IPADS

Users can select pictures from their iPad, digital photo albums or take new pictures with the inbuilt camera. By touching the audio-icon, the app brings up the recording toolbar with which users can add, edit or delete their own sounds accompanying individual pictures. For adding text, there is an inbuilt keyboard, which allows users to type in their own texts. There is no limit on the kind of pictures selected for users' stories; images can be photos but also scanned drawings or hand-drawn digital drawings. Equally, there is no restriction on the length of the text or sound users put in, the app is completely open to the ability and interest levels of the users who can create any story they like. As such, the app is adjustable and adaptable to the user's story-related skills and can be used to meet various educational goals. The end-product of the process of story-making is a personal multimodal story, defined next.

Significance of personal multimodal stories. Multimodal stories present content in three different modes: pictures, sound and text, and in this way, blur the boundaries between books and the oral recounting of an event. Multimodal stories make for a rich experience (see Flewitt, 2008) and offer children several entry points into the story world and thus serve several social purposes (Ware, 2006). There are a number of tablet and smartphone apps which afford children and their carers the opportunity to create and share multimodal stories (e.g., PuppetPals, StoryMaker, My Story). The extent to which users can personalize the content of these stories depends on the extent of customization allowed by the individual apps. For example, with PuppetPals, children can replace the story characters with their own names or the books' illustrations with their own pictures, or with Our Story, children can use entirely their own story contents. The Our Story stories are therefore multimodal and personal, as they are typically created by, or for, an individual child and deliver the story in multiple modes.

Multimodal personal stories represent a unique resource of achieving the educational goal of motivating children's participation in a story-sharing activity. This is an important activity which has the potential to support the development of a range of children's literacy, language and social skills, summarized next.

STORY-MAKING ON IPADS

Potential Benefits of Using Our Story

Sharing stories is important in the cognitive and linguistic development of children, both with and without disabilities. Sharing stories (whether in their oral or written form) is significant in helping the development of language and literacy in children with language impairments (e.g., Munn, 1994; Wood, 2002) as well as in children with complex needs (Grove, 2006), and is widely employed in research and intervention with children with a range of communication abilities (e.g., Peterson, Jesso & McCabe, 1999). The activity of story-telling and story sharing is thus a personally meaningful language activity which can help children with special needs master several social settings and emotions, including transitions from preschool special education programs to the primary grades (Katims & Pierce, 1995).

The Our Story app can provide the means for clinicians and practitioners to motivate children's creation and sharing of personal multimodal stories and in this way provide an alternative path to obtain the benefits associated with creating and sharing oral and book-based stories. Multimodal stories can help develop 'a wide range of skills, understanding and knowledge', including understanding of narrative, awareness of audience and critical reflective skills (Marsh, 2006, p. 497). Furthermore, if these stories are personalized, i.e., based on the child's individual needs and preferences, the stories can make the information processing easier and more meaningful for the child (Cordova & Lepper, 1996). Personal stories are also known to positively engage children in the activity of sharing stories. Pakulski and Kaderavek (2004) found in their case study with two children with hearing loss that books created by the children's parents or self-created by the children themselves have increased children's interest and engagement levels in the books, as well as other related literacy activities.

In the next section, two case studies involving the implementation of the app in two different school settings catering for children with complex language and communication needs is described with a focus on the achievement of specific targets, individualized to the needs of the participating children. To this end, details of each case study context and setting are provided, along with the specific benefits for the children involved in the studies. This method was deemed appropriate given

STORY-MAKING ON IPADS

the uniqueness of children's experiences when creating their own personal stories with a new piece of technology (Obiakor, Bakken & Rotatori, 2010). . The approach used was in line with the BERA ethical guidelines (2004), pseudonyms are used to protect children's anonymity. In the first case study, the teacher (third author of this article) and the project worker in the second study (fourth co-author) included the app as an integral part of the speech and language services provided for the children in the two schools. Both practitioners have known the children for at least 9 months prior to the study and have seen them engaged in a variety of other comparable classroom-based activities. In addition, both practitioners were considering the purchase of iPads to enhance their ability to engage children in story-sharing and were therefore ready to provide a reflective evaluation of the app's value for the children and their classrooms more generally.

Case Study 1

Study context and participants. The class was made up of six boys and three girls aged between 7 and 9 years and used a range of methods to communicate: limited verbal output, signing, gesture, books containing graphic symbols with specific vocabulary, a verbal communication book, and a high-tech communication device. The teacher (co-author of this article) was keen on finding ways in which children from her classroom could express their ideas while creating an "Our Story story" in the class. She was the principal teacher in the class, supported by four classroom assistants.

Table 1 summarizes the children's speech and literacy abilities, based on assessments using P scales and National Curriculum level descriptions, which are evaluative frameworks widely used in UK special needs settings (see Ndaji and Tymms, 2010 for details). The table also shows children's language abilities before and after the study. These data are illustrative of the children's general abilities and not intended to be interpreted as study effects-the study was not designed to improve children's scores on standardized assessments.

Table 1 to be inserted about here

STORY-MAKING ON IPADS

Details of the implementation. The Our Story app was used as part of the class topic on “The Great Outdoors” discussed with the children during their English classes, with individual stages taking place over a seven-week period. Each lesson lasted approximately 30-45 minutes at a time, which was long enough to maintain children’s attention to the task. The teacher’s aims of the sessions were summarized on the Module Planner as follows: Develop knowledge of letter/ sound; grapheme/ phoneme/ spelling strategies; Develop sight reading/ comprehension skills; Develop sentence-building and narrative skills; Develop ideas/ experiences for a dramatic presentation. The literacy lessons took place every day, with most days focused on some aspect of the story, either dialogue, drama, finding costumes or making other props to decorate the sensory room. An anchored experience for the classroom story was provided through the class visit to a local spinney. During the trip, the teacher and her classroom assistants took many photos of the spinney with the children, which were later shown on the whiteboard located in the classroom. The children were then shown how to use the Our Story app to make up a story based on their experiences from the spinney visit. To compose the story, the class went through several collaborative processes. First, the class discussed ideas for the story over short sessions which involved showing the photos and the children acted out their ideas (e.g., of an animal seen in the spinney). Second, the children and the teacher discussed possible scenarios for their stories. The children thought up different plots or subplots involving plants, animals and insects. The ideas were written out on notes and put out on the class tables along with some props and costumes. Third, the children acted their story out in the class sensory room, which staff together with some of the children decorated to look like a spinney. Staff also provided costumes and props for the children and took pictures of children acting their story ideas out. These were taken with “an iPad on set” and a digital camera and were saved in the iPad photo album. Fourth, children made up a dialogue, which was rehearsed and recorded in the sensory room and together with selected pictures from the acting out, was put into a sequence and integrated into the spinney story, using the Our Story app. This finished multimodal personalized story was then repeatedly shared and enjoyed by the children in the class, independently or supported by the classroom assistants.

STORY-MAKING ON IPADS

Children's engagement with the app. The children had a mixture of ways to communicate, and we staff used a range of means to encourage their verbal participation. The children who could not speak used their communication books or signed, while the others were able to verbalise. Different sentences were produced for the children based on their ideas, e.g. "The bees flew around the flowers" or "The spider ate the bugs". The children chose aspects of the story that related to them, e.g. John was the spider, The girls were all flowers, Rafiq was a bee, Robert was a bird. Calum and Habib were the narrators of the story. Martin would not act but helped with the props. All the children took photos of each other and the sensory room using the ipad, although Jane and Nina needed 1-1 help. They all looked through the photos on the screen. Calum, Martin and Habib typed in a lot of the story in the app. Children needed to agree with the teacher which photos should be used in the story and out of over 50 photos, 15 were chosen. To facilitate the children's ideas and expressions, children worked 1-1 or in small groups to act out different parts of the drama. Staff photographed children's acting out in the classroom and the sensory room. They provided individualized support when they could and expanded on children's ideas to encourage children's further participation. For example, when staff saw that John enjoyed sitting by the bubble tube in the sensory room, they decided to decorate it with ribbons of foil and incorporate it into the story as a stream where the spider (aka John) enjoyed sitting.

Specific outcomes for individual children. For Rafiq and Lily who had limited or no verbal output abilities, the app was used to allow them to make substantial contributions to a group story-making activity, by taking pictures of each other in the costumes, which were later used as part of the story. Both children took the two leading roles in the drama, and due to their inability to say lines, a collective class decision was made to narrate the play so that Rafiq and Lily could mime their roles. In contrast, for two of the more advanced communicators in the class (Calum and Habib), the app allowed the negotiation and insertion of appropriate dialogue excerpts during the audio-recording of the story creation process. Both boys have physical difficulties with turning pages in books, and the app facilitated the access to the individual story parts (both boys could swipe the pages of the digital book on the touch-sensitive screen). This enabled to meet the target of independent decisions during

STORY-MAKING ON IPADS

story-creation and story-sharing. For John, who was the most able speaker in the class and the person who often monopolized speech-requiring activities, it was important to support his social skills development, such as for example taking turns with other children who contributed to the story-making. For the two children on the autistic spectrum (Martin and Robert) the app was used to capitalize on the iPads' attractive visual display of photographs and the resulting story. For Jane who could not see the screen because of her visual problems and Nina, who was unable to be left with an iPad on her own because of her erratic behavior, supplementing the iPad story-making with an acted-out session was important so that their target of sustained attention and ability to listen to others can be achieved.

Case Study 2

Study context and participants. This case focuses on Sally, a 12-year old White European, English-speaking girl, with no specific diagnosis. One of the authors has worked with Sally as part of the Storysharing® intervention (see Grove & Harwood, 2013 for details) designed to support the development of personal face- to- face narrative abilities in a large rural special school. The intervention was delivered in a flexible way to suit the needs of the pupils and the staff, and involved weekly sessions of class-based storytelling, in which Sally was involved lasting one hour, and weekly individual sessions, for each student, of 30 minutes using the Our Story app over a total of six weeks. At the time of the study, Sally was functioning at Level One within the National Curriculum for England and Wales (as measured by Small steps assessment, Byrom, 2008). Level One is approximately equal to the skills of a child entering the formal school system in England and Wales at age 5. Her receptive vocabulary was assessed on the British Picture Vocabulary Scale (Dunn, Whetton and Burley, 1997) at the age of 12:9 years, yielding an age equivalent of 6:04 years, with a standardized score of 55, Sally's school record shows that she was credited with the ability to tell adults about an event, talking about events and stories, joining in with stories, but was still gaining skills in retelling key parts of a story independently, using expression within a story and structuring a story coherently. In interactions she was a good communicator, able to listen, join in, and maintain eye contact when recounting. However, she had difficulties in expressing her feelings, and could

STORY-MAKING ON IPADS

appear as withdrawn and self-contained. She was attending regular arts therapy sessions in order to help her develop confidence, manage her emotions and to deal with personal experiences that she found challenging.

Implementation details. The app was used during one-to-one sessions of Storysharing® and Sally's verbatim comments were recorded in field notes. To help Sally compose her multimodal story, she was given support through several stages of story development. The first stage was the recall ('gathering') of the story, which began as a basic sequence of events/ facts. Sally was encouraged to tell a personal story about an achievement, a target reached or a wish for the future. Sally's story was about a presentation she had made to her class with her therapist: the head and deputy head teachers who had come in to hear her. It was then important to get to the heart of Sally's story, slowly and carefully confirming the events, the people involved, and discovering why Sally felt this was an important story worth sharing. Through repetition and expansion, Sally's feelings about the story were explored and defined. The story was first presented as a straightforward reportage-style list of what happened when Sally performed to her class, with little emotional content. Later, her reflections about her therapist, and their relationship, were recorded. These subjective emotional interpretations gave Sally's story a deeper meaning. In the second stage, Sally used the iPad to photograph the key scenes of the story. She chose what these scenes would be and took the photographs herself, including pictures of her therapist, the head teacher, and the deputy head. In this story-composing stage, Sally's narrative skills developed as she worked through the pictures in a sequence and thus needed to be clear about which picture should go where, right from the beginning of the session. She distinguished between written text and spoken (recorded) narrative in that her spoken words elaborated the more simple written text of her story: For example, to accompany the text '*this is Joan*' she recorded '*this is my friend Joan*'; or to accompany the text '*this is me*', Sally recorded the soundclip '*This is a story about my song.*' Her rapid choosing between good photos to keep and not-so-good to delete was motivated by the desire to find specific pictures and take ownership of the story. In this process, Sally realized that one key photo was missing and said: '*We need a picture of the whole of my class*' and she also chose to put a photo of her therapist close to the

STORY-MAKING ON IPADS

end of the story sequence and typed *'My sessions with Joan are very important'*. Thirdly, Sally helped edit the photos. She added text for each picture by choosing and adding the words herself. She also recorded audio clips that did not replicate but rather augmented the written text. She manipulated the app independently and worked out how to record, listen, sequence and save content herself. However, she was also concerned about a possible loss of the story. In the story-making, some content was lost, which was disappointing and confusing for her. Although she took the time to replace the data very carefully, she became aware of the possible complete loss of the digital nature of her story, and at the end of story-composing she asked: *'Will you keep it? Will it be on the iPad forever?'*. She was clearly motivated to finish her story, as evidenced by her asking when the story was not complete within one session: *'When can we finish this? Are you coming in later today? Or how about tomorrow?'* When the sequence was complete, Sally chose the therapist as her first 'listener' and later announced that she would like to share the story she had created: *'I want to show it to the class'*, which further evidenced her intrinsic motivation in sharing contents of a personal story with others. Sally seemed less focused and engaged when viewing the finished story; it was the *process* of story creation that engaged her most. We provide a transcript of Sally's story in the Appendix.

Specific outcomes for Sally. Considering Sally's specific needs, the app afforded an opportunity to increase the girl's confidence and self-motivation in structuring a coherent narrative and to enable her to understand, know and confidently share the contents of her own story with others. In addition, given that the app was used on the iPad2 platform and the school's use of iPads to support children's communication as part of their ICT program, the target of supporting Sally's emerging technological competence with these tools was put forward and achieved. The activity afforded an authentic opportunity for Sally to show and practice increased social competence skills. In particular, the possibility of taking pictures with the iPad and making these almost instantaneously part of her story allowed Sally to build further links with children and school staff as she had to approach them and ask for permission to take photographs. Overall, Sally's apparent motivation during the story-

STORY-MAKING ON IPADS

composing stage to compose her own story and interact with others was an important reason for why the therapist and other members of staff included the iPad in Sally's future literacy activities.

Implications for the field

The case studies provide clinicians and special needs educators with examples of how multimodal personal stories can enhance children's motivation to achieve specific literacy-related and social targets. The two case studies provide a snapshot of how one app was implemented in authentic classroom environments and situated in ongoing classroom practice in two special needs schools. In such settings, teachers and therapists frequently experience barriers to establishing an effective service delivery model of new technologies (Galanouli, Murphy & Gardner, 2004) and to motivate children to participate in classroom-based activities (e.g., Csizér, Kormos & Sarkadi, 2010). The key advantage of the Our Story app with its multimodal personal stories is that it can be adjusted to a specific educational context and as demonstrated by the two case studies here, to meet specific targets based on individual children's needs. For future use of this and similar apps, it is recommended to capitalize on their flexibility of implementation and deployment. However, this flexibility also means that caution needs to be exercised when generalizing the benefits seen in the case studies to different therapeutic and clinical settings, especially in light of the various roles personal stories play in different socio-cultural groups (Heath, 1986). The case studies have been valuable in identifying several issues about the implementation of multimodal story-making apps and the observations below center around the advantages pertinent to the specific story-mediating medium discussed here, i.e., the Our Story on an iPad, followed by some of the difficulties.

Major benefits. First and foremost, the Our Story app is open-ended which means that the children can create any stories they would like and practitioners any stories they think meet the children's needs. This flexibility was a major motivating factor in the use of the app. For children who cannot verbalize their stories, the option to take a picture or add a simple sentence/word in writing is an appealing one. Similarly, the possibility to audio-record stories provides a major advantage to children who have motor difficulties and cannot type or hold a pen. The wide range of personalization options through the app is further underscored by the iPad's customization options,

STORY-MAKING ON IPADS

notably the possibility to adjust font size, audio volume or picture and keyboard brightness as well as easily enlarge the screen. Most of these adjustments can be achieved without the need to go into settings or complicated procedures which is empowering for the children and very convenient for their teachers. As such, the iPad app provides a powerful tool for expressing and capturing children's stories. This resulted in several benefits for the children. For example, the use of the app supported the learning targets relevant for individual children, but also for groups of children. As shown in the first example, with several ways of expressing the story, the app enabled children with limited verbal ability to be on a more equal footing with other children in a class. A whole class participation in the story-creation process thus served an important role in facilitating social skills such as turn-taking and co-listening. Moreover, given that iPads can be dexterously used by children who are often marginalized in the class (not only because of their physical differences, but also the specific technological tools supporting their communication with others), the iPad's attractive appearance can positively support class social dynamics.

It is also worth noting the way the app was able to support children's social skills at all stages of the story cycle, i.e., both story-creation and story-sharing. For example, for Sally, taking pictures in the story-composing stage constituted an important opportunity to nurture her relationships with the school staff and children in the class, and make Sally aware of the circles of support around her and the hierarchies of this support.

In addition, larger, wide-ranging benefits were noted in relation to the introduction of iPads into the schools. In the first case study, the teacher showed how to use Our Story to other teaching professionals and the interest snowballed to include others. In addition to Our Story, the speech and language therapist (SaLT) investigated the use of Augmentative and Alternative Communication (AAC) apps such as Proloquo2Go (Assistive Ware) for children to use on iPads. The benefits of the Our Story app has provided the basis for a strong case to be put to the school principal to purchase more devices and at the time of writing, there are 30 iPads in the school (shared between the primary and secondary departments). Each of the teaching staff has their own device, including the SaLT who uses AAC apps both as a communication facilitator and as a motivator with reluctant communicators

STORY-MAKING ON IPADS

at school. This means that several professionals working with the children can sustain the practice of creating and sharing personal multimodal stories with the children.

Potential difficulties. The case studies highlighted the need to use the app in conjunction with other story-representation techniques. The stories created with the app were linear and confined to the iPad, i.e., they did not furnish additional sensory stimulation such as for example smell, which often triggers detailed and non-linear stories and memories (Toffolo, Smeets & van den Hout, 2012). Extending an iPad story to a drama script is one of the ways to enhance the multisensory nature of experiences which precede children's personal stories. Comments about these experiences could be incorporated into the text or recordings.

It is worth mentioning that there are currently two versions of the Our Story app on the market and the version used in this study does not allow online story-sharing (sending of stories across the Internet). A newly released version of Our Story allows this option and enables users to share stories with e.g., children's parents at home or their friends not immediately present at the story-composing stage. Although this opens up many exciting possibilities for fostering the social aspect of stories, it also raises questions about the ethical implications of children's stories that are told in familiar circles but can be later shared with wider audiences. Discussing these issues and making them clear to children might represent a challenge for special needs educators and ought to be considered before such sharing features are introduced to the class.

Lastly, just like with any other personal technology shared between children's school and home (or available in both settings), teachers need to consider the overall time children spend with the device on a typical day. Related to this it is of note that iPads offer a wide range of game- and solitary entertainment apps children might be familiar with and associate with the use of the device. This means that introducing them to a new activity such as multimodal story-telling in the context of classroom-based interaction, can be in conflict with their previous attitudes towards the device and practitioners will need to develop strategies to help children regulate their behavior. In this respect, teachers found it useful to leverage iPads' enhanced security features and to limit children's access to selected apps during the classroom-based activities.

STORY-MAKING ON IPADS

Study strengths and limitations

There are two main caveats to our findings. First, we drew on findings obtained through a qualitative case study method which means that the findings are experience- and context-dependent and are not generalizable to larger groups of participants. Case studies are recommended for studying new or contemporary phenomena, in real life contexts where a detailed and in-depth description provides an understanding of the phenomenon (Yin, 2003). Correspondingly, we offered some rich and pertinent information on a new research and practical phenomenon and charted how this approach impacted on a specific group of children and their staff. Such a detailed description, written together with the teachers who implemented the intervention, can be efficiently deployed in other classrooms and adjusted to their learning contexts.

Second, this study concerns a small group of children with a diverse set of skills and abilities. All participating children were from special educational establishments and of similar chronological age but their communication abilities and literacy skills varied considerably. Each child had a range of specific difficulties and forms of behavior and teachers participating in the project were very aware and responsive to the children's unique needs. Our goal was not to quantify but to describe children's individual gains from using the app. Given that Our Story supports multimodal and open-ended content and given that multimodal stories can accommodate and develop a variety of skills, the app was well-suited to this approach. However, future research interested in comparing children's achievements through standardized tests might want to consider using other story-making iPad apps, namely those which come with pre-established story templates and thus ensure greater comparability across children and improved ability to assess progress over time.

In conclusion, the Our Story app is part of today's widespread representation of stories via digital means (see e.g, Al-Yaqout, 2011) and its iPad edition can provide access to story formats which are otherwise inaccessible to children with complex needs. We have evidence from the case studies that this can be highly motivating for children with a range of language and socio-emotional difficulties and contribute to their story-sharing and story-creation abilities. The examples provided in this Clinical Forum highlight that the opportunity for user-generated and multimodal content makes

STORY-MAKING ON IPADS

Our Story and similar apps well-suited for individualized learning environments and specific pedagogical goals with children with complex needs. This may encourage a wider recognition among special needs educators that personal multimodal stories can become a valuable part of the rich repertoire of stories children, regardless of their abilities, can enjoy and share with others.

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STORY-MAKING ON IPADS

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STORY-MAKING ON IPADS

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STORY-MAKING ON IPADS

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STORY-MAKING ON IPADS

Table1: Case Study children’s abilities according to the P scales and National Curriculum levels

Child’s name and age	Speech and language ability/ Story telling before Study	Particular aims of study (descriptors within next level)	Speaking and Listening Levels before the study	Speaking and listening skills Levels after the study
Calum 7.1 years	Some hesitations, sometimes difficult to understand/ Simple description of a character and an incident, but no start or end. No descriptive language.	Level 1: To add relevant details to ideas. To talk or communicate about character or incident.	Level P8: Act out a simple story in 1-1 situation. Uses short phrase to communicate ideas (or signs).	Can convey simple meanings to a range of listeners, speaks audibly, and begins to extend his ideas (1A)
Rafiq 7.3 years	some verbalisations/ Used communication book and signs to express a simple idea:- noun+verb or adj+noun+verb	Level 1: To add relevant details to ideas. To talk or communicate about character or incident.	Level P8: Act out a simple story in 1-1 situation. Uses short phrase to communicate ideas (or signs).	Understands and responds appropriately to straightforward comments and instructions (1C)
John 7.7 years	Typical speech abilities/ Monopolised story telling sessions. Resisted turn-taking. Sulked if other person spoke first.	Level 1: Join in appropriately in group situations. Takes turn to speak. Able to wait until asked by teacher.	Level P8: Act out a simple story in 1-1 situation. Uses short phrase to communicate ideas (or signs).	Understands and responds appropriately to straightforward comments and instructions (1C)

STORY-MAKING ON IPADS

Lily 7.9 years	No understandable speech, some verbalisations/ Resisted using communication book or signing. Difficulty joining in whole class activity. Unable to motivate in drama.	Speaking: P6 Joins in with a story activity. Carries out 2-way conversation using signs or communication book.	Listening: P6 Pupils respond to others in group situations Speaking: P5 Pupils combine two key ideas or concepts	Responds to others in group situations(P6) and in speaking, combines key ideas or concepts (P5)
Martin 8.1 years	Understandable speech but very obsessional/ Resistant to joining in whole class activity. Would only engage for short periods. Only small contributions.	Level 2 Uses some expression when telling story. Makes relevant comments. Dramatise own stories.	1A Adds a detail to a story. Talks about a character or incident.	Can communicate on different topics with people he knows (2B)
Habib 8.6 years	Frail soft voice, breathless, but typical speech otherwise/ Shy when working in whole class situation. Allows others to take the lead. Needs encouragement to	Level 2 Uses some expression when telling story. Makes relevant comments. Dramatise own stories.	1A Adds a detail to a story. Talks about a character or incident.	Express ideas using an appropriate vocabulary and shows listening by direct responses (2C)

STORY-MAKING ON IPADS

	engage.			
Nina 8.7 years	Limited speech: one or two word phrases/ Only able to attend for short time. Does not follow the storyline with concentration. Able to engage for short periods. Makes some relevant comments.	Level P8: Act out a simple story in 1-1 situation. Uses short phrase to communicate ideas (or signs).	Listening: P7 Pupils listen, attend to and follow stories for short stretches of time. Speaking: P7 Pupils use phrases with up to three key words.	Listens, attends to and follows stories for short stretches of time and uses phrases with up to three key words (P7)
Robert 9 years	Little understandable speech/ Resistant to joining in whole class activity. Would only engage for short periods. Only small contributions.	Level 1: To add relevant details to ideas. To talk or communicate about character or incident.	Level P8: Act out a simple story in 1-1 situation. Uses short phrase to communicate ideas (or signs).	Understands and responds appropriately to straightforward comments and instructions (1C)
Jane 9.4 years	No speech, occasional sounds/ Has to have 1-1 support to communicate. Good sense of humour. Follows story with concentration.	Level 1: To add relevant details to ideas. To talk or communicate about character or incident.	Level P8: Act out a simple story in 1-1 situation. Uses short phrase to communicate ideas (or signs).	Understands and responds appropriately to straightforward comments and instructions (1C)

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