How drawing can support writing acquisition: Text construction in early writing from a Vygotskian perspective

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TO BE TRULY LITERATE, children need to learn to create, comprehend and use written, visual, aural and multimodal texts. When they start school, they are usually able to create spoken and visual texts (drawings) but have limited skills in written text creation (writing). Our study investigated what would happen if teachers encouraged children, in the first six months of formal schooling, to continue visual text creation while they taught them to create written texts. Ten teachers and 60 children from six schools in a regional centre in Australia informed the study. Genetic Research Methodology (GRM) provided a framework with which to interrogate and understand the data and consequently a 'new' way of exploring the relationship between drawing and early writing development. We argue that encouraging children to draw, while teaching them how to write, allows children to create meaningful texts of a complexity that they may not be able to create using conventional print forms alone. We also argue that the incorporation of drawing into the early writing curriculum is more important than ever given contemporary understandings of literacy.

Introduction

Early childhood is defined as the 'period of time from birth to eight years of age' (UNESCO, 2013). It is during this time that the foundations for literacy are established. Success in literacy learning is important in terms of success at school and opportunities in life generally. Writing is a key element of literacy learning. Writing is also one of the important ways humans record ideas, discoveries and stories, and communicate with one another. Recent research shows that in Australia, as well as in other countries including the United Kingdom (Anning, 2002; Coates & Coates, 2006) and the United States of America (Bergen, 2006), a formalised approach to literacy instruction in early years classrooms dominates. This research suggests that in Australia, as well as in other countries including the United Kingdom (Anning, 2002; Coates & Coates, 2006) and the United States of America (Bergen, 2006), a formalised approach to literacy instruction in early years classrooms dominates. This research suggests that the emphasis in many school classrooms is on letters and words, print conventions and accuracy, with limited time for self-expression or text construction through drawing. This may be a response to the ‘accountability movement’ (Genish & Dyson, 2009, p. 59), a consequence of a ‘narrow understanding of literacy as reading and writing words’ (Ring, 2006, p. 195) or a view of drawing as a time-filler, art or ‘activity to encourage realistic representations of objects, people, places or events’ (Einarsdottir, Dockett & Perry, 2009, p. 5).

Our interest in children’s drawings is purely as they relate to text construction and early writing, not as a manifestation of children’s fantasy or artistic capabilities. In the early stages of learning how to write, children may not have sufficient control of print conventions to enable self-expression using text alone. Therefore, we assert that drawing, as a text construction method, should remain available to children throughout the conventional written language-learning journey. In this way, written text construction is added to visual text creation allowing text production to be fluid and flexible.

Drawing and writing: What does the research tell us?

Dyson (2001) suggests that the deliberate act of composing begins with directly representative media, including play and drawing. Mills (2011) also argues that young children ‘shift meanings across multiple modes long before they have mastered formal writing skills’ (p. 56). While drawing provides children with the potential for rich expression and complex learning (Oken-Wright, 1998), talk and drawing often interact as parallel and mutually transformative processes (Cox, 2005). Research from the 1980s and 1990s reports a strong relationship between early writing and drawing.
(Caldwell & Moore, 1991; Calkins, 1986; DuCharme, 1991; Dyson, 1988, 1990; Kress, 1997; Norris, Mokhtari & Carla, 1998; Oken-Wright, 1998). More recent research has come to similar conclusions (Dyson, 2001; Genishi & Dyson, 2009; Jalongo, 2007; Kress & Bezemer, 2009; Mackenzie, 2011; Mayer, 2007; Mills, 2011; Ring, 2006; Shagoury, 2009). Drawing and writing involve the use of many of the same psychomotor skills and cognitive abilities (Jalongo, 2007), and are both systems of sign or mark making capable of carrying meaning. As drawing is a flexible, invented, personal symbol or sign system, it is unconstrained and does not require learned interpretation (Caldwell & Moore, 1991). In contrast, writing systems are closed systems determined by cultural context and constrained by rules.

Writing differs from oral language, because it leaves visible traces or marks (Tolchinsky, 2006). If writing is the representation of speech (Olson 2009; Vygotsky, 1997) in the ideal learning situation writing should develop at many levels spontaneously and simultaneously (Tolchinsky, 2006) with children building a ‘symbolic repertoire’ of which print would be one element (Genishi & Dyson, 2009). In this approach to writing, drawing is a form of self-expression in its own right and a means to add depth of meaning to early writing attempts (Clay, 1979; Dyson, 1986). When children are constructing visual texts (drawing), ‘teachable moments’ (Bailey, 2002) are created, enabling an adult, or ‘more knowledgeable other’ to assist them to learn another means of self-expression (written text).

There is also a strong relationship between children creating texts which incorporate both visual and written elements and their ongoing ability to create and interpret multimodal texts. While discussions of multiliteracies (Cope & Kalantzis, 2000; Crafton, Silvers & Brennan, 2009; Hesterman, 2011; Mayer, 2007; Mills, 2011; Ring, 2006; Shagoury, 2009) with children building a ‘symbolic repertoire’ of which print would be one element (Genishi & Dyson, 2009). In this approach to writing, drawing is a form of self-expression in its own right and a means to add depth of meaning to early writing attempts (Clay, 1979; Dyson, 1986). When children are constructing visual texts (drawing), ‘teachable moments’ (Bailey, 2002) are created, enabling an adult, or ‘more knowledgeable other’ to assist them to learn another means of self-expression (written text).

Theoretical underpinnings

Cultural-historical theory (CHT) of the development of higher mental functions (Vygotsky, 1997) and the principles of Genetic Research Methodology (GRM) (Veresov, 2010) provide both theoretical and experimental tools for the study and the analysis of data. What is important for this research is that CHT considers the process of development, not just as simple growth or maturation demonstrated by a series of changes (stages) which replace each other in the course of time. Rather, development is a complex process of qualitative changes in human mental processes taking place within sociocultural contexts, environments and interactions. Vygostky (1997) identified an important developmental transition for children: they must discover that speech (like objects or things) can be ‘drawn’. However, ‘the generally accepted methods of teaching writing do not allow a thorough observation of the transition process’ (Vygotsky, 1997, p. 142).

GRM comes from CHT and converts its general ideas into a system of principles of design, organisation and experimental study. In this context, ‘genetic’ refers to the process of sociocultural development (genesis) of human mental functions. GRM creates an appropriate theoretical and experimental framework for the study because it provides useful tools and instruments for the analysis of the development of ‘written’ language in relation to the higher mental functions of a child. In other words, GRM allows us to study the process of transition from drawing to writing from a developmental perspective, as a genesis of writing which takes place in sociocultural contexts and conditions. Within GRM, the theory and the research method are ‘two sides of the one coin’; the researcher selects both the theoretical and experimental instruments which are the most efficient for resolving the research question and creates experimental settings according to this selection. GRM, in our study, makes it possible to analyse the process of social-cultural genesis of written language both theoretically and experimentally, with theoretical research tools and experimental research tools working together.

According to Vygotsky, the ‘development of higher mental functions’ encompasses two groups of phenomena, which represent two streams of development. First are the processes of mastering external materials of cultural development and thinking (language, writing, arithmetic, drawing) and second, the processes of development of special higher mental functions (1997, p. 14). Drawing, together with language, writing and arithmetic, is an external material of cultural development. It is a legitimate form of text construction in its own right as well as a mode of expression that can provide a scaffold to children as they learn the conventions of written speech.

The study

The task of the study was to investigate children’s drawings (with, for example, pencils and felt tip pens) as a form of sign creation (visual text construction) and as an important element of a child’s written language development or sign use. The research question asked: how does ‘sign creation’ (visual text creation or drawing) support the learning of ‘sign use’ (written text construction)?
Method

GRM is based on the experimental-genetical method, which ‘artificially elicits and creates a process of mental development... in order to elicit a certain development’ (Vygotsky, 1997, p. 68). The advantage of this method is that it discloses ‘real connections that are hidden behind the external manifestation of any process’ (Vygotsky, 1997, p. 69). This method ‘asks about origination and disappearance, about reasons and conditions, and about all those real relations that are the basis of any phenomenon’ (Vygotsky, 1997, p. 69). For the purpose of our study, it was important that we were able to analyse not just the separate external forms (stories, drawings, texts), but the entire process of genesis of written language.

Sample

Our study focused on 60 randomly selected children who were in their first year of formal schooling and their 10 volunteer teachers. The children and their teachers came from six schools in New South Wales (NSW), Australia. In NSW, the first year of school is called Kindergarten. Twelve children were attending schools that had a Priority Schools classification to reflect the low socioeconomic status (SES) of the families. The children ranged in age from four years and seven months to six years and two months in the first week of school. Twenty-six (43.3 per cent) were girls and 34 (56.7 per cent) were boys. All children spoke English as their first language. Five of the schools were situated in a regional city with 100 000 people while the remaining school was situated in a small village 30 kilometres outside the regional centre. Seven teachers had Master’s or Bachelor’s degrees and three had a Diploma of Teaching. Two had Early Childhood qualifications and six were teachers with experience teaching in a literacy early intervention program (Reading Recovery). The teachers were all female; they ranged in total years of teaching experience from one year to 32 years (average 17.2 years); and ranged in kindergarten teaching experience from one year to 10 years (average 5.9 years).

Experimental conditions

In our experimental settings, we created the necessary conditions to elicit the process of genesis of early forms of written language. These conditions were:

1. In the study classrooms teachers regularly demonstrated how written language was created and for what purposes. The children were immersed in written language (in books, charts, labels, interactive whiteboard and computers) as they continued to use their current forms of text construction (talking and drawing).

2. Teachers introduced conventional written language use as ‘another way’ of text construction, alongside talking and drawing. Explicit instruction in written language forms and use were provided to the whole class and small groups through an Interactive Writing approach. This approach involves children working collaboratively with the teacher to create shared texts. The teachers continued to follow the compulsory K–6 English Syllabus (Board of Studies, NSW, 2007) and the guidelines provided by ‘A continuum of critical aspects of early literacy development’ (Department of Education and Training, NSW, 2008).

3. Children were encouraged to ‘talk, draw and/or write’ in any chosen combination or order during independent ‘writing’ time. Independent ‘writing and drawing’ was usually completed in a ‘free drawing and writing book’ provided for this purpose. This allowed persistent self-expression or text construction to be maintained.

The teachers collected text samples from the children participating in the study twice each term (every five weeks). Samples varied from child to child, but included: drawings, ‘scribble writing’, drawings with labels, drawings intertwined with letter-like shapes and random letters, words created using invented spelling, and a combination of invented spellings and correctly written words. Teachers observed and recorded anecdotally the changes in children’s writing skills and understandings. On a number of occasions (two–five) throughout the year, teachers recorded children’s talking, writing and drawing events and their discussions with the children. They recorded anecdotally the order of activity (draw or write or both); collaboration between children; topics for writing/drawing; conversations which took place as children worked; resources used by children; time spent on tasks; strategies for spelling; pencil grip; letter formation; body language; behaviour and attitude. These data were shared with the researchers.

Cultural Historical Theory (CHT) and data analysis

Complex processes require complex instruments of analysis. CHT provides the analytical instruments that allow the researchers to expose and to restore the process of development, which is usually hidden behind the phenomena under study and, at the same time, is manifested in such phenomena. In other words, concepts of CHT are ‘lenses’ through which the researchers become able to refocus his/her eyes from...
superficial observation to the process of development. For our study we selected three concepts of CHT as our 'theoretical lenses': 1) the interaction between the ideal and real forms; 2) the sign and mediating activity; and 3) word meaning as a unit of analysis of thinking and speech.

1. Interaction between the ideal and real forms
A child's introduction to speech is a good example of this concept. From well before they are born, children hear speech, which is grammatically and syntactically correct, even though it is sometimes toned down for the child's benefit. Vygotsky (1994) referred to the mature form of speech as the final or ideal form. The child's early attempts at speech may be referred to as the real or primary form. Vygotsky (1994) suggested that for speech to develop, it was necessary for the ideal form to be present in the environment and to interact with the child's real form. According to Vygostsky (1994), the ideal form 'acts as a model for that which should be achieved at the end of the developmental period' (p. 347). The ideal form is 'final in the sense that it represents what the child is supposed to attain at the end of his development' (Vygotsky, 1994, pp. 347–348). This concept aligns with study condition one.

2. Signification and text construction
Signification, the creation and use of signs, is a distinguishing feature of human behaviour (Vygotsky, 1997). However, there is a significant difference between the creation of sign and the use of sign. Children's drawings are an example of sign creation. Conventional written language is an example of sign use. We focused our analysis on the developmental transition from sign creation (drawing) as a child's only form of visible text creation to the use of sign (writing) as an additional or alternate form of text creation. This concept aligns with study condition two.

3. Word meaning as a unit of analysis
In Thinking and speech, Vygotsky (1987) introduced word meaning as a unit of analysis of the complex whole of speech and thinking. He suggested that 'meaning is an inseparable part of the word; it belongs not only to the domain of thought but to the domain of speech ... It is both at one and the same time; it is a unit of verbal thinking' (Vygotsky, 1987, pp. 47–48). As such, the concept of unit of analysis (with meaning as the unit) is important for our study because it helps to explain how the development may be interrupted not because the child has nothing to say, rather, their access to a sign system that works for them is removed and a new method is introduced. While they are mastering the new method, they may lose interest in text construction as a form of self-expression. This concept aligns with condition three.

Findings
The findings are provided in the format of children's work samples. These samples are demonstrations of the kindergarten children's text construction in a classroom context. Figures 1 and 2 are examples of students' attempts at writing which came from an earlier collection of data that was not part of the experimental process. They are included here to provide a contrast to the samples from the experimental classrooms. They were collected in the middle of the kindergarten year and the children ranged in age from 5.4–6 years of age at the time of collection. Figures 1 and 2 came from classrooms that were not involved in any form of intervention. The samples represent those created by children in non-intervention classrooms collected in an earlier non-experimental study.

Figure 1.

On the holidays we played ... (I can't remember).

Figure 1 shows an attempt at written text use by Peter. He knows quite a bit about conventional forms of written language. Peter used a range of letters in a left to right line, which indicates an understanding of correct directional principles. The start of the sample, 'On the holidays', was copied from the board. Peter then wrote 'we played' but was unable to remember 'what he played'. Figure 1 imitates written language but it is meaningless to Peter and the reader. Peter demonstrates limited control of conventional forms of written language for self-expression and does not include drawings to supplement his text construction. The tools he uses (attempts at written words) limit the process, and a contradiction between self-expression and available tools appears. Perhaps he was not encouraged to use existing tools (sign creation: drawing) to support his attempt at text construction.

Figure 2.

Today (X class) went to the library. Mrs (X) read Hairy Maclary.

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Jo was instructed to write about a topic determined by the teacher (see Figure 2). The teacher also provided words and parts of words representing and demonstrating the conventional form of language. However, this type of teacher–child interaction did not provide better possibilities, and the stories remain short and simple.

The remaining samples (3–8) came from classrooms which were part of the experimental process.

Figure 3.

The mermaid is under the water.

Figure 3 is an example of spontaneous transitional text construction—drawing (sign creation) with some experimentation with letters (developing sign use). Sally has used two expressive modes to create a multimodal text. The transcript below suggests that the picture was an important part of the text.

Teacher: What do we have here? Can you read me your story?

Sally: (Pointing to the mermaid) This is my mermaid and here is the water (pointing to the water on top and below the mermaid). There is water all around. ... on top ... and down below ... she is under the water ... see... (pointing to the text) and this says... she is ... no ... (pointing back to the mermaid) ... the mermaid is under the water.

Figures 4 and 5 are further examples of transitional forms of text creation. The drawings provide messages which are quite complex in their nature. Written texts have become a little longer. The children are still limited in written language forms (use of signs), but they are not limited in drawings (sign creation). These two expressive modes co-exist, allowing for quite complex messages and multimodal texts: drawing and writing.

The two children who created Figures 4 and 5 (Peta and Michael) worked collaboratively in regard to the written text construction, which was in response to a shared experience of going to church at Easter. The children assisted each other with the use of the tools of writing, while their drawings provided the points of difference and complexity in their messages. The drawing for Figure 4 shows the impact of the church’s architecture on Peta, with the shape of the building, crosses, stained glass windows, arched doorway, and crazy paving all featured. The people who greeted the children were also important to Peta. In Figure 5, it is clear that the bus ride was the most important element for Michael. The simple sign use (written language) is complemented by complex sign creation (drawing) to create multimodal texts in each instance. The children are able to express themselves using two modes of language working together.

Figure 6 provides an example of the use of words as signs (conventional written language). The arrows in Figure 6 are another form of sign used to indicate the objects drawn and to explain them. There appears to be a strong interdependence between the drawings (sign creation) and written text (sign use) in this figure. The drawings came first with the written text providing further meaning and explanation. Again a multimodal text using drawing and written text.
When Jayden's tooth fell out

Today Jayden's tooth fell out. Yesterday Kade's tooth fell out. When your tooth falls out the tooth fairy comes and gets your tooth and out of the tooth the tooth fairy makes a little home out of the teeth. Once in my life I had one falling out and it came out at night time and I got some money from the tooth fairy. I put the money in my money box because I am saving up for a two wheeler motorbike and so is my brother but not a two wheeler.

Figure 7 shows a sample of writing by a child who has moved away from drawing, in this instance anyway. Jed has provided his story using conventional forms of written language (sign use). He feels confident in his control of the written signs to the point where he has created a complex message using written language only. While for some this may be a reason for celebration, others suggest that complete reliance on written language is not necessarily a desired outcome in an era where multimodal texts are common (see, for example, Kress & Bezemer, 2009).

Discussion

In our study children's drawings are a 'primary or real form' of written language whereas 'written text created using letters and words' is an 'ideal, developed or conventional form' of written language. As children become proficient in the ideal form of written language the primary form (drawings) may take on a more illustrative or supportive role. In some cases drawings may not be needed at all. For a while, the child may use both forms (drawing and written text) together in order to create messages that are more complex than those that they could create with either drawing or text alone. In our research, we see the changes from drawings alone, to drawings and writing combined, to conventional written text as social genetic transitions, because they are the result of interactions between the ideal and real forms of written speech. This theoretical concept therefore helps to explain changes in
children’s drawings and writing as a manifestation of a certain line of social genesis. While multimodal texts are important in contemporary times, the ability to express speech in its written form is a key linguistic skill children need to master.

At the beginning of the experimental series, children created their own signs (drawings) with stories ‘told’ in a form of pictures or graphical images. Gradually, they added letters, symbols and words to their drawings. At the latest stages of the experiment, written texts began to dominate for most children. For some children, the drawings began to come after the written text while for others they disappeared from their writing altogether. What is important from the developmental point of view is not the system of signs the child uses, but the ability of children to continue to express their ideas during the process of transition from sign creation to use of signs. During the transitional process, the activity of the child remains meaningful.

We suggest that the difficulties, faced by some children when learning to write, may be the result of a forced disruption of the text construction process. If children are not encouraged to use drawings as a legitimate sign system, on its own or alongside early attempts at conventional written language, they may be unable to express their ideas or knowledge in a ‘written’ text format. If children have to wait until their writing skills reach a level of proficiency that allows them to express their ideas effectively and efficiently in the written form, the text construction process may be interrupted. Consequently learning how to write may become a meaningless activity. From a GRM perspective, if the child has no means of meaningful text construction we could say that the process of language development has been interrupted.

In our study, children’s ability and desire to draw ensured that at any time the children had access to tools to construct meaningful texts. During this process, text construction through drawing was gradually replaced by text construction using the conventional tools of writing.

**Conclusion**

In this article, we have discussed findings from the application of the principles of GRM, to data obtained during an ongoing research project focused on early writing. We acknowledge that the size of the sample (teachers: \( n = 10 \) and children: \( n = 60 \)) was relatively small. However, the data were rich and provided a powerful platform for the application of GRM to the investigation of children’s drawings as a legitimate form of self-expression and text construction and an important stage in the genesis of written language. During the study, teachers used a variety of approaches to teaching literacy with one common element: an emphasis on drawing as an important part of children’s self-expression. GRM provided a rationale for the experimental nature of the study, a ‘new’ theoretical framework for the interrogation of the findings and consequently a ‘new’ way of discussing the findings.

To engage fully with literacy in contemporary times, children need to learn to create, comprehend and use written, visual, aural and multimodal texts. They usually begin school with some ability to create aural and visual texts, although our discussion here is limited to those texts which leave visible marks or signs. When they enter school most children have limited skills in written text construction. If children are taught to add written texts to visual texts, their self-expression skills become flexible and allow for the creation of texts, which may be more complex than those they can create with one or other mode of language. By encouraging the two modes of expression (drawing and writing) to work together, children learn to create multimodal texts. If however, visual text creation (drawing) is not valued once instruction in writing begins, self-expression is limited and children may lose confidence in their ability to share their ideas. An interruption to children’s self-expression ability may create an unnecessary gap in the process of language and thinking development.

Writing is one of the most important skills that schooling provides for children. However, due to the complexity of the process, many children face challenges when learning to write (Dockrell, 2009). We have argued that visual text creation skills allow for a continuation of self-expression while written text skills are learned. This specially created and designed stage bridges the gap in text construction and therefore eliminates interruptions to the text creation journey. Transition to written language becomes a step forward, supplied by the necessary developmental tools (sign systems) and psychological conditions. We also argue that by allowing the two language modes of drawing and writing to work together, children are able to create more complex texts from a younger age.

In this article, three important developmental conditions were discussed: 1) the maintenance of interaction of the ideal and real forms during the entire experimental process; 2) the support of the transition from visual text creation (drawing) to written text creation; and 3) the maintenance of persistent self-expression. The results indicate that the incorporation of drawing into the early writing curriculum provides children with a smooth transition to written language use. These conditions may also prevent potential writing problems in the classroom. The study findings provide a new way of understanding why drawing should be a valued and critical element in early writing curriculum.
References


