Drawing before writing: A metacognitive scaffold to Year 2 children's story writing

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Abstract
This paper describes a pre-service teacher-researcher's action research study into Year 2 children's approach to story writing. The purpose of the study was to investigate the use of drawing to improve the quality and quantity of children's writing by using drawing before writing to scaffold children's thinking during the story writing process. The use of drawing also sought to improve students' view of themselves as competent writers. The paper describes a six week period during which children were encouraged to draw their thoughts before commencing the writing of their story. Children's comments on the drawing process give educators insights into the way lower primary children create and develop story plots during story writing sessions. Data was analysed using themes emerging from anecdotal jottings, and teacher-researcher diary reflections. Student work samples and questionnaires were also collected and analysed. The findings of this research suggest that some children's thinking and story writing skills benefit from drawing before commencing writing tasks. This research also provides teachers with insight into the way children reflect upon themselves as writers and communicators.

Keywords: drawing before writing, metacognitive scaffold

Introduction
This action research investigates whether Year 2 students can use drawing as a metacognitive scaffold to improve the quantity and quality of their story writing. Children were encouraged to stop, think and collate their ideas visually before writing a story and to revisit their drawings during and after their writing tasks, as required. Action research methodology allowed the researcher to observe and reflect on children's thinking during the writing process, giving insight into how children internalise their thoughts and ideas for writing, as well as how they view themselves as writers and communicators. These insights may be used to support and scaffold future story writing experiences.

Research questions
1. Does drawing before writing enhance children's perception of themselves as writers and communicators?
2. What impact does drawing before writing have on the quality and quantity of Year 2 children's story writing?

Hypothesis
It is hypothesised that children who draw their ideas and thoughts onto paper before they take part in writing tasks will use their drawings as a metacognitive scaffold to enhance the quality and quantity of their writing. It is also hypothesised that this process will have the flow on effect of enhancing children's self-perception of themselves as writers.

Background
Communication is multi-modal; it can be expressed through reading, writing, speaking, seeing, listening, drawing, dance or music. Writing is an important part of a child's world of communication and expression (Love, Burns, & Buell, 2007). Children begin to write from a young age (often prior to their

entry into school), as role play writers or experimental writers, often drawing their 'story' (WA Dept Education, 1997). This age group believes that their drawings tell the story and that the words are the labels for the pictures (Fereiro, 1990, cited in Fields & DeGayner, 2000).

In the experience of both authors of this paper, it appears that in lower primary classrooms, more class time is spent on modelled writing, punctuation and spelling than on helping children to develop their thoughts by drawing these thoughts before writing them. Drawing to illustrate the story appears to be an optional last phase of the story writing lesson, or a task assigned to fast finishers. This order of tasks fails to harness the centrality of pictures and drawing in children's earlier writing development (Soundy, Guha, & Qui, 2007).

Berk (2009, p. 307) suggests that "children should be exposed to text in its complete form", this means text plus the pictures that illustrate the text. For lower primary children to organise their thoughts, they need to consider their ideas and then format them in line with the prescribed text type. This task is one that involves children in the process of metacognition: the conscious "awareness and understanding of various aspects of thought" (Berk, 2009, p. 301).

Children in the early and transitional (Tompkins, 2010) writing phase (common among Year 2 children), find the task of writing - thinking of ideas for a story and thinking of words to use, while maintaining a particular text type - a challenging task. They may become overly concerned with using correct grammar and spelling. This appears to limit the length and complexity of the stories they write, even though teachers are present to guide and scaffold throughout the writing task. For some children, story writing becomes an overwhelming and time consuming process. Schickedanz and Collins (2013) caution that children who feel overwhelmed by the writing process stifle and limit what they are willing to think and say during the story writing process. Allowing children to draw before writing recognises that combining picture drawing with writing is a powerful way to express and organise thoughts, feelings and ideas (Baghban, 2007). Fellowes and Oakley (2010) suggest that drawing a series of pictures before writing helps the child generate, organise and order the presentation of their ideas. In short, when used in this manner, drawing acts as a metacognitive scaffold to help children to think more deeply and broadly about their ideas, resulting in enhanced expressive and communication skills (Soundy, Guha, & Qiu, 2007).

Because lower primary aged students' ability to draw and speak are more highly developed skills than the skill of writing (Soundy, Guha & Qui, 2007), it makes sense for teachers to use drawing as part of the writing process for these young literacy learners. Children's drawings appear to act as a permanent visual reminder of their thinking and provide important cues during the story writing process. Drawing not only acts as a spark to, or rehearsal for writing but may also help the child review and edit their writing (Baghban, 2007). Drawing before writing may then become a flexible metacognitive bridge in the conventional writing process. Teachers who allow and encourage children to draw before writing, in effect harness the behaviours of role play writing, experimental and early writing stages as a scaffold for transitional writing phase learners. Providing this opportunity will "enable more students to actively participate, actively engage and most importantly actively tell their stories in authentic and meaningful ways" (Cara, 2009, p.10).

"Drawing is not just for children who can't yet write fluently, and creating pictures is not just part of rehearsal for real writing" (Hubbard, 1989, cited in Christianakis, 2011, p. 22). Research on older children and youth has also demonstrated that "pictorials can improve and motivate both learning and writing" (Christianakis, 2011, p. 22).

Baghban (2007) advises that the adult's role during story writing/drawing is to show appreciation for children's drawings, no matter what the drawings look like to the adult. Acceptance of children's drawings is an important step towards developing further drawing and writing skills, as it enables children to gain confidence in their work. The current research study intended to explore the notion of confidence by examining the flow on effect of the use of drawing as a metacognitive precursor to writing, on children's perception of themselves as writers.

A review of the available literature on the role of drawing in 5-8 year olds' story writing indicates the efficacy of drawing in the writing process for young literacy learners. Drawing appears to act as a tool for enhanced self-awareness and as a tool for scaffolding their sense of agency and sense of themselves as proficient writers (Cara, 2009; Powell & Davidson, 2005, cited in Baghban, 2007; Sidelnick & Svoboda, 2000). Despite this evidence, classroom practices in the research setting appeared to overlook and undervalue the place of drawing in the conventional writing process.

The authors' review of literacy articles from the past five years, in four reputable early childhood journals, has shown that there have been a number of articles written about the usefulness of drawing in the story writing process but few of these articles validate their claims in a scholarly manner, by citing actual research studies. The proposed study seeks to provide empirical evidence of the efficacy of drawing as a metacognitive scaffold to writing for Year 2 children and as a vehicle to the enhancement of their perception of themselves as writers.

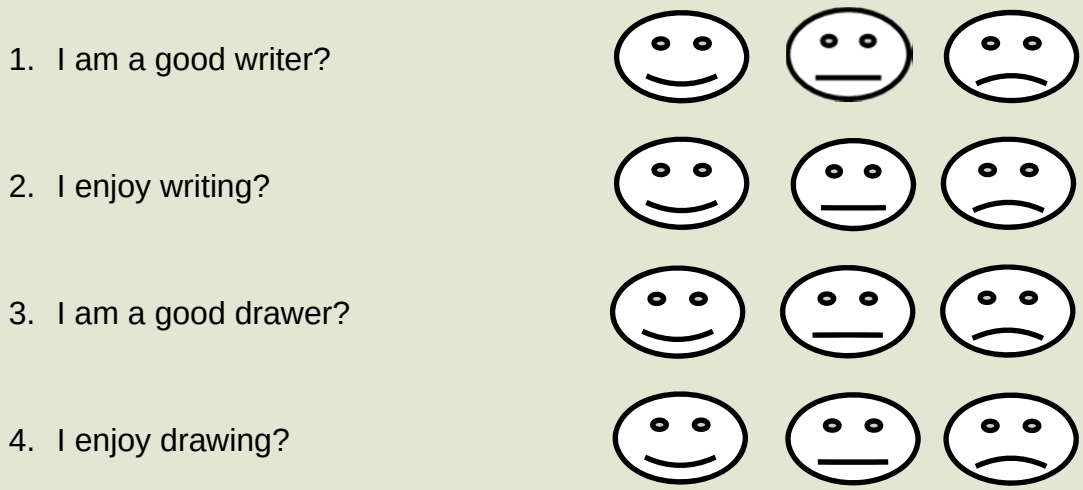
Method

The setting for this study was a Year 2 class of 26 children in a NSW Catholic Primary School. A focus group of six children of varying story writing ability was selected within the class.

This research project followed a series of steps: identify a problem, generate a hypothesis, gather data on the problem, interpret the data, evaluate the results and formulate some conclusions, which were used by the teacher-researcher to sensitively inform and improve practice (Creswell, 2014; Milton-Brkich, Shumbera, & Beran, 2010) during the research.

This study utilised qualitative action research data collection methods to investigate whether drawing before writing scaffolds children's metacognition during story writing and whether this process improves both the quality and quantity of the writing as well as children's perceptions of themselves as writers. Instruments used to gather qualitative data included anecdotal jottings, student questionnaires, work samples and teacher-researcher diary reflections. The two child questionnaires occurred before (pre-test) and after (post-test) the intervention. Prior to the implementation of the drawing before writing research project, all 26 children in this Year 2 class responded to a questionnaire regarding their thoughts and feelings about drawing and writing, and their perception of themselves as writers. At the conclusion of the study the original questionnaire was repeated with one extra question added. The extra question asked children if they thought that drawing helped their writing.

Figure 1: Initial questionnaire



Following standard practice for the students of this class, all students completed a writing task with no prior opportunity to draw. Students were permitted to draw a picture of their story at the end of the writing time (if they had time). The stories were graded on a 1-6 scale according to the number of ideas and/or paragraphs that the children incorporated into their writing (see Table 1). From these initial work samples, six children who were representative of the three levels were chosen as a focus group. Each level consisted of one male and one female. Child 1 and Child 2 were initially graded at Advanced level, Child 3 and Child 4 at Intermediate level and Child 5 and Child 6 at Beginning level.

Table 1: The 1-6 scale used to grade stories

Story Writing Skill Level Text		
Beginning level	**Intermediate level**	**Advanced level**
1. 0-1 basic idea/s	3. 4-5 ideas with detail	5. 7-8 ideas with detail
2. 2-3 basic ideas	4. 6-7 ideas with detail	6. 9-10 ideas with detail

Specific observations and work samples were collected from the six focus children over a six week period. The initial writing sample could then be compared to writing samples done during the study when drawing your story was encouraged before writing your story. Any changes were noted, especially those relating to the quality and quantity of their story writing. The rating scale used in the initial phase was also applied to writing samples throughout the study.

During writing lessons, the researcher scaffolded individual children's thinking by encouraging them to look back at their drawings and discuss what was happening. She also encouraged them to add to their drawings throughout their writing activities and to discuss and share their writing in pairs.

During the six week study, all children in the class were invited to take part in writing tasks that offered opportunities to draw their thoughts before they embarked on their story writing. They were given a 10-15 minute time frame for drawing, during which they could think and make their thoughts visual before beginning to write. A further time limit of 45 minutes was given for the writing tasks. Making a total of one hour allocated to the drawing and writing tasks.

Teacher-researcher observations and reflections were also taken during the writing sessions. The classroom teacher's response to drawing before writing was also recorded.

Interpretive validity of the research was enhanced through the use of records of participant's voices (before, during and after the research intervention) and the gathering of work samples. Transferability of the research was enabled through descriptions of research methods designed to help readers of the research relate the findings to their own contexts and practices.

Assumptions/limitations

In this study, it was assumed that the participants have the ability and desire to draw their thoughts and then reflect on them. Because drawing is a key characteristic of an earlier stage of writing, it was also assumed that drawing acts as a visual aid to thinking and communicating during story writing.

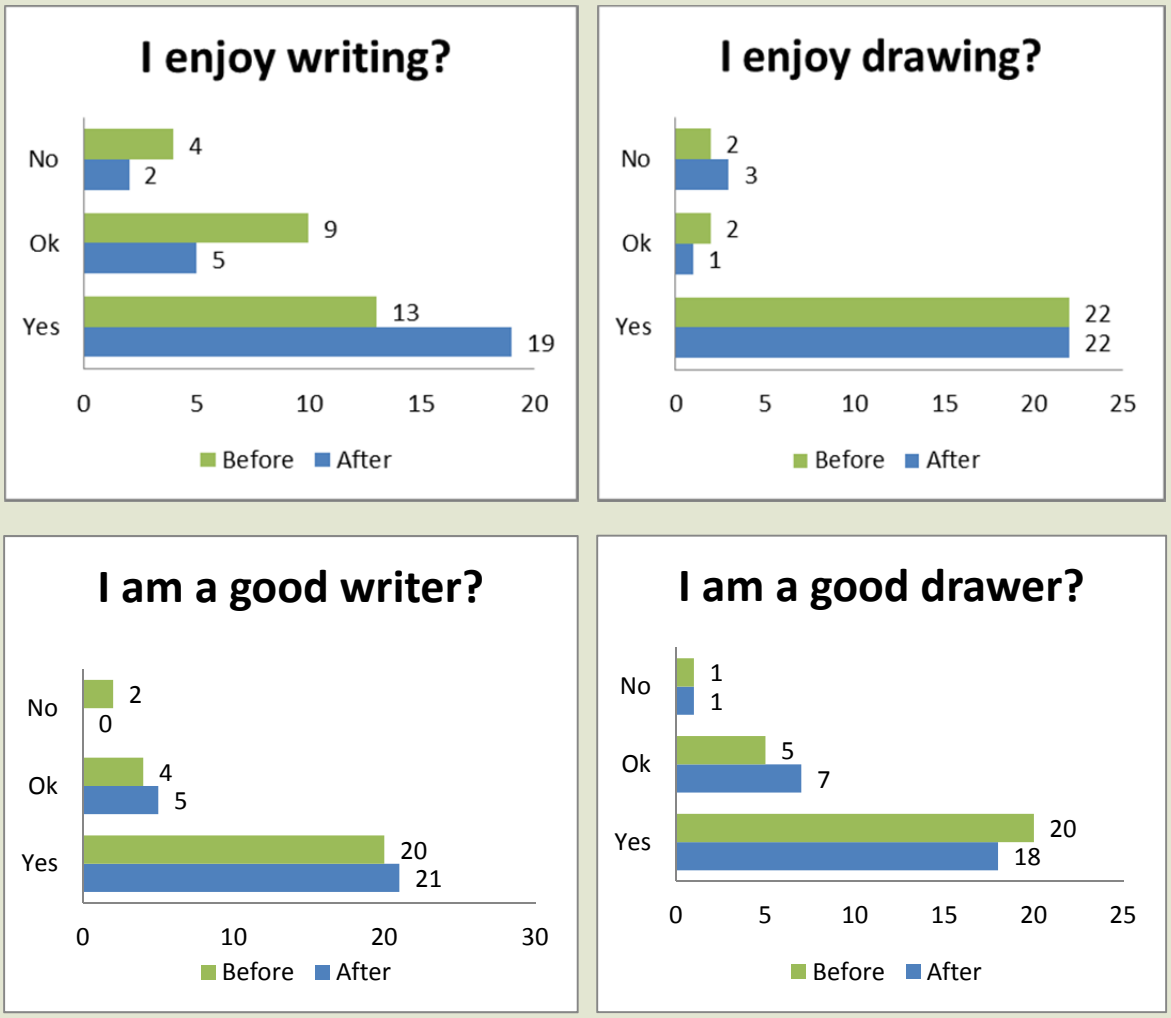
The limitations within the study include the short time frame of six weeks and the limited number of participants.

Findings and discussion

Changes in students' perception of themselves as writers and communicators

The proportion of children who viewed themselves as a good writer showed a small increase from a pre-test score of 20 to a post-test score of 21. In the pre-test two of the children did not view themselves as a good writer, it is notable that this reduced to zero in the post-test questionnaire (see Figure 2).

Figure 2: Class responses to the pre-test and post-test questionnaire



Although 20 students reported that they were good writers, only 13 reported that they enjoy writing. Following experience with the drawing before writing technique, the number of students enjoying writing showed a substantial increase to 19 (see Figure 2).

It is interesting that the number of children who viewed themselves as good drawers decreased by two in this same period (see Figure 2). This may be partially explained by the fact that some children changed their response to the 'okay' face in the post-test, thinking of themselves as being neither good nor poor drawers. A further explanation may be that some children see their drawings as art rather than as ideas for writing. Their pictures were often not coloured, leading them to think that their drawings were unfinished and not aesthetically pleasing.

No changes were noted in the number of students who initially claimed they were not a good drawer. The number of children who viewed themselves as enjoying drawing remained steady while the number of children who claimed to not enjoy drawing increased by one child (see Figure 2). This child appeared to want to get the activity over with as expediently as possible, and to think that drawing before writing just took more time.

Changes to the quality and quantity of writing in Year 2 stories

At the conclusion of this study period, all of the focus children showed an increase in their communication skills as writers, adding 2-4 additional ideas to their story.

> "All children's work progressed to include more paragraphs, ideas and structure in their writing. Their sentences became longer and more ideas flowed." (Anecdotal notes from the researcher's reflective diary)

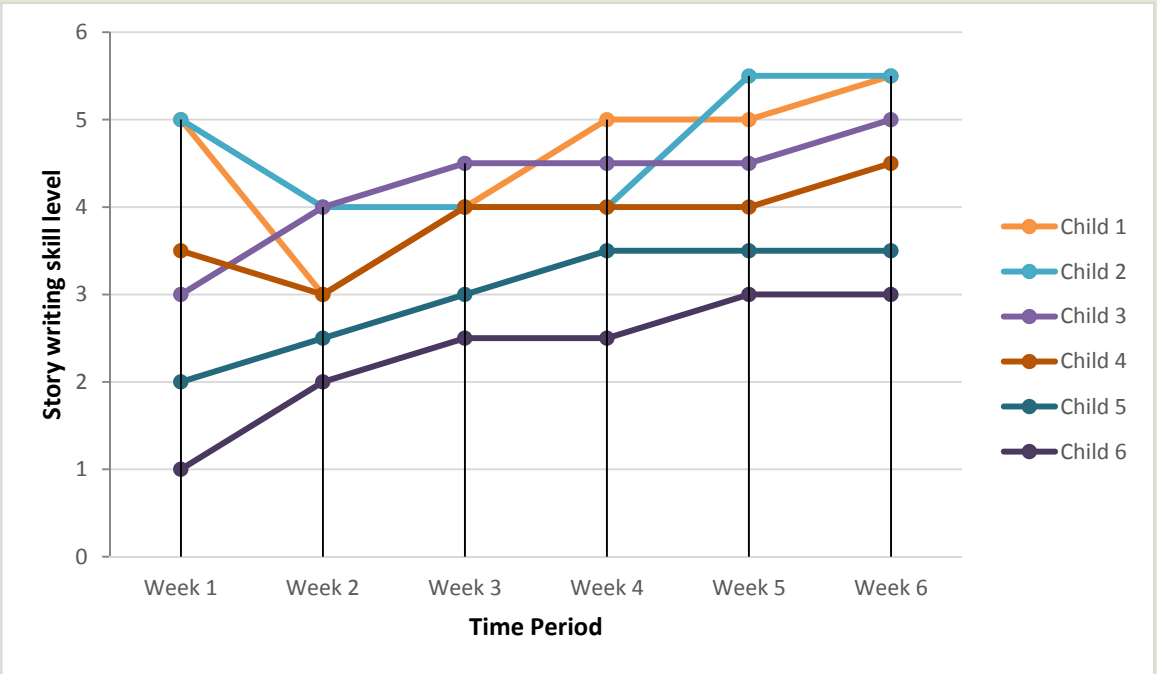
The increase in the number of story ideas and the amount of writing completed by students came at a small cost to the accuracy of their writing.

> "The children's spelling showed a decrease in accuracy because they used more words that were new to their vocabulary. It was great to see them just writing their ideas, without worrying about how to spell it!" (Anecdotal notes from the researcher's reflective diary)

Child 1, Child 2 and Child 4 (intermediate and advanced level writers) showed an initial decrease in the standard of their work. This was found to be because they only wrote to what they drew, thinking they were not allowed to add more details than what was in the picture. The quality and quantity of their work improved once they realised they could add further details and ideas to their story beyond those contained in the picture.

Analysis of work samples showed an increase in writing skills following experience with drawing before writing. After experience with drawing before writing, the two advanced writers showed an improvement of 0.5 of a level. The intermediate writers improved by 1-2 levels, with one of them reaching an advanced level. Of great encouragement was the result for the students initially ranked as beginning writers. These writers increased by 1.5-2 level with both students demonstrating intermediate level skills by the end of the study period (see Figure 3).

Figure 3: Analysis of writing samples produced by students in the focus group. Samples were graded against the 1-6 scale



Analysis of writing sample indicated skill improvement for all students, but the question remained whether students felt that drawing before wring had facilitated skill development. In response to the questionnaire statement, 'Drawing helps my writing', 65% of students agreed that drawing before writing helped their story writing (see Figure 4). Baghaban (2007) and Fellowes and Oakley (2010) found that drawing before writing scaffolds children's generation, expression and organisation of their thoughts when writing stories and helps them edit their work. Comments made by the students in the focus group describe more specifically what these students found useful when drawing before writing.

"It gave us more information to use." (student)
"You could look at the picture and get more ideas." (student)
"[Drawing] helps you to remember stuff, I used the drawing to look at." (student)

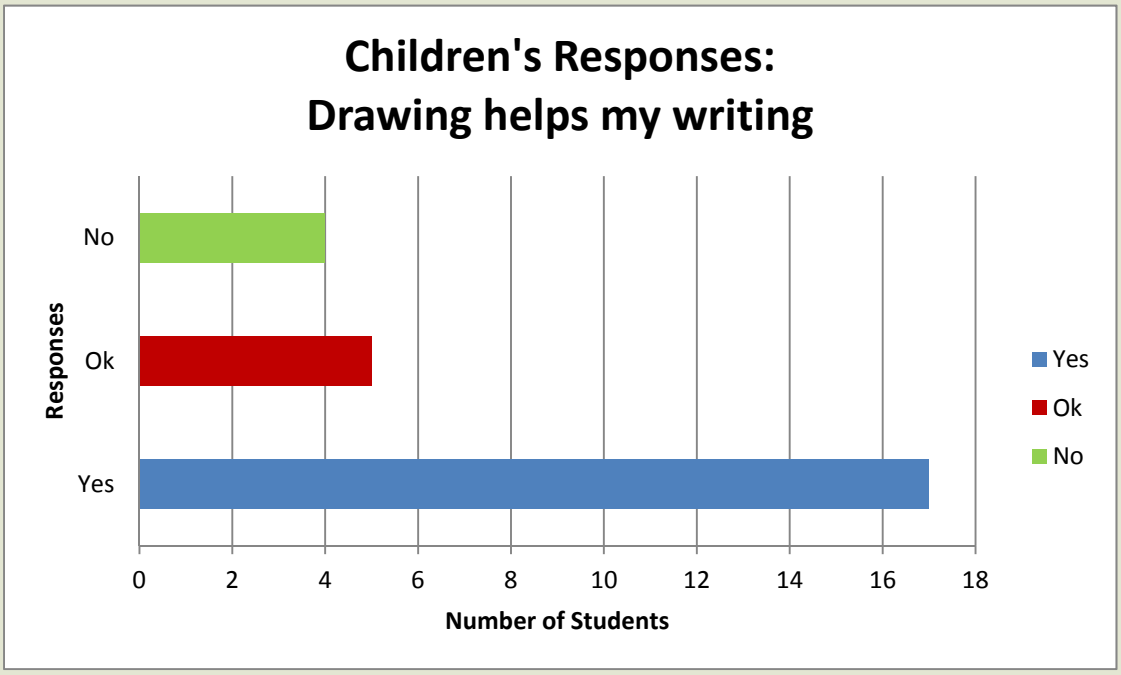
Drawing before writing helps children think more deeply and broadly about their writing (Soundy, Guha, & Qiu, 2007) and acts as a metacognitive tool to enhance the quality and quantity of young children's story writing. Focus group students also noticed this advantage of drawing.

"The drawing helps me, it tells me what it's [the story] about." (student)
"I like to look at the picture and think." (student)

Further to these advantages, is the enjoyment reported by students. The majority of students in this class reported that they enjoy both drawing (85%) and writing (73%). High enjoyment levels may act as a powerful motivator to engage in a set writing task.

"I definitely like to draw first…I wish we did this all the time!" (student)

Figure 4: Whole class response to post-test survey question, 'Drawing helps my writing'



The classroom teacher commented that she could see the benefits in using drawing as a visual aid in the writing process, but felt that it was something that took extra time, not always available in the

daily schedule of activities. She suggested that drawing before writing could be integrated into the creative arts program to help with the allocation of time. Readers of this research will need to weigh this comment against the benefits of drawing before writing documented in this research and against the conflicting calls on class time made by the school timetable. In view of the benefits to the quality and quantity of early and transitional phase writers' story writing, it is recommended that teachers spend at least one term per year, in lower primary classes, scaffolding children's story writing with a drawing before writing program.

Future research directions or recommendations

It is recommended that further research be done on this topic so that educators can replicate and generalise these findings to a broader population. Further research in the area of the current two research questions will deepen educator's knowledge of the way children use drawing as a metacognitive scaffold to story writing and may also uncover other factors that influence children's self-perception of themselves as writers. This would give teachers deeper insight into how children internalise their thoughts and ideas for writing, as well as how they develop as writers and communicators.

Conclusion

The findings of this study are noteworthy because they complement and generalise the findings and claims of Baghaban (2007), Soundy, Guha, and Qiu (2007) and Cara (2009), to a broader population. They indicate that most of the children involved in this study expressed an understanding of and appreciation for, the place of drawing as a scaffold to improve the quality and quantity of their story writing. The children in this research used drawing as a personal visual aid to scaffold their thinking and communication skills as writers. The students often referred to their drawing several times throughout their writing session, using it to express their thoughts, and add additional 2-4 ideas, to each story.

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