1-1-2005

Motivating children to 'write' stories through the use of visual art and technology

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MOTIVATING CHILDREN TO "WRITE" STORIES THROUGH THE USE OF VISUAL ART AND TECHNOLOGY

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B.A. (Hon) Theatre and Film Studies, McMaster, 2003

A Thesis

Presented to Ryerson University and York University

In partial fulfillment of the requirements for the degree of

Master of Arts

In the program of

Communication & Culture

Toronto, Ontario, Canada, 2005

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Acknowledgements

I would like to thank the Toronto Catholic District School Board for allowing me to conduct my thesis experiment within their schools; the principals, teachers, parents and children who provided me with their insight and opinions.

DiscoverAbility Inc. has been very supportive of this project. Special thanks go to DiscoverAbility Artists Michael Stadnik and Beverly Tang-Kong for teaching the children how to draw cartoon characters.

Rosemary Tomlinson-Morris was kind enough to help me develop a rubric for this study and marked each and every story that the children wrote.

To my thesis committee members, Betty-Jane Richmond and Michael Murphy, thank you for embracing my goals and helping me reach them, each, in your own way, made me see that writing a thesis was achievable.

Deborah Fels, my thesis advisor, your efforts to convert me over to the "dark side" of the social sciences worked. When I came to you, I had only a vague idea what data analysis was, let alone how to do it. Working with you over the past year, I have learned so much in such a little time.

I need to thank the Labbies who spent an entire year with me and never once sent me to "solitary confinement" (unless it was for a nap). They were the ones who fed me coffee and, on a daily basis, reassured me that I could write this puppy.

To my friends in the "real world", you helped me stay grounded and reminded me that there is life outside of school.

My family, without you "there would be no way". I am forever grateful.

Abstract

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In this thesis the viability of using visual art and technology to motivate children to write stories is explored from a pedagogical and empirical perspective. A study was devised where forty-two children in grades four and five participated in a visual art workshop where they created a drawing and an accompanying story. In addition, the children were provided with three different technologies through which to record their stories: handwriting, dictating and typing. The children were required to produce a sample handwritten story for comparison to those written with one of these technologies. Results indicate that although children reported being motivated to communicate through visual art and alternative writing technologies, the stories created after the workshop and assessed by a teacher-developed rubric were significantly worse than the sample stories and the expected performance levels of the provincial Education and Accountability Office (EQAO). Reasons for this outcome could be that the children lack experience communicating through alternative means, and that they are more concerned with the technicalities of authorship such as spelling, grammar and formatting in their drawings and writing.

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1. Introduction

Within mainstream North American culture, individuals are expected to communicate using a variety of means and mediums to represent their thoughts and ideas to others. Because we are unable to represent our thoughts and ideas without enlisting the assistance of at least one medium, our ability to expresses thoughts is influenced by the tool we choose to use. Each representational tool enables and simultaneously disables specific aspects of the communication as a whole. Photoblogs, for example, give users two ways to represent their thoughts and feelings: aesthetically and linguistically. Enabling users by giving them more ways to express themselves than the word-centric blog, photoblogging does have its share of drawbacks – its inability to promote two way communication between author and audience, amongst many. The individual is, therefore, left with an important choice, as she needs to choose the medium that will enable her to best represent her thoughts while disabling her least.

While there is generally a choice as to how thoughts and ideas are communicated, the ability to encode and decode various representations of thought is no longer beneficial but essential within our multi-mediated society. Whereas oral and written communication predominated within previous generations, the growing number of possible mediums and media have extended what it means to author thought, and necessitated a re-definition of literacy: the ability to read and write meaning within a medium.

As a Communication and Culture student, my interest in the representation of thought propelled me to explore the way children are taught in elementary school, focusing specifically on the disconnect between what is valued in school and within the "real world". Within this thesis, I investigate whether children could extend their notion

of authorship to include visual art and technology, and what the impact of these alternatives authoring methods would have on the quality of children's stories.

For a child to be a good storyteller, school systems often demand that he express himself through the act of writing, requiring three distinct skill sets: cognitive skills or the ability to construct a coherent story, motor skills, and linguistic skills. The child who is a good "writer" is, according to present standards (see http://www.edu.gov.on.ca/eng/document/curricul/curr97l.html for example) more likely to be a good storyteller, for she is not hindered by a lack of fine motor skills (the ability to make recognizable symbols on paper with a pencil) or any linguistic difficulties (spelling, punctuation or grammar). However, if that child can create good stories but lacks the motor and linguistic skills, according to present standards, she will be rated as below average in her writing and storytelling, for she cannot express herself through normative means. As evidenced in oral/gestural cultures such as aboriginal or sign language cultures, good storytelling can be expressed and propagated in non-written forms.

In this Masters Thesis, I explored the viability of using visual art to motivate children to write stories by studying three groups of grade 4 and 5 students as they participated in an art-centric DiscoverAbility workshop. Working with DiscoverAbility, a non profit arts and athletics program, I was able to offer children the opportunity to participate in a workshop led by a professional artist who taught the children how to draw cartoon characters. The children were told at the beginning of the workshop that they would have the chance to create a picture of two cartoon characters in an interesting situation about which they would be asked to write a story. Rather than giving children conventional means through which to author their stories, I provided them with the option

of authoring their stories using alternative writing technologies. Children were given three different ways to capture their stories: dictating, typing or handwriting.

The purpose of my study and thesis is to examine the benefits of using visual art and alternative writing technology to improve children's motivation to write stories and, in turn, the quality of their stories. The scope of this study extends only so far as to test the immediate effects of this approach in a one-time application. While a longitudinal study could have been able to give a clearer picture as to the effect of such motivation over time, this study begins to explore an area of research that lacks empirical precedence and, therefore, must be limited in scale and scope. Small scale studies are commonly used to see whether further exploration is viable and this study serves a similar purpose. My thesis does not propose to have accounted for all children in all conditions, but a very specific set and number of children at two different schools within the Greater Toronto Area. This thesis attempts to provide the academic community with results, points of discussion and recommendations that can be used to assess the potential for further studies.

In order to understand the need for such research, it is important to review the work that has been carried out within related fields. The first section of my literature review is devoted to the major pedagogical approaches to writing and storytelling as outlined by Chapman (2004), with a focus on the growing framework Multiliteracy theory provides. Reviewing this literature is important, as it provides an outline of what approaches have been chosen to teach writing within elementary schools. The second set of literature considers the act of writing as a series of smaller processes and sub-processes in an attempt to understand what happens how and when a child learns to write. The third

and final set of literature will provide a means through which to discuss the benefits of alternative writing technologies.

2. Review of Literature

While various educational philosophies exist, this literature review focuses on educational theories that are directly related to the teaching of writing for elementary school ages. The act of writing is a complex task which several writing theories consider. I will begin by outlining three of the most commonly accepted literacy theories: Constructivism, the "Social Turn"; and Multiliteracy. I will, however, focus on Multiliteracy theory and its applicability to this thesis. Second, a model of the writing process as developed by Flower and Hayes (1981) and refined by Hayes (1996) will be used to account for the processes that are at work when a beginning writer tries to express herself using hand-written communication. Third, I will discuss the research that has been carried out on the use of alternative writing technologies, specifically the use of computers and audio dictation, to improve the writing quality of students in elementary school.

2.1 *Writing Theory*

As shown in Figure 1, Chapman (2004) identifies four modern theories that relate to learning pedagogy: Constructivism, the "Social Turn", Multiliteracies and Emergent Literacy. I will not, however, be considering Emergent Literacy, as its main contribution to pedagogical writing theory occurs in the early years of childhood.

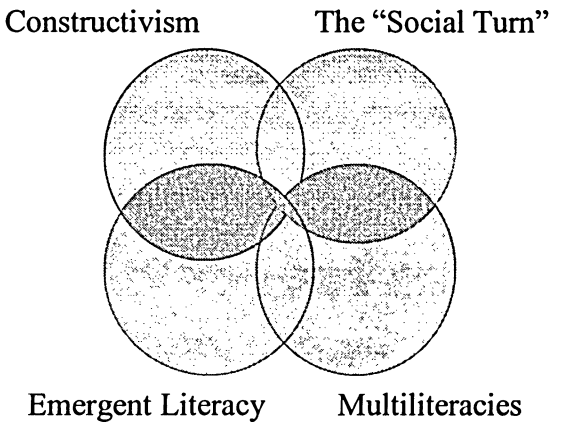

Figure 1: Chapman's Major Writing Pedagogies

Chapman suggests that there are commonalities between these theories as they are derivatives and expansions of the same early theories. For example, the "Social Turn" builds upon Vygotsky's constructivist ideas and Vygotsky refocused Piaget's constructivism to form one of his own as seen in Figure 2. The extent of these similarities varies. As shown in Figure 3, Constructivism and Multiliteracies have less in common than Emergent literacy theory and Constructivism. In this section, the major aspects of Constructivism, the "Social Turn" and Multiliteracies and their applicability to this thesis are outlined.

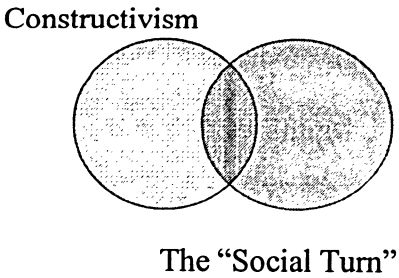

Figure 2: Constructivism and the "Social Turn" share commonalities as Vygotsky's grew out of constructivism to develop the "Social Turn" pedagogy

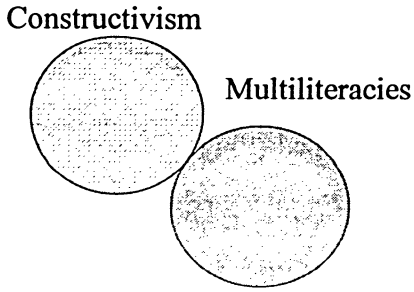

Figure 3: Constructivism and Multiliteracies have little in common, as constructivism is based in biological understanding of development and Multiliteracies is focused on development within a social context.

2.1.1 Constructivism

The goal of a Constructivist approach is to show how meaning is reliant upon individuals as well as communities of individuals: "Each learner has a tool kit of concepts and skills with which he or she must construct knowledge to solve problems presented by the environment" (Davis, Maher, Noddings, 1990, p 3). With the assistance of this "tool kit", individuals interpret the world that is presented to them, understanding it in a way that is solely their own.

Two early Constructivist theorists, Piaget and Vygotsky, formed the foundation of constructivism. They are particularly relevant to my research because they emphasize the role of writing during the beginning stages of a child's writing development. Piaget (1896-1980) held that biological development predicted when a child would be able to learn certain activities while Vygotsky (1896-1934) suggested that knowledge acquisition was shaped predominantly by social context and privileging biology only as a facilitator of learning.

2.1.1.1 Piaget

Piaget suggests that all children proceed through specific developmental stages in order to become fully cognizant human beings. While no child goes through these stages at the same rate, they all follow the same approximate timeline which Piaget meticulously outlines (see Piaget 1973). Piagetian thought asserts that: "The mental structures necessary for intellectual development are genetically determined. These structures, which included the nervous system and sensory organs, set limits for the intellectual functioning at specific ages" (Singer and Revenson, 1978, p. 13). A child's cognitive ability, while influenced by her social environment, is not dependent upon it. For the Constructivist, the development of logical-scientific thinking is a key part of biological development (Efland, 2002). Although Piaget never explicitly discusses reading and writing (Waite-Stupiansky, 1997), his theories regarding child development have been influential in current pedagogical approaches.

Piaget positions intelligence as existing within children when actions become purposeful (Piaget, 1973). Intelligence appears in the form of schemas that Efland (2002) defines as a cognitive structure which allows individuals to classify information. Schemas are applied to a specific goal of an action, and an initial means through which they achieve the action. For example: To tell a story in front of a large group, a child must use schema she has developed to process and accommodate or incorporate information. She needs to think about the story itself, the context in which she is telling the story and her audience to determine whether the story fits within the specific parameters such as appropriateness and time constraints. When children lack experience telling stories, juggling all of these needs can be difficult, yet as they begin to master these abilities, the

ability to tell stories becomes easier and less effort is put into *how* to communicate their thoughts and more into *what* is communicated. Within my thesis, I give children the chance to use their experience telling stories when they dictate their stories into an audio recorder instead of writing their story down on paper. This allows them to focus on what they wish to communicate and takes away their need to transcribe their thought into written form.

Piaget believes that biology allows for cognitive development. The gate keeper of future development, biology does not, however, necessitate cognitive growth, as thinking "muscles" must be flexed: "There exists a fundamental lacuna in our teaching methods, most of which, in a civilization very largely reliant upon the experimental sciences, continue to display an almost total lack of interest in developing the experimental attitude of mind in our students" (Piaget, 1970, p.37). Intelligence does not just appear on its own nor does it "grow" without frequently being exercised. In order for learners to gain intelligence, they must challenge themselves and participate in activities (like storytelling, solving problems and reading) that require them to exercise their brains. The child's involvement in problem solving activities, scenarios that give him the opportunity to use his knowledge as well as assimilate and accommodate more, are essential to developing cognitive skills (Morrow and Tracey, 1997). Piaget defines his understanding of practice: "praxis or action is not some sort of movement but rather a system of coordinated movements functioning for a result or intention" (Piaget, 1973, p. 63).

The common adage "practice makes perfect" seems to fit Piaget's model of development, as, to succeed, individuals have to learn through doing. They cannot do something simply because they have watched another person perform the same action.

Being shown how to do a task does not mean that one can do it. An individual has to practice and develop the necessary skills to master the exercise. Schools tend to realize the power of practice, arguing that children will develop proficiency through repetition of exercises (Simmons and Carroll, 2003). In learning through doing, children are given the opportunity to analyze a situation and, in doing so, develop their cognitive and physical abilities. We need to "do" in order to learn but this does not mean that children cannot have fun doing so (Killeen, Evans et al. 2003, p. 251). In fact, studies show that when student are engaged in learning they learn more and want to take ownership of their learning process (Wisconsin State Department of Public Instruction, 2003). Instead of telling children to write out the letter "A" repeatedly in order to learn through their actions, they should be given an activity that challenges and also motivates. The teacher could, for example, ask children to make up pretend words that have lots of "A"s within them and ask them to present their favourite word and explain its "meaning" to the class. Piaget believes that practicing something makes an individual better at the activity they are repeating. The same applies to storytelling, whether in printed word or oral form. For a child to become good at storytelling, he must practice telling and writing stories and, in doing so, will be flexing their cognitive muscles, sorting information into already existing schemas and developing new ones.

Art can be a potentially powerful tool that can teach children while, at the same time, motivate them to see the activity as beneficial and fun. DiscoverAbility is one program that has adopted this philosophy - the idea that children need skills development opportunities in order to be proficient at a particular activity. DiscoverAbility's primary goal is to better a child's performance in visual arts activities while, at the same time,

making the activities themselves interesting, innovative and, above all, fun for the child. The adage that "if you are having fun, then you are not learning" has no place here, as DiscoverAbility upholds the notion that learning should be fun so that children are engaged within the process itself, rather than observing from a distance, minimally involved in activities, learning, if at all, on a superficial level.

DiscoverAbility works with the Piagetian philosophy that learners need to practice to be good at something, yet without holding to the idea that children's cognitive, artistic or athletic abilities are dependent entirely on biological stages. DiscoverAbility believes that a child, for example, does not pick up a paintbrush and "know" how to paint and Piaget would concur. Piaget would explain that in order to know how to paint a picture a child must develop specific cognitive abilities that are predicated by biology. The DiscoverAbility approach gives the child the paintbrush and allows for experimentation to occur rather than waiting for the child to be "ready" for painting. In this thesis, I apply the principles of the DiscoverAbility approach to the writing process by giving children the chance to experiment with their ability to communicate through visual art and alternative writing technology.

2.1.1.2 Vygotsky

Lev Vygotsky builds upon Piaget's theory of intelligence, emphasizing the role of social context in learning (Venn and Jahn, 2004). While Piaget believes that cognitive development requires biological development, Vygotsky was not willing to make such a bold assertion as to the centrality of biological development in learning: "properly organized learning results in mental development and sets in motion a variety of

developmental processes that would be impossible apart from learning" (Vygotsky, 1978, p. 90).

Piaget's learning process involves waiting for a child's biology to develop appropriate cognitive bridges which allow learning to occur (Lyle, 2000). Vygotsky suggests that these bridges are built through learning, arguing that biological development is predicated by learning processes: "Developmental processes do not coincide with learning processes. Rather, the developmental process lags behind the learning process" (Vygotsky, 1978, p. 90). It is the learning process that motivates biological adaptation. Through cognitive exercises, or learning, the brain receives cues to build the necessary bridges needed to facilitate new processes. When a child writes a story, for example, he may not realize the importance of a beginning, middle and end and, therefore, write stories that are not coherent. Vygotsky would urge this child's parents and teachers to ask the child questions regarding the structure of the story, specifically what happened to the characters in the story, to facilitate/encourage the growth of these bridges.

Learning, for Vygotsky, happens when a child is challenged, asked to attempt a process that has not yet been mastered: "When you teach children, you have to go about their actual level of development or else the entire process is pointless" (Vygotsky, 1978, p. 89). Rather than wait for the child to realize the need and importance of coherency, Vygotsky suggests that adults should assist children in developing this understanding.

He draws upon an analogy between a scaffold and a teacher, for they both act as a source of support. Like the painter, who, with the help of a scaffold, is able to paint walls that were previously unreachable, the teacher enables students to reach new academic

milestones, acting as both mentor and guide. Scaffolding can be broken down into five stages (Farnan and Dahl 1998) which can also be applied to the act of writing:

1. Ownership: Students need to know what they are doing is valuable and be able to pinpoint the value in each exercise they complete. Children need to realize that their writing is a valuable form of communication and, when asked to participate in activities that are supposed to better their writing, be aware of what their teacher is looking for in their work.

2. Support: Students should know how their learning is being affected by their participation in each classroom activity. While practice does make perfect, children need to be aware that when they write a story, they can focus on different aspects of the writing process each time, thereby improving each individual skill and, in turn, strengthening their writing as a whole.

3. Appropriateness: Students need to be given tasks that they are able to complete. Expecting a child to write a story free of errors is appropriate for an older more experienced writer while it is not for a beginning writer who should be commended for participating and trying their best.

4. Collaborative: Students should see their teacher as a source from which to gain support and insight. Learning is collaborative and the teacher must be part of this collaboration. Writing a story, the child should see their teacher as a person to whom they can go to test out their ideas and ask for help. The teacher needs to be there to answer questions for the children and support their development as writer, instead of solely being seeing as the judge of it.

5. Internalization: Students should become aware of the role of writing in their thinking and learning. They should be privy to the idea that there are strategies that can help them learn if they are willing to try them. Encountering difficulty with writing, children need realize that help is available to them and that there are no consequences but only benefits to asking for her.

A Vygotskian approach to storytelling would be wholly different from that of Piaget, for the teacher does not have to "wait" for the child to be biologically ready to progress further. Rather, it is the setting and its context, for Vygotsky, which enables or disables cognitive development, not biology. Essential to the setting and context, the teacher, whether he or she exists within a school environment or as a mentor within the community, is responsible for ensuring that the student's academic skills are constantly

being challenged to reach new heights. The Vygotskian approach to storytelling would encourage teachers, regardless of their capacity (professional or layman), to engage children, offering questions and comments, acting as a source of support and collaboration. Adults can motivate children to write and tell stories by doing so on a daily basis themselves, they can ask their child for assistance with problems that they encounter while writing. This will encourage children to see the act of writing, not only as a creative and collaborative process, but as an activity where asking for help is seen as a sign of strength rather then weakness.

Vygotsky argues that a child's development can be gauged in two ways: the Actual Developmental Level and the Zone of Proximal Development (ZPD). Actual Developmental Level is defined as "a child's mental functions that has been established as a result of certain already completed developmental cycles" (Vygotsky, 1978, p. 85). Standardized testing measures this form of development and commonly represents as an Intelligence Quotient, which represents "a person's innate intelligence and capacity for success in intellectual tasks" (Williams 2002, p. 10). Vygotsky positions the actual developmental level of a child as less beneficial for measuring the intelligence of a child: "[theorists] never entertained the notion that what children can do with the assistance of others might be in some sense more indicative of their actual mental development than what they can do alone" (Vygotsky, 1978, p. 85). While the Intelligence Quotient presents an interesting pedagogical challenge to the current education practice of standardized testing, my study does not consider this aspect of education theory. Instead, I use an evaluation rubric developed by a qualified teacher, the assessment method deemed acceptable by Ontario's Ministry of Education, to gage the quality level of the

children's stories. The Ministry of Education does not openly assert that they are trying to access children's ability as their potential with the help of others.

The ZPD challenges the notion that intelligence can only be seen as what has been acquired up until that particular moment. Instead, children are asked to "stretch" their cognitive muscles. The ZPD measures processes which are developing and "currently in an embryonic state" (Vygotsky 1978, p. 86) by asking children to attempt skills which are beyond their current ability should they have attempted them on their own. Successful teaching is marked by the maturation of these embryonic skills through scaffolding. For children to be become better writers, Vygotsky believes they should be challenged to reach further developmental goals. My thesis attempts to examine two scaffolding effects for the writing process of children (or beginning writers) by offering them a new motivation, art, and by giving them alternative technologies for authoring text (audio recording, and writing on a computer).

Vygotsky's understanding of literacy, however, does not take into consideration the variety of literacies available for children to author meaning. Informed by Vygotsky's theoretical ideas, my thesis needs to situate itself within a framework that values not only authorship through the printed word but other mediums like art and technology.

2.1.2 The "Social Turn"

The "Social Turn" is a constructivist inspired educational theory (Miller, 2000) that has many names: Socio-Cultural Theory (Lankshear and Knobel 2003; Edwards and D'Arcy, 2004; Edwards and Daniels, 2004) and New Literacy Studies (Kostogriz, 2000; Street, 2003) amongst others. The "Social Turn" does not privilege the biological essentialism of Piaget or, to some degree, Vygotsky: "It posits instead that literacy is a

social practice, not simply a technical and neutral skill; that it is always embedded in socially constructed epistemological principles" (Street, 2003, para. 4). Followers of this pedagogy see learning as the attainment of knowledge which is constantly in a state of flux; they see knowledge "as process, as design, as contextual, as situational, and, ultimately, as contestable, deconstruct able, and critizable" (Luke, 2003, p. 399). Learning is no longer about objectivity or "correctness"; it is focused on giving students the means through which to communicate their thoughts and ideas, their knowledge, trying to make sense of the world and its meanings.

The mediating effects of culture play a prominent role in social turn theory; the social context and its relationship to subject and object are clearly delineated:

> "The individual could no longer be understood without his or her cultural means; and the society could no longer be understood without the agency of individuals who use and produce artifacts. This means that objects ceased to be just raw material for the formation of logical operations in subject as they were for Piaget"
>
> Engestrom, 2001, p. 134

Societies are shaped by individuals who use material that is at their disposal in different ways, dependent upon the social context in which the individual finds himself: "The important distinction is that in order to think and learn, it is necessary to act on some entity (physical, mental, or social)" (Jonassen, 2000, p. 1). The "Social Turn" and Activity theory are concerned with how our thoughts, feelings and actions influence the way that we construct certain social practices as being neutral and natural rather than constructed by a specific group and "takes nothing for granted with respect to literacy and the social practices with which it becomes associated, problematizing what counts as literacy at any time and place and asking 'whose literacies' are dominant and whose are

marginalized or resistant" (Street, 2003, para 2). Literacy, as I will argue within this thesis, has long gone undetected as a pervasive social construction. As an activity system, writing determines how we think and how we express our thoughts. The activity theorist would see writing as an act which extends much further than the simple act of transcription, for social, economical, physical factors change what we write and how we do it (Boag-Munroe, 2004). It does not, however, extend its reach to include a multitude of instruments that provide alternative means through which to inscribe thought. The education system privileges print as being the sole means through which "true" knowledge is shared and attained (Kostogriz, 2000). There is a need to acknowledge the multitude of emergent technologies that enable us to communicate (Eisner, 2004; Kinzer and Leu, 2000; Kellner, 2003). Multiliteracy theory works to acknowledge this factor.

2.1.3 Multiliteracies/Multiple Literacies

Multiple literacies, Multiliteracy, or New Literacy Studies, hereafter referred to as Multiliteracies, are concerned with the changing nature of literacy. Multiliteracies promote the value of alternative literacies (e.g. spatial, visual, musical) and the alternative "texts" that they produce (Lankshear and Knobel, 2003). Like the literary author who produces her text through the use of pen and paper, so too do visual artists, film makers, and dancers. For the purposes of this thesis, text is broadly defined as: "any ordered set of signs for which or through which people in a culture construct meaning" (Witte, 1992, p. 269). This includes anything that can be critically read or analyzed, as seen in the critical analysis of television (Turnbull, 2003), visual art (Sinnreich, 2004), video games (Gee, 2003), amongst others. Multiliteracy theory recognizes that there are multiple ways of

expressing ideas that are as valid as the printed word and calls for expansion of literacy skills to include teaching the multiple ways in which text can be "read" and "written".

In a society where technological advances are becoming more and more rapid, the ability to adapt to and use these technologies has become an essential asset: "[multiple literacies] points to the many different kinds of literacies needed to access, interpret, criticize, and participate in the emergent new forms of culture and society" (Kellner, 2000, p. 255-6). Although print literacy is not likely to disappear, we have begun to rely upon the ability to communicate through a variety of representational systems that require an entirely different set of literacy skills: "Literacy is regularly changing as new technologies for information and communication continuously appear and as new envisionments for exploiting these technologies are continuously developed by users" (Kinzer and Leu, 2000, p. 116-117). The main goal of writing is to act as the record of thought, although its methods have been updated and expanded with the advent of new technologies such as the word processor and audio and visual equipment (Mott and Etsler, 2003; Mackey, 2003).

Technology can change the way we think about the world and can give us new ways to express our understanding of reality (Kellner, 2000; Merchant, 2004). Different equipment and processes have the potential to provide different results (Eisner 1994). Eisner argues that the representational systems that we give our children can enable or disable them. If they are given one representational system, the printed word, for instance, they are able to present some ideas easily whereas other ideas may be lost in their translation from thought to printed text. Proponents of Multiliteracies are not calling for the abolition of the printed word as a medium through which to translate thought, they

are suggesting that there are alternative, and even necessary, mechanisms. For example, an artist's paintbrush may allow for an expressive depth that would be unreachable should it be replaced by a pen or keyboard. The problem is also apparent when the author, proficient in communicating thoughts using pen and/or keyboard, is given a paintbrush and canvas and asked to communicate in a medium in which she lacks proficiency. In a multi-medium world, there is a need to not only learn to accept technology but to develop a high degree of familiarity in order to succeed. Because of this, an individual who is unable to decode and encode in a medium other than print has been deemed "the new illiterate" (Zingrone, 2001, p. 237). For example, with World Wide Web technologies, it has become acceptable for ideas to be presented and consumed as static or moving images with little or no text associated with them. As producers and consumers of these ideas, we must understand (read/write) the concepts as presented without translation into text. After all, if we could express everything through the printed word, there would not be a multitude of representation systems at our disposal (Eisner, 1994).

A multitude of representational systems requires multiple means through which to decode the message. Each form of literacy needs to be understood according to its own representational system which the interpreting individual may or may not be able to decode. Even research carried out in studying Multiliteracy theory suffers from a lack of alternative means for expression because it is often restricted to single data collection forms (e.g., verbal or written) and methodologies (Kendrick and McKay, 2004). When used at all, alternative forms of literacy are segregated from each other and print text especially.

The issue of a singular mode of expression is particularly prevalent in the education system. Short, Kaufman et al. (2000) argue that "it is only in schools that students are restricted to using one sign system at a time to think" (p. 160). While some children are able to succeed within this system, many will continually be forced to operate within a foreign space which does not acknowledge their way of understanding. This decision to ignore the plurality of intelligence that exists within our society goes against our basic belief as to the purpose of education:

> "If one of the important aims of education is the cultivation of the student's unique capacities, then acknowledging differences in the ways in which children and adolescents are smart, would, one might think, be of extraordinary importance"
>
> Eisner, 2004, p. 32-33

While a message can lie within all forms of human expressions, each expression can only be disseminated and its meaning understood through the use of a very specific set of skills (Gardner, 1999). Gardner sees these skills as part of a series of intelligences which all people share: "the intelligences work together to solve problems to yield various kinds of cultural endstates - vocations, avocations, and the like" (Gardner, 1990, p 15. Multiple intelligence theory calls for the acknowledgement of a "plurality of intellect" (ibid), what (Lyle 2000) terms "cognitive pluralism", where "many different and discrete facets of cognition [are recognized], acknowledging that people have different cognitive strengths and contrasting cognitive styles" (p. 12). Gardner takes Multiliteracy theory one step further, accounting for the problems that are encountered when people try to adopt different technologies and find themselves navigating within a

foreign space that caters to different intelligences from those they have continually relied upon.

Supporting Gardner's ideas, Rushkoff (1996) alludes to our need to rediscover our society and acknowledge our lack of understanding as to how things really work. School systems also need to acknowledge that the way things have been done may not correspond to the way they are being done now. To be smart means something entirely different than before, it requires multimodality and the ability to find a high degree of proficiency in reading and writing using different mediums. With different equipment (computers, mechanical equipment, etc.), the task's requirements change, forcing the user to employ different intellects in order to perform the same task. Gardner (1999) defines seven predominant intelligences:

1. Linguistic: The ability to use and manipulate language in different ways.
2. Logical-mathematical: The ability to use logic to solve problems.
3. Musical intelligence: The ability to perform, understand and appreciate music.
4. Bodily Kinesthetic: The ability solve problem and make things with the body
5. Spatial: The ability to see and manipulate spatial patterns
6. Interpersonal intelligence: The ability to understand the perspective of others.
7. Intrapersonal: The ability to understand and help yourself move through life.

The theories of multiple intelligences and literacies work together for the same end goal, for they attempt to give those without the linguistic strength or those who prefer to use alternative means to communicate their ideas, the chance to do so without feeling "less" able than others. It can provide individuals with the capacity to recognize their strengths and not only their weaknesses:

> There is something intuitively right about recognizing that people differ in which way they function best. There is something socially right about the idea that children and adolescents should be given an opportunity to shine in classrooms in which their particular strengths can be nurtured and made public.
>
> Eisner, 2004, p. 202

These two theories have, however, received little attention as serious pedagogies that could work within the real world. Regarded with "suspicion" (Marsh and Millard, 2001, p. 60), alternative mediums that validate forms of representation outside of print are invalidated by educators at large, for they are deemed as "soft-headed and vague" (DiParado, 2003, p. 148). Such a mentality has the potential to have a serious and detrimental effect on children, for children are living in an environment where the logic of narrative and the printed text are being complemented or replaced by alternative mediums (The National Commission on Writing in America's Schools and Colleges, 2003). The textual orientation of the world is changing and print literacy is no longer the sole literacy available to the individual.

One of the literacies that has long been recognized but overlooked as a true alternative form of expression is spatial literacy which encompasses artistic and graphic literacy (Aldrich and Sheppard, 2000). Gardner sees the arts as a communicative tool which children can use to express themselves:

> Indeed the child himself often seems most at home in expressing himself through his drawings; and the many hours that most children spend putting marker to paper and turning out one drawing after another suggest (if they do not exemplify) the important role played by artistic production in the life of the child.
>
> Gardner, 1990, p. 94

There has been some research on the role of visual art as a way of motivating children to write, though much of it discounts the validity of the stories that are told through this form in favour of those that are written (Mariconda and Auray, 2000). In this research, visual art is considered a pre-literacy technique which develops a child's interest in writing stories of her own: "In most teachers' schema, there is an assumption of clear developmental stages in which drawing is often seen as prior to writing, just as cave

paintings are seen to pre-date the manuscript" (Marsh and Millard, 2001, p. 55). A way of entering into writing, the centrality of art as a motivator often overshadows its ability to act as an alternative way of telling stories (Kendrick and McKay, 2004). DaSilva (2001) and Coates (2002) suggest that drawing is a way of "unlocking" a young writer's thoughts and giving the teacher a story that can be translated into written words. Ehrenworth (2003b) encourages early years educators to use visual art in place of the written and spoken word, yet, when children develop the ability to write and read, Ehrenworth's emphasis on the need for visual art is abandoned. Because art is seen as a way of entering into writing, it is often sent home with the child or thrown into a pile or, worse, the garbage while the piece of writing is exalted (Tomlinson-Morris, 2005). Frei (1999), however, suggests that the artistic product produced through visual art is a valid and even complete expression of thought that can be equivalent to what is written with words.

Creativity is often neglected within the educational system past kindergarten where interpretation and experimentation are abandoned and things become "serious" (Eisner, 1994). In the past, teachers have devalued creative writing and its opportunities for self-expression because they focus on its technical aspects: "In their efforts to teach specific skills such as sequencing and good grammar, and their attention to correcting children's mistakes, [teachers] often fail to respond to the more meaningful aspects of the story" (Engel, 1995, pg 211). This mindset may be fading somewhat, as more recent research is showing that educational institutions are beginning to acknowledge the need for creativity: "To express oneself creatively, relationships become apparent, and things are no longer learned in isolation. Deep and lasting meanings occur; no longer is there a

struggle to make things understood" (Wisconsin State Department of Public Instruction, 2003b, p. 82). Educators are beginning to understand the need for interdisciplinary teaching giving children the opportunity to merge unique sets of knowledge in order to learn (Efland, 2002).

In this thesis, I will explore how art can be used to motivate children to write stories. Multiple Literacies is an appropriate theoretic framework for this thesis, as it acknowledges the different ways children are able to make meaning. Like Multiliteracy theory, I am trying to privilege the communication of thought in many different ways, acknowledging the primacy of print within our society yet giving children means through which to decide how their story is written down. In participating in the visual art workshop, children are also given the chance to develop their artistic/aesthetic literacy. Exhibiting and auctioning off the children's work, I am giving them the opportunity to see not only their writing work on display, but their art work as well. The two pieces, visual art and printed word, are given equal status, allowing children to see that they are both valid means through which to communicate their ideas.

2.2 *Writing Processes*

As the four major pedagogies which I have outlined assert, there are many conceptions of how education can be improved to better serve children's present and future needs. Because of this, definitions of what writing is and how it can be used effectively within the curriculum differ. Influenced by each of these pedagogies, Flower and Hayes developed a writing model (Flower and Hayes, 1981) which was later revised by Hayes (1996), as seen in Figure 4, and depicts the writing process as a series of processes and sub-process that work together to allow for writing to occur.

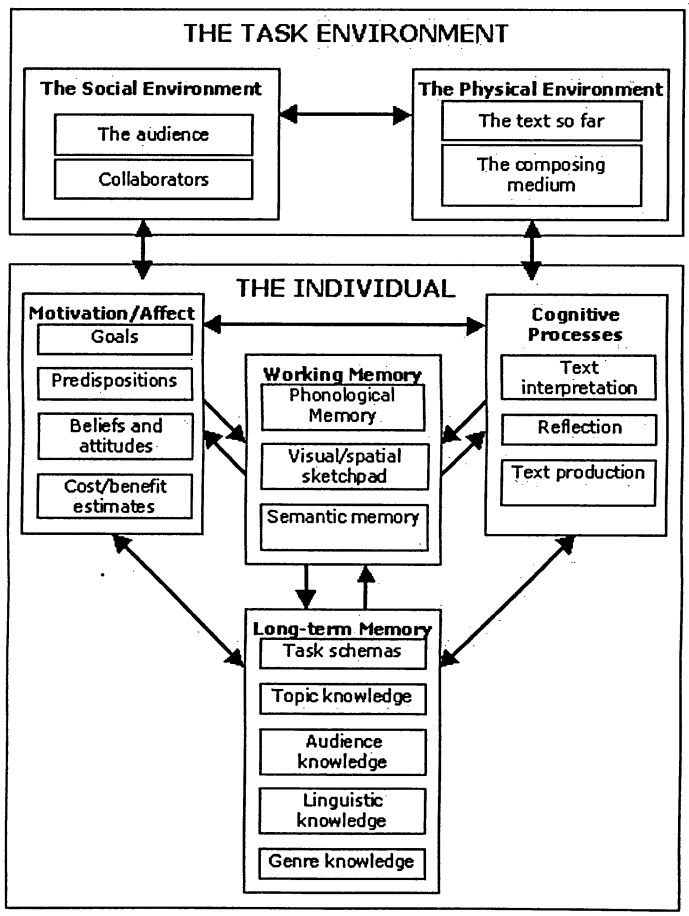

Fig. 4: Hayes' Revised Model of the Writing Process

Unless cited differently, I will be drawing upon the Hayes' revised model. Hayes divides writing into two major components: the task environment and the individual. The task environment includes "a social component, which includes the audience, the social environment and other texts that the writer may read while writing, and a physical component, which includes the text that the writer has produced so far and a writing medium" (Hayes 1996, p. 10-11) while the individual "incorporates motivation and affect, cognitive writing processes, working memory and long term memory" (p. 11). All of these processes interact and influence each other to varying degrees, dependent upon the task that is performed. Outlining the basic tenets of Hayes' model, I will provide an overview of the processes that influence writing. This will enable me to look at how children are influenced by their lack of experience as writers.

2.2.1 Task Environment

The task environment is composed of two environments: the social and the physical.

2.2.1.1 The Social Environment

The Social Environment that affects the writing process is of central concern to my thesis, as it is here that thought is translated into a specific form of representation (Eisner, 1994). Thought requires mediation in order to be represented to an external audience. Hayes (1996) positions writing as a primarily social and interactive activity: "What we write, how we write, and who we write to is shaped by social convention and by our history of social interaction". (p. 12). An individual's culture, therefore, shapes how writing is constructed and valued by society.

Authors do not exist outside of a society but within it, susceptible to the same conditions as any other individual (Sperling, 1993). Parnan and Dahl (1998) argue that children's writing can be divided into four broad categories: self, teacher, a wider audience (known) and an unknown audience. Asked to specify the intended audience for their writing, children participating in Parnan and Dahl's (1998) study cited 87-88% of their writing was directed towards their teacher as the primary intended audience. The social context influenced the children's writing, as they positioned the activity within the confines of a school and, therefore, assumed that their teacher was the primary audience.

Citing the difference in product when students were asked to tell a story and then write it, Kutz (2004) notes that when students told their stories they were much less structured than the written ones she read. Though they were asked to write out the story that they just told, the college students chose to write conventional essays that lacked individuality and were more concerned with the structure of their writing than the story itself. Because of the social setting and the mode in which they were asked to communicate their stories, the students changed their stories in order to fit a set of assumed social conventions.

While these students are clearly much older than the students studied within this thesis, Engels (1995) argues that this behaviour is taught to children in elementary school when they begin to write stories. My thesis gives children a genuine communicative purpose for writing their stories, as they are able to write for an audience that exists outside the walls of the school and the purview of the teacher. Visual art is included with the story that the children write, not only to complement, but to inform the printed text and vice versa. The technology that is used comes from outside of the classroom as well,

allowing children to use alternatives to hand-writing their story, an opportunity that is commonly available to adults and older students. While the writing is evaluated by a professionally experienced teacher, the primary reason for their communication, they are told, is to tell the best story can, in hopes that their story, as a whole, is enjoyed by those at DiscoverAbility's exhibit and auction.

2.2.1.2 The Physical Environment

Hayes argues that the physical environment is shaped by the text that has been produced and the writing medium that is being used. Of the text that is already produced, there are several changes which the writer will make, a process called revision, where an author changes the text that has already been created to make the intended meaning clearer for the reader (Farnan and Dahl 1998). While revision is an important area of study, it exists outside the purview of this study, as I am concerned only with the final product that is produced by the children. For an extended discussion of revision, see (Emig, 1974; Bereiter and Scardamalia, 1987; Cochran-Smith, Paris et al., 1991; Lichtenstein, 1996; Dowling, 1999).

The writing medium, however, is of central importance to this study, as I am exploring whether giving children the option to choose between various mediums or technologies (handwriting, dictation and typing) will affect the quality and motivation of their writing. Handwriting itself is a technology: "Writing is a technological device - not the wheel, but early enough to qualify as primary technology" (Emig, 1994, p. 91). However, even before this, writing existed outside of the physical inscription of text on an object. Oral cultures of the present and past have used the body to author cultural texts

just as valid as those found in print. Through these cultures, we learn that the body can be used to "pen" a script that is "written" into the collective memory of all those who witness it (Innis, 1951; Fulford, 1999; Heath, 2004).

With the rise of the printing press, our oral culture became one based on print. Narrative, we are realizing, can be created through the arts as well as print, evident in dance, music, visual art and drama (Eisner, 1994). Children, however, tend to position a message's validity as dependent upon the medium through which it is communicated, as Bruckman, Ellis et al. (1999) found studying children's perception of the validity of oral history versus print. To ensure that different forms of expression are considered equally valid, children participating within my thesis experiment will have the option of "telling" their story by dictating it into an audio recorder instead of writing or typing it.

Hayes' model addresses several important aspects of the physical environment, yet does not explicitly take into account the role of setting in teaching and learning. Many have suggested that the environment in which a child learns is central to the learning process (Morrow and Tracey, 1997; Savery and Duffy, 2001; Killeen, Evans et al., 2003). The physical environment must be conducive to learning, facilitating emotional and physical comfort. Oldfather (1993) emphasizes the need to find value within the thoughts of children, asking each classroom participant to engage in a "deep responsiveness" to what is communicated, though whatever medium such a message surfaces. Engels (1995) sees a child's willingness to tell stories as dependent upon how encouraged he is by those within the physical environment when the telling takes place. For Engels, a child needs to be surrounded by people who not only allow storytelling to occur but *appreciate* it when it does, in whatever form it may be presented, whether through the written word or

alternative means. Emotional safety is given special consideration by Bruning and Horn (2000) who believe that stress should be eliminated from the writing process by creating an environment where the children feel comfortable to learn through exploration with little focus on learning as a process. They argue that control of the writing or storytelling task should be shared with the children, meaning that the children are able to make choices and inform the decision making process. There should also be an open acknowledgment that writing is difficult.

In admitting that children face difficulties in their acquisition of the skills necessary to write, teachers are respecting the feelings of their students while at the same time, reassuring them that, if taken step by step, they will succeed. It is this positive attitude that motivates the child to find the want and drive to tackle obstacles which are presented as he becomes a writer. My thesis tries to facilitate the communication of thought by giving children alternative ways to write stories, through visual art and technology. This creates an environment that acknowledges that children can be authors of thought in a variety of ways that exist outside of a traditional definition of literacy. The classroom environment becomes more attuned to the expression of thought through a variety of literacies and plays to children's strengths or, if they wish, allows for their weaknesses to be strengthened. Here, children are given the opportunity to write their stories in a variety of ways that permit each of them to find storytelling enjoyable but, at times, challenging, as they are given the opportunity to improve all of their literacy skills through the use of different authoring technologies or mediums.

2.2.2 The Individual

The second aspect of Hayes' model is the individual. When all of the components that make up "the individual" work in a unified and balanced manner, a person is able negotiate the process of transferring his thoughts onto paper (Torrance and Galbraith, 2005). The relevant components of the individual in Hayes's model are: working memory, cognitive processes, motivation/affect and long term memory.

2.2.3 Working Memory

Working memory is a very important process in writing because "all other processes have access to working memory and carry out all non automated activities in working memory" (Hayes, 1996, p. 15). Generally, working memory is commonly defined as "a short-term store and as a limited capacity system for processing information in cognitive tasks" (Kellogg 1996, p. 57) that is in high demand by a variety of processes that have not yet become automatic (Kellogg, 2001; Kellogg and Olive, 2002; Quinlan, 2004). When a child is writing a story, the working memory switches between tasks and allows for different concerns to be met (Bourdin and Fayol, 1994). Alternative communication technology, as I test within this thesis, could provide the means through which to decrease the burden on the working memory and allow it to focus on more important cognitive tasks. By giving the child the chance to audio record his story, for instance, he may be able to focus on the quality of his ideas instead of the presentation of them on paper. Instead of worrying about spelling and grammar, he is able to focus on the story as a whole. In trying to simplify the writing process, my thesis is also looking for

ways to decrease the burden on the working memory through the use of alternative communication technologies.

2.2.4 Cognitive Processes

Hayes (1996) argues that three cognitive processes are at work while an individual is generating text. They are: text interpretation, reflection and production. Quinlan (2004) defines text generation as the translation of thought into language representations. He does not, however, omit the possibility of this text existing outside of the written word, as a video game, dance, or any other communicative medium. Text interpretation occurs first, defined as "a function that creates internal representations from linguistic and graphic outputs" (Hayes, 1996, p. 13). Textual representations are interpreted and made into cognitive representations. Reflection involves processes of problem solving, making decisions and inferences for next steps and then producing written, spoken or graphic output (Hayes 1996). For the purposes of my thesis, I assume that the same cognitive processes that are used when writing with pen and paper and any other implement or technology are the same. I am not testing the different usages of cognition when different mediums are used but providing a basic understanding of the cognitive processes that are at work within the brain when a child writes.

2.2.5 Motivation/Affect

Not only does a child need the ability to express herself using her optimal writing tool or literacy, but also there are five other important factors which can influence a child's ability to use those tools. The first factor is intrinsic motivation. A child needs to

be intrinsically motivated in order to succeed and find joy within writing (Hayes, 1996). For learning to be motivating, "it [needs to be] interesting, enjoyable, satisfying, or personally challenging" (Killeen, Evans et al. 2003, p. 251). Motivation, then, exists in a child's perception of the task he is given. If he sees the task as accomplishable and interesting, he will be motivated. If he sees the end goal as existing outside of his ability or as trivial to him, he will be less willing to put in the effort needed to succeed, as he is convinced he will fail or look unintelligent.

A second important factor is extrinsic motivation where the current and future value of written communication is made apparent to the child (Gundlach, 1982). For extrinsic motivation to occur in a meaningful way, activities should be related to present needs rather than future ones (Gardner, 1993). Children who participated in my study experiment with creating visual art and stories that will be displayed and auctioned off at DiscoverAbility's Annual Arts Festival. They did not have to wait until they "grew up" to see the benefits of the hard work, for their stories were being displayed for people to see, most of whom they do not know. As well, in realizing that their work would be bought and displayed within someone's home or office, the children knew that their work would find an appreciative audience.

The third factor is the plurality of goals and the relationship and impact of those goals on writing. A child may have multiple goals which are continually reasserting themselves as the writing process occurs. When a child writes a story as an assignment, she may be concerned with proving that a concept has been learned. Later, the concern might shift to completion of the assignment or to the production of an error free piece of work. Goals can exist simultaneously as well, for a child might want to get a good mark

but by spending as little time as possible. Teachers need to emphasize the particular task that they are focusing on, rather than making this choice a mystery to them.

In my thesis, the children were asked to write "the best story" that they could, without specific parameters which allowed the children to determine their own set of goals. Children were given some indication as to the kind of quality the principal investigator was expecting, as they were aware that their work would be displayed and auctioned off for charity. There were, however, no explicit rules about the story itself, save the fact that the children were to write a story about the drawing they created earlier. Efforts were made to make expectations unclear which left children with the opportunity to establish their own criteria for their story. While Hayes does not encourage such a vague set of expectations, it was essential to understanding what the children thought good writing meant. The quantitative performance measure used in this thesis was strictly for within subjects comparison purposes and had no bearing on the child's "grade" in school.

A fourth factor is the notion of options and choices. Morrow and Tracey (1997) posit that in order to motivate students to do their best, they must be given choices. These researchers then call for the adoption of alternative means to paper and pencil to be made available through technology and the arts. Within my study, I provide children with choices and options to use art and technology as Morrow and Tracey recommend. In giving him the chance to choose how he will communicate meaning, the adult is allowing the child to express himself in a manner that plays to his strengths or develops his weakness. Forcing a child to communicate through only one medium, children learn only

one way of making meaning and this limits his potential as an author and communicator (Planning a Connected Curriculum, 2003; Eisner, 2004).

My thesis study works with these ideals and tries to empower children with as many choices as possible. For example, the child had to assent to his participation within the study, giving him the choice to accept or refuse the opportunity to participate. Whether they were participating or not, they were able to choose whether they would share their thoughts and feelings with the principal researcher, learn from a professional artist or write a story using alternative writing technology. If a child did not want to participate, there was no consequence for this decision.

A second choice was given to the children when they were asked to draw a picture, as they were given the ability to take advantage of the expertise of a professional artist and, with his help, improve their drawing skills. They were able to choose what they drew and the story that they would later write with the assistance of alternative writing technology, as their story would be based on their drawings.

Finally, the children had a choice as to how their story would become translated into the printed word, using a laptop computer, audio recorder or paper and pencil. While all the stories would eventually become text, the options that were available to the students enabled them to try to use technology to write their stories, use the conventional paper and pencil or not write a story at all.

The fifth factor is the affective aspects of writing (Hayes, 1996). Writing is a personal activity that allows for our private thoughts to be made public. Thoughts exist within an individual's mind or even those that are spoken lack permanency. The words that are authored on paper or using other alternative writing mediums, open the author up

to an added degree of scrutiny compared with spoken utterances, as they can be reviewed and errors can be corrected (Emig, 1994). Children, therefore, might fear that their "written" words are committing them to a level of criticism that spoken word does not. The technical aspects of writing are of special importance here, as Bruning and Horn (2000) argue that children worry that in expressing themselves through the printed word they are opening themselves up to a kind of technical scrutiny that would not be apart should they chose another medium, like drawing or telling their story. My thesis takes these fears into account, freeing children of the need to worry about technical aspects of writing, such as spelling and grammar, by allowing them to dictate their stories into an audio recorder. Also, children are given thirty minutes to author their stories, meaning that they may draft an outline or write out their story before recording it. This gives the children the opportunity to organize their thoughts in whatever manner they see fit, with or without concern for the technicalities of traditional writing.

2.2.6 Long-Term Memory

The final component included in Hayes' model is Long-Term Memory: "Writing simply would not be possible if writers did not have long-term memories in which to store their knowledge of vocabulary, grammar, genre, topic, audience, and so on" (Hayes, 1996, p. 37). Flower and Hayes (1981) suggest that long term memory is a "relatively stable entity [that has] its own internal organization" (p. 371). This stability, however, makes retrieving and changing information in long-term memory difficult. For the purposes of my thesis, I assume that the long-term memory processes that are used when

writing with pen and paper and any other implement or technology are the same as they are not under evaluation in this thesis.

2.3 *Alternative Writing Technologies*

Does technology provide students and their teachers with new ways of writing and improving their marks? Or is it simply the latest fad in the ongoing fight to 'save' our children from becoming illiterate? Research has yet to provide a definitive answer (Kulik, 2003). The majority of studies produced are focused upon simplifying the physical and cognitive demands of writing and, Kulik (2003) and (Kalinowski 2001) argue that academics should be concerned with testing the effectiveness of the technologies they support rather than praising their supposed benefits when little empirical testing has been done.

Hayes warns academics to be cautious of their attitude towards alternative means of writing: "The point is not that one medium is better than another, although perhaps such a case could be made, but rather that writing processes are influenced, and sometimes strongly influenced, by the writing medium itself" (Hayes, 1996, p. 14). Opinions on the issue differ in a variety of ways. Hartley (2001), for example, asserts that "writing is facilitated with new technology" (p. 12) though he does not believe that the writing process changes with the adoption of a new medium. Farnan and Dahl (2003) disagree: "Technology affects not only how we write but what we write" (p. 1003).

When new technology is introduced and adopted, it changes the way that we do things and how we do them, evident in our inability to "remember" life before word processing; it is "virtually a contemporary synonym for writing" (Dowling, 1999, p.1.). The issue is whether these changes help children communicate thoughts that they would not be able to translate through the predominant utensils that schools value, paper and pencil. Within my thesis, I give children the opportunity to use alternative technologies

and ways of making meaning through them in order to show children that the pen and paper are not the only tools through which to make meaning through the printed word.

One of the main problems facing young writers is the amount of concentration that needs to be devoted to translating thought into written text. Alternative authoring technologies, such as computers and audio recorders, have been purposed as a means through which to decrease the burden this translation costs cognitively (Farnan and Dahl, 2003). My thesis seeks to test the abilities of computers and audio recorders with one grade five and two grade four classes to see if the stories that are produced through them enable qualitatively better stories to be written. Although I seek to test the abilities of alternative writing technologies, I am not concerned with challenging or revising theory on the subject matter but testing its main hypothesis, that the writing will be better.

In order to communicate through writing, an individual has to take thoughts within the brain and transfer them onto paper "through various language-specific processes" (Jones and Christensen, 1999, p. 44). When a child is young and just learning to write, the majority of the working memory's load is concerned with low road/level thinking skills (MacArthur, 1999; Efland, 2002; Kellogg and Olive, 2002). Low road/level skills include "creating representations in memory, accessing and retrieving these representations in memory, motor planning and motor production" (Berninger, Vaughan et al., 1997, p. 652) while higher road/level skills are made up of "strategies for planning, generating language at the sentence and text levels and reviewing and revising written text" (ibid). As a child becomes more familiar with the writing process, the low level processes become more automatic and allow the working memory to focus on higher order thinking skills (Benton, Corkill et al., 1995; Dowling, 1999; Jones and

Christensen, 1999; Graham, Harris et al., 2000; Farnan and Dahl, 2003; Quinlan, 2004). The word processor and audio recorder are two technologies that have been examined as potentially able to help children write stories.

2.3.1 Word Processing

Academics are eager, despite Hayes's (1996) warnings, to cite the overwhelming benefits that computers afford the perspective writer. Rutherford (2004), for example, argues that computers are no longer storage houses of information but interactive and mobile technologies that incorporate the abilities of printed text and enable audiovisual presentations. Researchers also suggest that computers facilitate organization, encourage experimentation (Lichtenstein, 1996), promote interaction (Klerfelt, 2004), alleviate concern for spelling, grammar and neatness (MacArthur and Graham, 1987; Quinlan, 2004) so that children are able to focus on more important skills such as planning and idea generation (Bourdin and Fayol, 1994; Berninger, Vaughan et al., 1997; Kellogg, 2001; Kellogg and Olive, 2002). MacArthur (1999) argues that "as a fine motor skill, typing is inherently easier than handwriting and skilled typing is considerably faster than handwriting" (p. 178). He does note, however, that because of the lack of computers within the classroom, there are important barriers to overcome, as many children cannot type and, because of this, when they do word processing tasks, their working memory is overloaded and the writing process is not improved. MacArthur adds children can have their stories "published" on the computer which, he believes, motivates children to write more, a view that numerous researchers (Greene, 1995; Lichtenstein, 1996; Waite-

Stupiansky, 1997; Atwell, 1998; Parnan and Dahl, 1998; Ensio and Boxeth, 2000; Miller, 2000; Machado, 2003) support.

Mumtaz and Hammond (2002), however, challenge the perceived notion that computers are widely used throughout the writing process. In their study, they found that teachers seldom allowed or encouraged children to use computers for anything other than their final draft for "presentational purposes" (p. 345). Using the computer as a tool to aesthetically better writing does not, they argue, take into consideration the considerable benefits and limitations that such technology allows or imposes upon the user. This gives the children an unrealistic view of the computer as solely used to aesthetically better text rather than as a means through which to write it. Mumtaz and Hammond (2002) note that when children are given the chance to use computers, they are given little instruction, which seems to indicate that they are given little chance to explore the possibilities of the technology and, because of this lack of knowledge, left either to find fault within their own abilities or call into question the purpose of using a computer. In giving children hands-on access to enough media through which to communicate their stories, I am also enabling them to ask questions while, at the same time, giving them the opportunity to explore the medium on their own, without academic penalty, should they produce low quality stories.

Word processing has also been used in conjunction with hypermedia, as seen in studies done by Vincent (2001) and Majid, Tan et al. (2003). Hypermedia (such as webpages, and word processors with drawing software) can be used to complement children's writing and motivate them to express themselves, paralleling the creation of visual art in my thesis.

In their meta-analysis of twenty six studies published from 1992-2002 with subjects from kindergarten to grade twelve, Goldberg, Russell et al. (2003) found that the use of a word processor in place of paper and pen had a statistically significant impact on the quality and quantity of writing that was produced. Kulik's (2003) meta-analysis of studies on subjects from kindergarten to grade twelve produced similar findings, though he did warn that "increases in writing skill are not an invariable effect of word processor use" vii. In their review of literature on the topic, Cochran-Smith, Paris et al. (1991) noted that there was "little evidence that word processing, in and of itself, improves the quality of students' writing whether at the college or early adolescent levels" (p. 49). They do not, however, cite the effects of word processing on children's writing. Unlike these studies, this thesis will pair up alternative methods of writing with visual art, focusing on children in grades four and five. From what I have read, I am skeptical as to the immediate results of using computers within the classroom, as I am unable to gage the children's experience using computers and their level of proficiency as typists.

2.3.2 Dictation

Dictation, like the word processor, "frees the author from the mechanical and conventional demands of producing text, that is, penmanship or typing, spelling, punctuation, and capitalization" (MacArthur and Graham, 1987, p. 23) and "completely circumvents the traditional mechanics of writing. Even in individuals without writing problems, dictation is substantially faster than handwriting or typing" (MacArthur, 1999, p.185). Traditional mechanics include "all the transcription processes involved in getting words into print – handwriting or typing, spelling, capitalization and punctuation and

formatting" (p. 170). It is the mechanical aspects, some argue, that create barriers to writing for some children (Hoewisch, 2001). With dictation, children experience less pressure to make sure that they have some idea how to spell or punctuate their sentences. Unlike the word processor, where the student must have some idea of the correct spelling or grammar, audio dictation allows the child to focus primarily on higher order thinking skills (MacArthur and Graham, 1987).

Able to see the story that they wrote translated into printed text, the student may be motivated to learn how to become literate, for they see themselves as capable of "writing text" save their inability to encode their thoughts within the code of the printed word. Normally, dictation is used as a way to encourage children with special needs to see the value of written communication and improve their writing quality (Miller 2000), (MacArthur and Graham, 1987; De La Paz and Graham, 1997; Quinlan, 2004). My study will consider how dictation use can affect the abilities of those children who chose to record their stories.

In order to understand the impact of these literatures as a whole, I carried out an experiment which set out to give children alternative means through which to communicate stories. Within this study, children were given the opportunity to author stories through the use of visual art and alternative writing technology. It set out to answer two research questions.

3. Method

This study was devised using qualitative analysis and empirical methods of data collection. It examined children's attitudes toward writing stories through the use of visual art and technology. Two research questions were chosen due to their relevance to the literature reviewed.

3.1 Research Questions

This study will answer the following research questions:

1. What are children's attitudes toward the "writing" of stories?
2. What is the impact of using alternative recording technologies for authoring stories?

3.2 Materials

3.2.1 Technology

In the study designed to answer the researcher's questions posed in section 3.1, students are asked to handwrite a story as a benchmark of their writing. They then participate in an arts workshop followed by writing a second story to accompany their art work. They are allowed to use one of three communicative technologies: a pen and paper, an audio-recording device or a laptop with word processing software on it.

The principal researcher supplied audio recorders and laptops for the children to use during the workshop while the school provided pencil and paper supplies. The audio recording devices were Panasonic RQ-2102 Recorder with basic record and play controls. Commonly known as a "shoebox recorder", this type of tape recorder was chosen

because its simple user interface required that users have little or no previous experience in order to successfully record a story. The children were able to control the recording of their own story, and stop and start the machine by themselves. The children were asked to use only the stop and record keys so that their stories would not accidentally be erased.

The laptop computers met the following minimum requirement: 450MHz processor speed, 128-256 Mbytes of RAM and 500 Mbytes of available storage. Some of the laptops were equipped with a TrackPoint® or TouchPad® Integrated Pointing Device.

Art supplies were provided by DiscoverAbility.

3.2.2 Rubric

Rubrics are used to provide students and teachers with explicit criteria through which students are assessed (Andrade 2000; Harrell 2005). The Ontario Curriculum and Exemplars, Grades 1-8: Writing (Ministry of Education and Training 1999) and The Arts: The Ontario Curriculum: Grades 1-8 (Ministry of Education and Training 1998) were consulted, giving the principal researcher a clear idea of writing and visual art expectations for children in grades four and five. A rubric compatible with the Ontario curriculum was designed by the principal investigator and a qualified teacher with the Toronto Public School Board to ensure that it reflected current educational practices. According to the Ontario curriculum, a rubric should be comprised of:

- The categories and the achievement levels (i.e. the framework)
- The relevant criteria (descriptions of student learning)
- The expectations for the grade level (level 3 on the achievement-level chart is the provincial standard.
- The required components specific to each writing task (e.g., the parts of a letter)

Ministry of Education and Training, 1999, p.4

Because the principal researcher needed to determine the way in which children constructed writing and written tasks in an unstructured environment, the rubric was not made available for students. While rubrics are primarily used to ensure that teacher and student expectations remain the same (Parnan and Dahl 1998; Andrade 2000; Mott and Etsler 2003; Harrell 2005), in this case, it would have biased the students by giving them a "correct" way to answer when the task was meant to be ambiguous.

3.3 Subjects

Parents/Guardians, Teachers and Children participated in this study to obtain a complete understanding of children's story writing practices and attitudes for different perspectives. All children taking part in the study were in grade four or five. This age group was selected because the Ministry of Education believes that children within these grades should have a clear understanding of the central aspects of a story (http://www.edu.gov .on.ca/eng /document/curricul/curr97l.html).

Children were needed to participate within this study, for, without their participation, the visibility and value of using art and technology to motivate children to write story could not be adequately examined. Too often, children are not consulted about their schooling and this leaves out a very important perspective. With the children's participation in this study, results were collected and, through analysis, can help determine whether or not this is a useful approach. Unless a subject or her parents/guardians was unwilling to be a part of the process, all children, parents/guardians and teachers were included in the study (see Section 3.4 for more detail).

Forty-two (42) children participated; 30 in grade four and 12 in grade five. There were six special needs and ESL students included in the group. Twelve children participated in the first study and fifteen in the both the second and third. Forty-one parents filled out the pre workshop questionnaire while only twenty-five parents completed and returned the post workshop questionnaire. All children had to assent to their participation in the workshop and all did so, indicating that they wanted to take part in the workshop. No children dropped out of the study. Three parents did not want their children to participate and were not included in the workshop and study. Information and consent/assent forms are provided in Appendix A.

DiscoverAbility Workshop Program

DiscoverAbility Inc. is an Arts and Athletic skill building program offered to children in the Greater Toronto Area. A non-profit charitable organization, DiscoverAbility (available online at www.discoverability.com) runs children's workshops within schools and on weekends and holds seminars and guest lectures for adults and university students. DiscoverAbility's art-centric approach to learning served as inspiration for this thesis, as their art workshop was modified to include a writing aspect.

During most DiscoverAbility art workshops, a final project is completed by each child with the instruction, guidance and reassurance provided by instructors. The final products are exhibited and auctioned off at an Annual Children's Arts Festival providing a unique opportunity and motivation for the children. All proceeds raised through this event are given to charities and *not* to the children. With the assistance of

DiscoverAbility, I wanted to test whether children's motivation to create visual art could be transferred into the act of writing.

Children who participate within DiscoverAbility workshops are excited about the artwork that they create, eagerly showing it to their peers and to the teacher. They want to talk about their drawings, share their original intent and tell their audience what is happening in the picture. Giving them the opportunity to write a story, the children could complement their drawing with writing, giving the audience a more accurate and multi-medium depth.

Because DiscoverAbility would auction off the children's artwork, the children were also given an authentic reason to communicate through the printed word. Writing their story down, they would be able to communicate through writing what they could not through oral communication, since they would not be present during the entire week long exhibit and auction. Only through telling their story through the printed word could they have the chance to deepen their audience's sense of meaning. To make this possible, the length of the normal DiscoverAbility workshop had to be shortened, to leave time for writing and the completion of questionnaires, assent forms and other documentation. Since DiscoverAbility had not run a day long visual arts and writing workshop, it was easier to obtain agreement from teachers and principals for the shorter time commitment.

3.4 Research Design

The study was comprised of three workshops (three different classrooms) with three segments each. During the first segment, the children were asked to write a fictional story called "The Disaster". The children were limited to writing the story by hand using

pencil and paper and were given a period of thirty minutes to complete it. The students were asked to write "the best story that they could", having to interpret for themselves what this meant. After the children wrote their stories, they were collected and later analysed according to the rubric that was developed (see Appendix C).

During the second segment, the students participated in an art lesson with an art instructor where they drew a picture and then, in the third segment, wrote a story about it using alternative communication technologies. The children were given the chance to learn how to draw cartoon characters. The art instructor demonstrated that cartoon characters are made up of many smaller shapes that they already know how to draw.

The children were asked for cartoon characters that they wanted to learn how to draw and, in all three groups, Sponge Bob Square Pants™ was the most popular. Breaking Sponge Bob Square Pants down into smaller shapes, the artist was able to show the children that they already have the basic tools to build their favourite character. Other examples were also drawn for the class, as the instructor asked for the breakdown of other characters. The children were encouraged to sketch as the lesson evolved, trying to get their own ideas by combining shapes and creating their own cartoon characters.

Though some children did not want to deviate from characters they already been drawn for the class, they eventually began to experiment morphing characters like Sponge Bob Square Pants and his friend Patrick Starfish, replacing some of their features with new ones. Some children were enabled through the use of technology and visual art (Fig. 5) while others seemed to be disabled by it (Fig. 6).

Copied!

One bright sunny day, Pointy and Caramel was going to the amusement park which they visited often, and decided to buy an ice-cream cone for Pointy, and a candy apple for Caramel. Pointy was a shape of a cone, and Caramel was a shape of a Candy apple. They were very close friends. They went everywhere together.

But, when they saw the ice-cream and the candy apple, they soon realized that the snacks were an imitation of them! That's when the trouble all started.

They didn't want to be copied by people, because they never got their permission. So, they decided to go to the shop and complain about the situation, and that's what they did. They marched to the ice-cream cone shop, and asked why they were copying them. They looked at them confusingly and finally said to go to the owner of the amusement park. Both of them marched again to the owner of the amusement park which was at the back of the park. They slammed open the door, and demanded the plump, hairy owner about the terrible situation. The owner looked at them sadly, and then told them the news. He explained to them that he didn't have any good ideas, so they decided to copy them! The whole thing made them confused.

The two friends thought thoughtfully for a moment. Caramel and Pointy looked at each other, and finally caramel said that you can use your imagination and your own thoughtful mind to create fantastic things. Pointy said, that you will have to delete all copied things, and replace them with your own. That's what makes a park so great!
Soon, the park changed to a fantastic place loaded with people. Everyone started to come to the park, and enjoyed their new ideas!

Figure 5: 10LJ1's Typed Story and Drawing which was assessed at Level 4 in all five rubric categories

The Limo Truck

One moring I woke up at 5:00 then I got bored.I went back to bed and sleep but I couldn't so I went for a walk with my dog.It was 7:00 the pizza store I got really hungerey so I bought pizza.Then I when to buy more coke I gave some coke to my dog.I was laughing at my dog hahahaha because I made drink coke.Then I went to my work shop and took my ferraie for a test drive on the racing road.I race with my friends thy had fast cars but I still win

Figure 6: 7DM2's Drawing and Typed Story assessed at Level 1 in Ideas & Reasoning, Supporting Ideas and Organization and Level 2 in Word/Vocabulary Use and Communication

After the children completed their drawings, they were asked to write a fictional story about the events and characters depicted in their drawings. Unlike the story written in the first segment, the children were given three options for writing/recording their story: dictating the story into a tape recorder, typing it out on a laptop computer with word processing capabilities (allowed to use whatever tool/functions the computer provides) or writing the story using paper and pencil.

The students knew that all of the stories would eventually be typed and displayed with their artwork so that the final displayed copies were consistent and of the same format quality. All stories were analysed according to the same rubric used to evaluate the first story.

In order to begin conducting research within classrooms, all necessary information was submitted to, reviewed by, and approved by the Ryerson Ethics Committee and the Toronto District Catholic School Board Research Department.

Students were given permission forms from their teacher in sealed envelopes addressed to their parent(s) and/or guardian(s). The children were also asked to sign an assent form (see Appendix A for the consent, assent and permission forms) to ensure that they understood that their actions/speech would be used as data in a study on storytelling and the written word. The children were told how long they were being asked to participate in the study and made aware of any potential risks that it might involve. They were told verbally and in writing that they were free to withdraw from the study at any time and that they would be benefiting other children through their participation. The principal researcher, DiscoverAbility instructors and the school's teacher(s) were present to ensure that children clearly understood what was taking place.

Pre and post questionnaires (see Appendix B) were completed by children, parents and teachers to assess attitudes and experiences with writing, storytelling and art. The pre-study questionnaire was completed at the beginning of the first segment, and the post study questionnaire was completed at the end of the third segment. Students were asked whether they found the writing process hard and what factors contributed to their success or difficulties in writing. Teachers were asked for their opinions regarding success factors for the writing process and whether the processes used in the DiscoverAbility workshop had made any noticeable differences in the children's attitudes, behaviour and writing performance. Parents were asked to rate their child's attitude toward the writing and telling of stories as well as comment on the way storytelling is taught within their child's class.

3.4.1 Limitations

Limitations outside of the principal researcher's control surfaced within the course of this study. Because children's perceptions of writing with the school context were of central importance, the workshops/studies had to be conducted within school classrooms, during school time. While all of the teachers that were approached seemed eager to offer their classes up for research purposes, there were some difficulties in finding a suitable time. The school day was divided into specific timeslots that were devoted to certain activities, some of which remained inflexible (time in the gym, vocal music, French class, etc.). This schedule created restrictions on student availability and timing. Teachers and principals were asked to devote one hour a week before the workshop so that participation forms could be collected, assent forms signed and

questionnaires filled out before the workshop occurred. This was the first segment of the study. Approximately one week later, the second and third segments would take place over half a day of classes. In the second segment, children were taught how to draw cartoon characters and most finished their drawings within an hour and fifteen minute period. The children went to recess for fifteen minutes and, when they came back, laptop computers and audio recorders were available for their use. They were then given thirty minutes to write their stories. After these stories were complete, the third segment began wherein the children answered post workshop questionnaires. This segment lasted thirty minutes. By this time, the half day workshop was over. It would have been more beneficial there had been more time to allow the children to write their stories and create their art, for the time constraints seemed to rush the creative process.

Large class sizes had to be avoided due to a lack of computers and audio recording equipment. Larger class sizes would have increased the number of subjects within this study. This, however, proved to be very difficult, as enough technology could not be acquired to accommodate a large group, especially because laptops were hard to obtain due to a lack of funding for this study. In addition to the three laptop computers provided by the principal researcher, desktop computers located in the library and their classroom were made available for the purpose of the study.

After the first study was completed, the principal researcher was able to secure additional laptops from Ryerson University so that there were eight and eleven laptops for studies two and three respectively. However, this still did not provide enough equipment for all of the children wanting to use the computer. Some children had to wait for their turn on the computers. The children who had to wait to type their stories were

upset that their peers were able to go before them and this probably influenced their level of motivation. Many of the children who were waiting use the computers and audio recorders tended to huddle around their peers, who were either on the typing or recording their story. Because the children were not participating in the creation of their stories at the same time, some children were visibly distracted and/or distracting their peers.

It would have been beneficial to interview the students before and after their participation within the study. While questionnaires did provide valuable data, the students were not able to express themselves fully or explain their answers. Though the questionnaires were designed with children in mind, several of the students, especially those in grade four, had difficult answering questions which asked for them to rate their agreement. With this age group, it might have been more beneficial to ask children questions individually, yet this would have taken too much time.

3.4.2 Data Analysis

Quantitative and qualitative analyses of the questionnaire and story score data was carried out to understand the impact of the art-centric approach and the alternative recording options used in this thesis. Nominal questionnaire data was analyzed using CHI-square analyses in SPSS, 12.0 for Windows to determine if there were differences between the expected and actual outcome between categories. This non-parametric test was important for attitudinal questions in all three questionnaires, as significant differences between answer categories would indicate an unexpected distribution of results.

Crosstab analyses were used to determine whether there were differences between answer categories of two questions. The crosstab analysis was also used to test the reliability of the subjects' answers.

Two different kinds of t-tests, independent and paired, were used to compare the quantitative results of the pre and post story scores as determined with a rubric created for this study. The independent t-test allowed for comparisons between the quantitative scores of stories written using audio recorders and computers, as different children wrote than those who recorded. The paired sample t-test was used to compare pre and post workshop stories, as well as individual groups of stories against those pre workshop stories written by the same individual.

To supplement the data collected in the formal pre and post instruments, and to gain insights into how and why specific events occurred during the study, the children and their teacher were observed by the principal researcher. The events and behaviours that occurred during the workshop were captured by the principal investigator.using a field note-taking approach. These notes were then used to support the quantitative results and the two research questions.

4. Results

4.1 Pre Workshop Children's Questionnaire

The questions that were most relevant in this thesis were questions that concerned children's attitudes towards writing (question 2) and storytelling (question 3), specifically their self-rated ability to write stories, enjoyment when writing, ability to tell stories and whether they thought telling stories is harder than writing them.

A CHI-square analysis was used to determine whether there was a significant difference between the answer categories for the questions related to the children's self-rated ability as writers and tellers of stories and their opinion whether telling stories is harder than writing them.

This question was divided into 8 parts and students answered using a 5-point Likert scale with the end points being Always Agree (coded as a numeric 5 for analysis purposes) and Never Agree (coded as a numeric 1). All significance ratings are to a type 1 error probability of $p<0.05$. CHI-square result, degrees of freedom, standard deviation and mean are reported in Table 1.

Table 1

Significant CHI-square results for questions two and three

Question/variable	χ^2	df	Mean	Standard Deviation (SD)
Child's belief that they are a good writer	21.571	4	2.6	1.0
Child's belief that they are good at story telling	14.488	6	2.8	1.3
Child's belief that telling is harder than writing	21.333	4	3.6	1.6
Child's belief that they cannot tell a story	10.619	4	3.4	1.6

The distribution of answers to these questions is shown in Figures 7 through 10. The participants on the whole were self-confident and considered themselves skilled in written and oral storytelling skills. As seen in Figure 7, most of the children (22 of 41 or 54%) agree that they are good at writing stories indicating that they are self-confident in their writing skills.

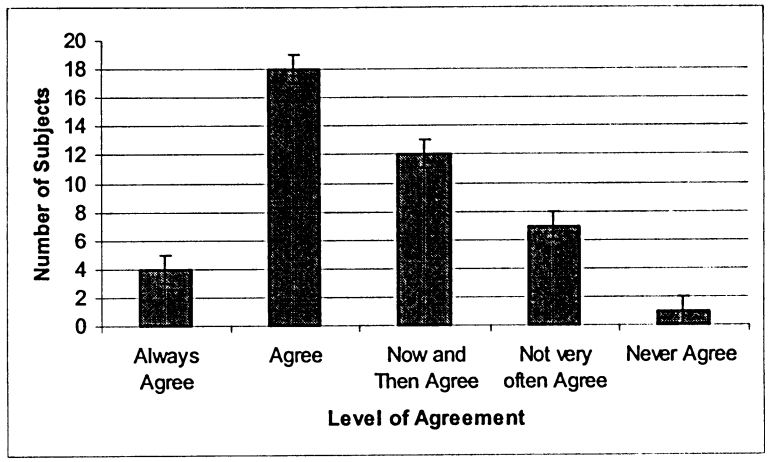

Figure 7: Distribution of responses for question 2b: "I am a good writer"

As seen in Figure 8, most children (19 of 41 or 46%) enjoy telling stories. This also indicates that they have confidence in their abilities as storytellers even though the mechanism for conveying those stories was intentionally vague.

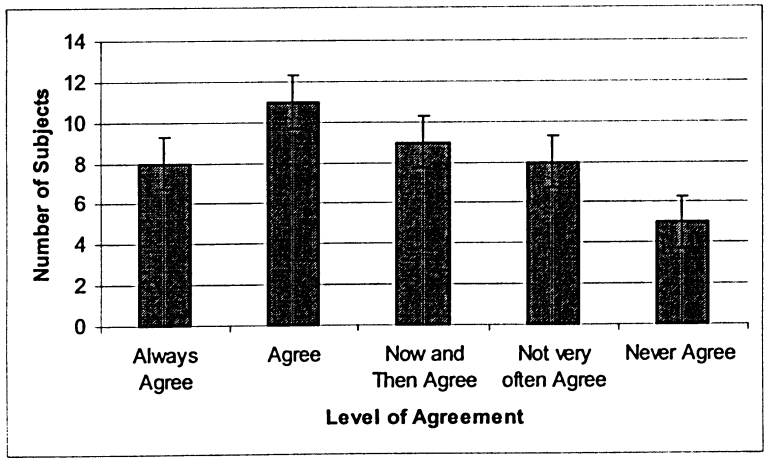

Figure 8: Distribution of responses for question 3a: "I like telling stories"

As seen in Figure 9, the majority of children (25 of 42 or 59%) disagree that telling stories is harder than writing them. This indicates that children find it easier to tell stories than to write them and serves to reinforce the idea that children find writing to be a difficult activity.

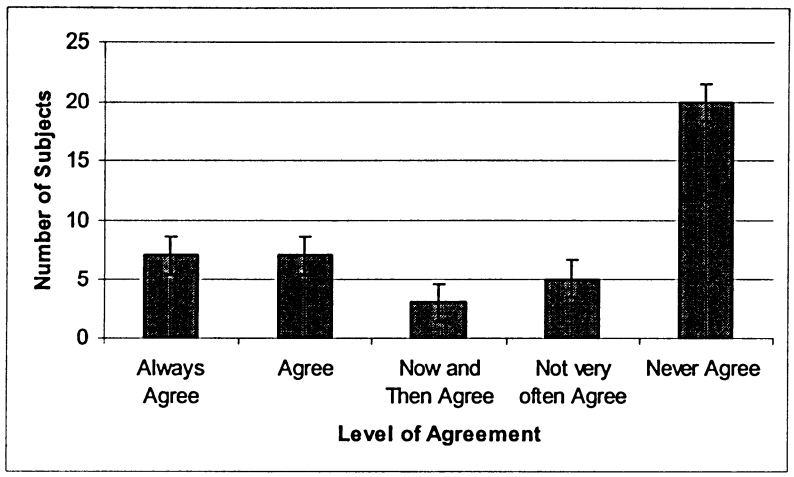

Figure 9: Distribution of results for question 3f:
"Telling stories is harder than writing them"

As seen in Figure 10, when asked whether they agree that they cannot tell a good story, the majority of children (24 of 42 or 57%) did not agree. This seems to show that children believe that they are good storytellers and are able to communicate a story orally with a high degree of proficiency.

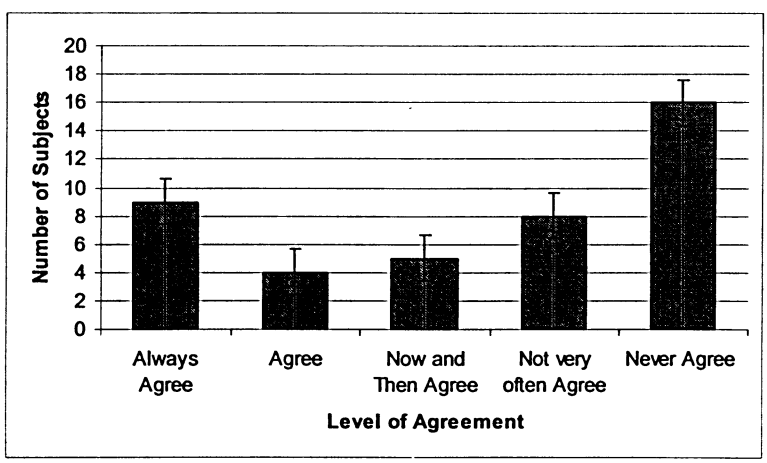

Figure 10: Distribution of results of question 3g:
"I do not know how to tell a good story"

In order to determine positive or negative trends for questions that relate to children's attitudes about writing and telling stories, the five point Likert scale was reduced to a three-point scale by combining the categories Always Agree and Usually Agree (coded as 1 for analysis purposes), and Not Very Often Agree and Never Agree (coded as 3). These questions were especially important to this thesis, for they enable a more complete understanding of children's attitudes towards specific aspects of writing and telling stories to be developed. Significant differences were found for questions concerning several different aspects of writing, including level of enjoyment, topic availability and spelling & grammar. One significant difference was found for the telling of stories, specifically children's fear of making mistakes that their peers would notice. (CHI-square results are reported in Table 2). All significance ratings are to a type 1 error probability of $p<0.05$.

Table 2

Significant CHI-square results for merged questions two and three

Question/variable	χ^2	df	Mean	Standard Deviation (SD)
Child's belief that writing is fun	7.429	2	1.8	0.9
Child's belief that others understand their writing	20.829	2	1.4	0.7
Child's concern for spelling and grammar	7.429	2	2.2	0.9
Child's fear of making mistakes while telling stories	10.293	2	2.0	1.0

As shown in Figure 11, most children (52%) think that writing is an enjoyable activity. This seems to indicate that children see writing as a rewarding activity that allows them to communicate their thoughts and feelings.

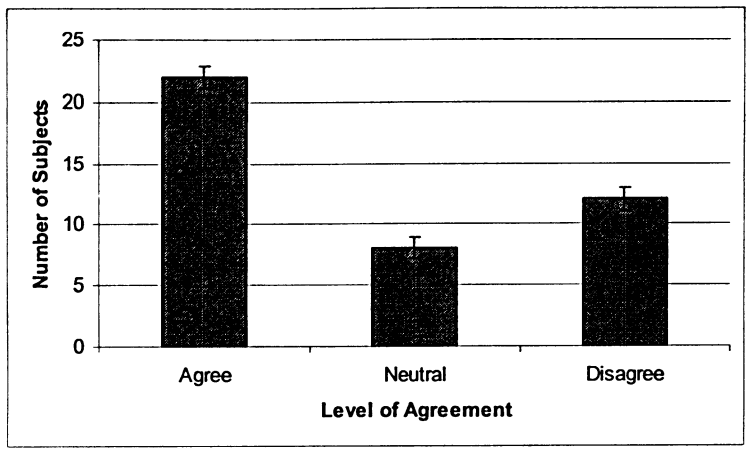

Figure 11: Distribution of merged results for 2a:
"It is fun to write"

As seen in Figure 12, the majority of children (65%) believe that they are able to communicate through the printed word in such a way that others are able to understand what they write. These results indicate that most of these children believe that they are able to write in a manner that allows them to express their thoughts and ideas to others.

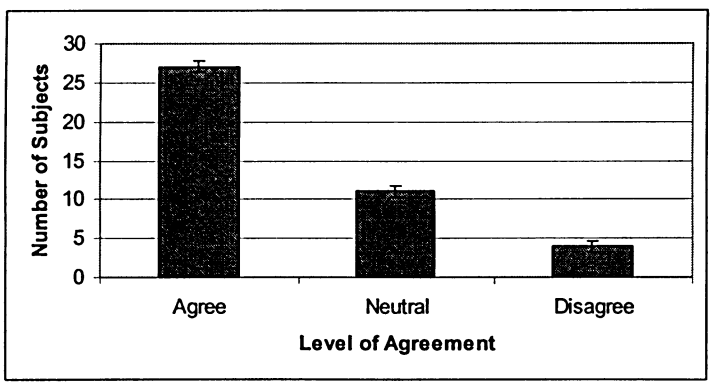

Figure 12: Distribution of merged results for questions 2e:
"People understand what I write"

For question 2f, children were asked if they found spelling and grammar are difficult. As seen in Figure 13, most children (52%) did not seem to think that grammar and spelling were difficult. This result indicates that children are generally not too consciously concerned about the role of spelling and grammar in their writing process.

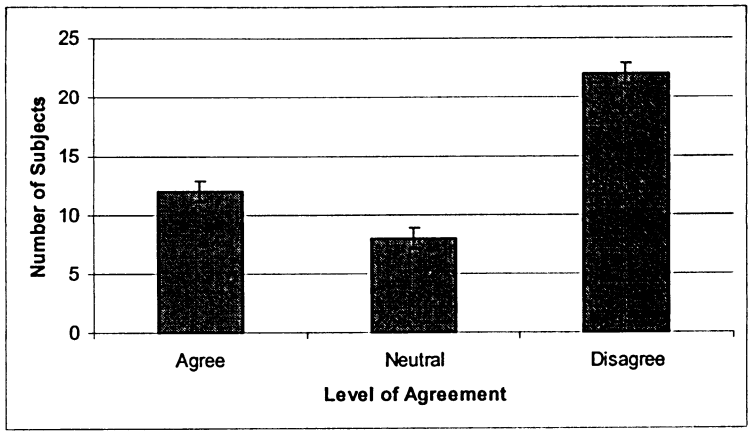

Figure 13: Distribution of merged results for question 2f:
"Spelling and grammar are difficult"

As shown in Figure 14, when children were asked whether they were afraid of making an error while telling stories, children were mostly either agreed (19 of 41 or 46%) or disagreed (18 of 41 or 43%), with few taking a neutral stance (4 of 41 or 9%).

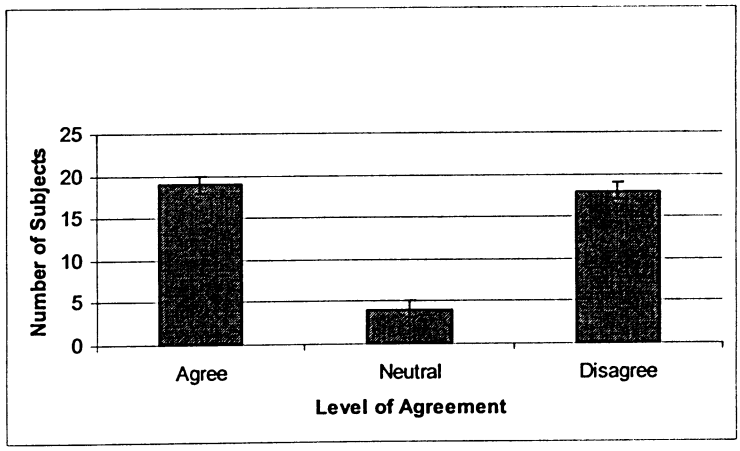

Figure 14: Distribution of merged results for question 3c:
"I am afraid of making a mistake that everyone will notice"

In question five, children were asked to check off the top five things from a list of 12 possibilities that they should include in a story. The rankings from highest to lowest, were,: 1) Having a Beginning, Middle and End (29 checkmarks), 2) Characters (29 checkmarks), 3) A Title (27), 4) Good Ideas (22), 5) Perfect Spelling and Grammar (20), 6) Very Neat and Tidy Writing (16), 7) Interesting Pictures (15), 8) A Big Fight (13), 9) Conflict (12), 10) A Happy Ending (10), 11) Big Words (8), 12) Lots of Pages (2). All options were checked off at least once. This indicates that children are concerned with the technical aspects of their stories, yet show some concern for good ideas.

In question four, children were asked to choose their preferred method for composing their stories: writing it out, typing it out on a computer, telling it out loud or recording it on tape or video. As shown in Figure 15, the results show that children preferred the idea of using a computer to write their stories. CHI-square (42, 4) = 28.952, $p<0.05$. (Mean = 1.1 SD = 1.1, where 1 was the code for handwriting, 2 for typing on a computer, 3 for telling it out loud and 4 for recording it).

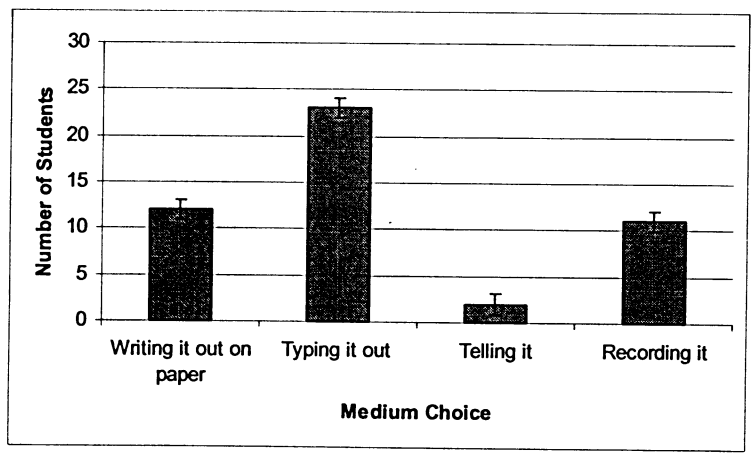

Figure 15: Distribution of results for question 4:
"What way do you think is best for 'writing' your stories?"

4.2 Post Workshop Children's Questionnaire

The questions that were most relevant in this section were those concerned with children's attitude towards the ease of writing about subject matter that they enjoy and the art that they created. Children's self-rated ability as a writer and their concern for spelling and grammar were also of interest.

As seen in Figure 16, a CHI-square analysis was used to determine whether there was a difference between the answer categories for the question related to whether art helped the children create their story. Significantly more (27 of 41 or 66%) children thought that creating stories using artwork to get ideas made the process easier. CHI-square (41, 4) = 14.000, $p<0.05$ (Mean = 2.4, SD = 1.6).

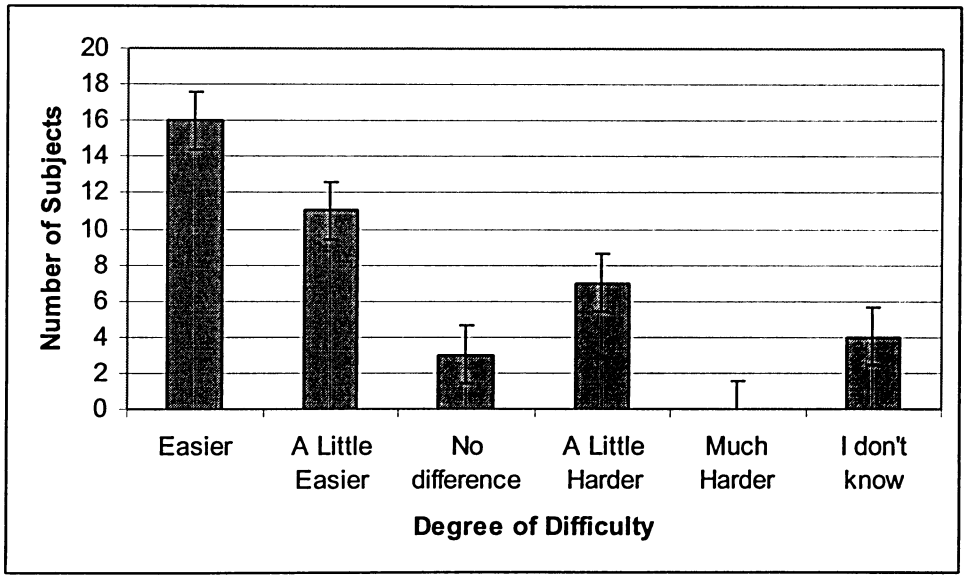

Figure 16: Distribution of results for question 3:
"It is easier to write a story about art I have created"

A CHI-square analysis was used to determine whether there was a significant difference between the answer categories for questions related to the children's self-rated ability as writers and whether or not they though that writing about a topic of interest makes writing easier. These questions were designed to complement those used in the pre workshop questionnaire. As such there were eight parts to this question and students answered using a 5-point Likert scale with the end points being Always Agree (coded as 5 for analysis purposes) and Never Agree (coded as 5). Two of the eight parts were significant. All results are reported to a type I error level of $p<0.05$. Table 3 shows the CHI-square results for the two significant questions.

Table 3

Significant CHI-square results for question 4b and 4g

Question/variable	χ^2	Df	Mean	Standard Deviation (SD)
Child's self-rated ability as a writer	11.222	4	2.4	1.1
Child's perception that it is easier to write about an interesting topic	36.108	4	1.8	1.1

The distribution of the answers for question 4b relating to the children's opinion of their writing ability and for question 4g relating to the children's opinion on whether a topic of interest facilitates the writing process can be seen in Figures 17 and 18 respectively. As shown, the majority of children believe that they are good writers and that it is easier to write about topics of interest. This indicates that children of all self-rated abilities see the benefits of writing about a topic they find interesting. This might indicate that children are more motivated to write stories regardless of their ability if what they are writing is of interest to them.

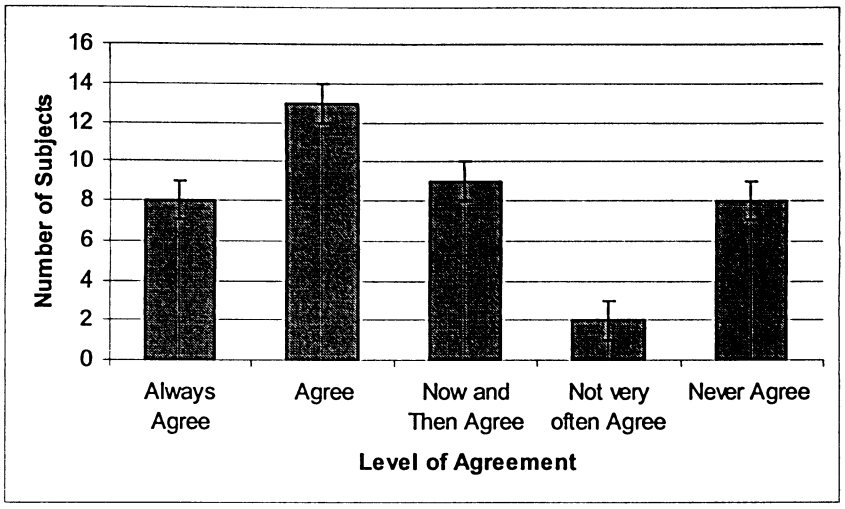

Figure 17: Distribution of results for question 4b: "I am a good writer"

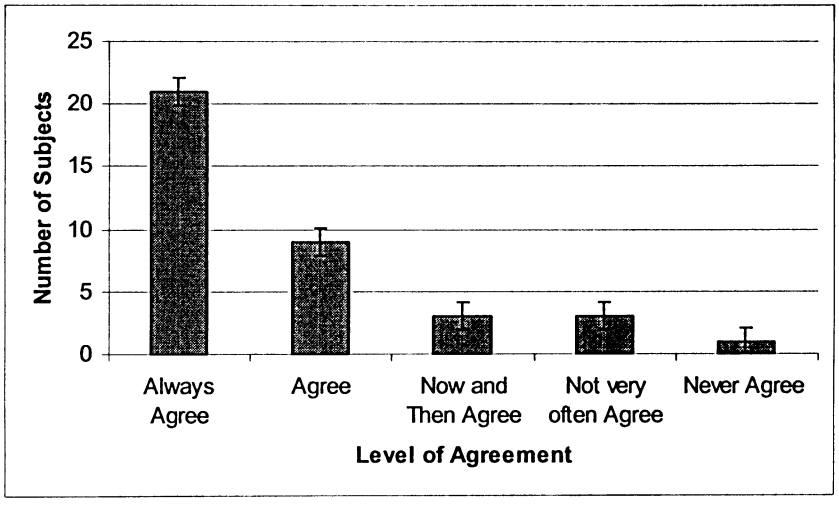

Figure 18: Distribution of results for question 4g:
"When I am writing about something that I like, it makes writing easier"

Question 4 was an important question because it asked children to rate their agreement on questions about writing and their concerns after participating in the workshop. However, no significant differences were found between the 5-point Likert scale categories for a critical question about spelling and grammar. Significant differences were also found for this question when the five point scale was reduced to three points, agree, neutral and disagree (where categories of Always Agree and Usually Agree, and Not Very Often Agree and Never Agree were merged. There were three of 10

parts of question 4) The 5 point Likert scale categories were collapsed so that positive and negative trends could be assessed, as this question looked to assess whether there had been a change in children's generally positive attitude toward spelling and grammar. CHI-square results are reported in Table 4. All results are reported to a type I error level of $p<0.05$.

Table 4

Significant CHI-square results for question 4f

Question/variable	χ^2	Df	Mean	Standard Deviation (SD)
Spelling/grammar	8.537	2	1.8	0.9

As seen in Figure 19, the majority of children (53%) were concerned about spelling and grammar when they wrote their stories.

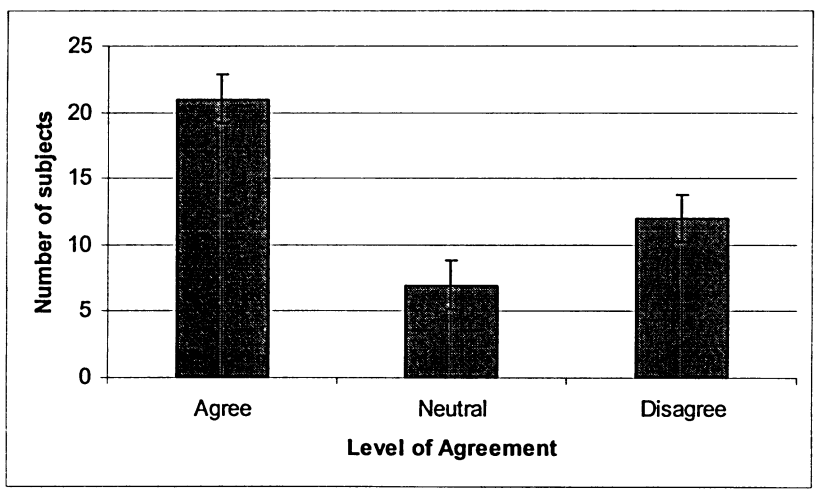

Figure 19: Distribution of merged results for question 4f: "Spelling and grammar are difficult."

As part of the post workshop questionnaire, two questions, 4d ("I like it when people read my stories") and 4j ("I like it when people read the stories I write") were designed to be similar with slightly different phrasing to assess the reliability of the children's answers. With a Cronbach's Alpha of 0.803, the children's answers can be seen as reliable, as the correlative value is high.

4.3 Comparison: Pre and Post Children's Questionnaire

The pre and post study questionnaires were designed to assess whether there was a short-term change in attitudes to writing and telling stories as a result of participation in the DiscoverAbility workshop. Eleven questions in the pre-study questionnaire were the same as those in the post-study questionnaire. Paired t-tests were used to compare within subject responses to the same questions administered pre and post study.

Only one significant result occurred for the entire data set and it was for the question involving spelling and grammar (see Table 5). This indicates that students were more concerned about spelling and grammar after participating in the workshop. This means that children probably had their concern for spelling and grammar triggered by either the use of visual art or technology. Considering the number of students who stopped typing to continue using another medium, it seems that the laptop computers reminded the children that spelling was an "important" part of writing.

Table 5
Paired t-test Results for Pre and Post Concern for Spelling and Grammar

Variable	t	df	Mean		SD	
			Pre	Post	Pre	Post
Concern for Spelling and Grammar	3.019	40	3.4	2.5	1.3	1.4

4.4 Pre Workshop Parent Questionnaire

The main purpose of the parent questionnaires was to compare parents' perceptions of their children's attitudes and abilities with those self-reported by their children. The questions of most importance in those questionnaires related to ratings of writing abilities and the effectiveness and importance of various motivational techniques to encourage children to write stories.

Parents were asked to answer several questions that were similar to those found on the pre workshop children's questionnaire. The instructions, however, asked parents to rate, based on the behaviour and comments of their child, what they thought their child would answer. A CHI-square analysis was carried out on two questions related to the parents' perceptions of their child's enjoyment of writing stories, and their self-confidence as a writer to determine differences between the questionnaire categories. A 5-point Likert scale, with Strongly Agree (coded as 1) and Strongly Disagree (coded as 5) as end point categories, was used as the categories for these questions (CHI-square results are reported in Table 6). All results are reported to a type I error level of $p<0.05$.

Table 6

CHI-square results for questions 6a and 6g

Question/variable	χ^2	df	Mean	Standard Deviation (SD)
My child enjoys writing	23.756	4	2.2	1.2
My child thinks that he or she is a good writer.	26.513	4	2.7	0.9

A CHI-square analysis was used to determine whether there was a significant difference between the answer categories for questions on the parent questionnaire about the effectiveness of various activities in motivating children to write stories. Significant differences for all questions were found. The scale used to measure responses was bounded by Not at all Effective (coded as 1), and Very Effective (coded as 4). CHI-square results are reported in Table 7. All results are reported to a type I error level of $p<0.05$

Table 7

CHI-square results for questions 5a- 5d

Question/variable	χ^2	df	Mean	Standard Deviation (SD)
Using an outline	13.400	3	3.1	0.9
Telling a scribe	12.179	3	2.9	0.8
Telling story to the class	14.000	3	2.8	1.0
Drawing pictures	32.600	3	3.4	0.7

As shown in Figure 20, most parents (74-76%) believed that asking their children to draw pictures or use an outline would be a very or somewhat effective way to help their children write stories. They also indicated that telling a story to the class or to a scribe was less effective (36% percent indicated that telling as story to the class was not very or at all effective and 44% suggested that telling a story to a scribe was not very or at all effective). This seems to indicate that parents realize that visual art can serve as an effective way of getting children to organize their thoughts, much like an outline.

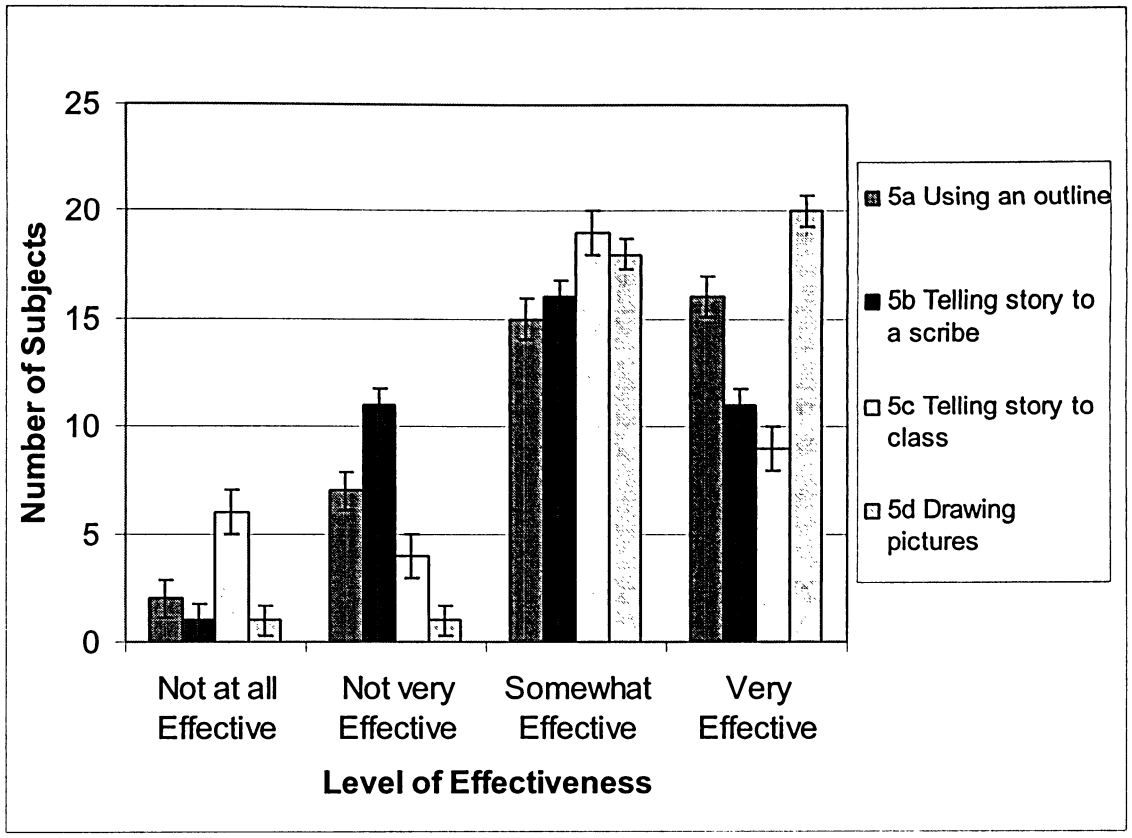

Figure 20: Distribution of results for questions regarding the effectiveness of various activities in helping children write a story.

A CHI-square analysis was used to determine whether there was a significant difference between the answer categories for questions concerning the importance of using various motivational activities to encourage children to learn how to write stories. Significant differences were found for all questions. The following scale was used to measure responses: Strongly Agree (1), Agree (2), Neither Agree or Disagree (3), Disagree (4), Strongly Disagree (5). CHI-square results are reported in Table 8. All results are reported to a type I error level of $p<0.05$

Table 8

CHI-square results for questions 7a-7f

Question/variable	χ^2	df	Mean	Standard Deviation (SD)
Using creative arts	42.000	4	1.7	0.8
Using other subjects	22.263	4	2.3	1.0
Classroom learning	50.872	4	1.5	0.6
Reading Stories	90.250	4	1.2	0.4
Finding a unique motivator	56.000	4	1.5	0.6
Being coach/instructed by parents	38.579	4	1.8	0.8

As seen in Figure 21, more parents (100%) believe that reading stories, learning in the classroom (95%) and using creative art (90%) are important ways to get children motivated to learn how to write stories. In addition, there were parents who thought that using other subjects (18%) and creative art (5%) were not that important.

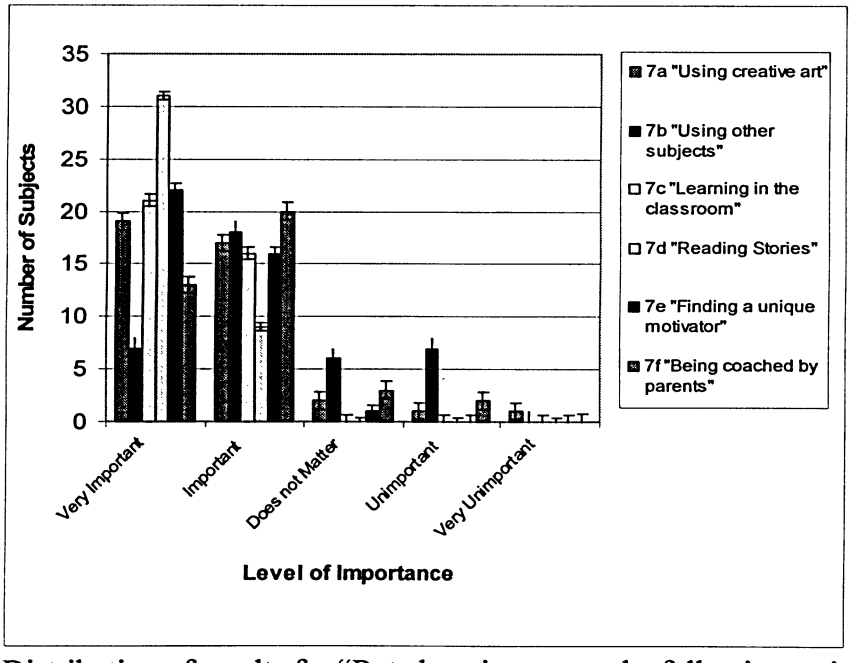

Figure 21: Distribution of results for "Rate how important the following activities are in motivating children to learn how to write stories"

A CHI-square analysis was used to determine whether there was a significant difference between the answer categories for questions of child's preferred medium and parents' satisfaction with the way story writing is taught. Significant differences were found for all questions. CHI-square results are reported in Table 9. All results are reported to a type I error level of $p<0.05$

Table 9

CHI-square results for questions 8 and 9

Question/variable	χ^2	df	Mean	Standard Deviation (SD)
Choice of Medium	16.222	3	1.8	0.8
Satisfaction level	30.585	4	3.5	0.9

As seen in Figure 22, parents attempted to predict the medium their child who would choose to write a story. Parents who thought their child would use a computer almost equaled those who thought they would use a pen and paper. Only 20% of parents thought that their child would want to use an audio recording and none of the parents provided an alternative method of their own.

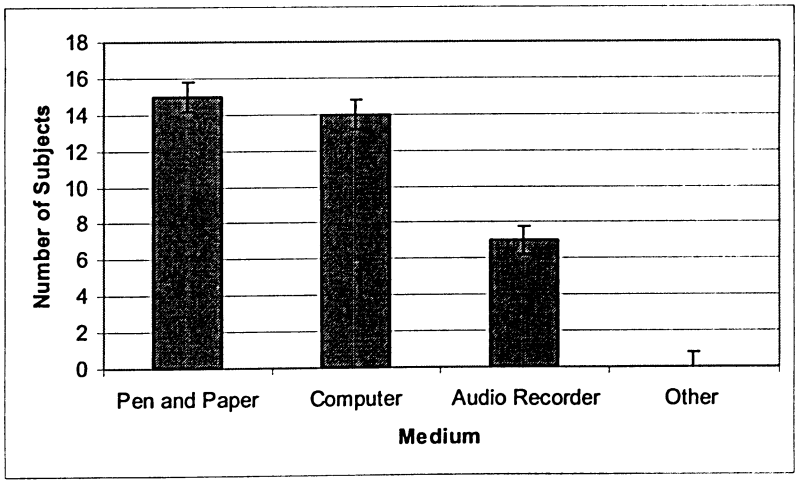

Figure 22: Distribution of results for question 8: "If your child was required to tell a story, he or she would prefer to have it recorded in the following manner"

As seen in Figure 23, few parents (7 of 41 or 17%) are unhappy with the current way story writing is taught within their school.

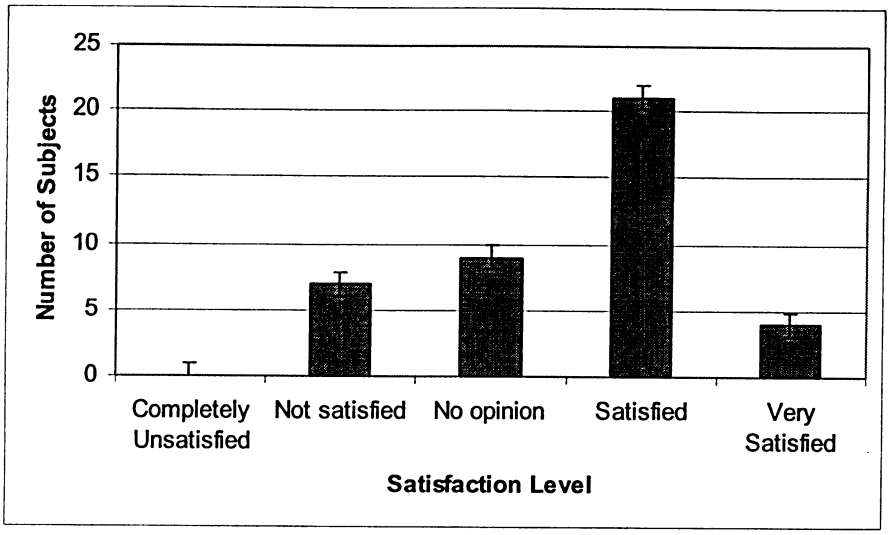

Figure 23: Distribution of results for question 9: "Rate your satisfaction as to the way story writing is taught within your child's school"

4.5 Post Workshop Parent Questionnaire

A CHI-square analysis was used to determine whether there was a significant difference between the answer categories for questions concerning the parents' opinions of the child's perceived enjoyment of the workshop and in any changing interest in visual art or writing stories. These questions were important in understanding whether parents thought their children enjoyed the workshop and/or were motivated to write more stories or create visual art. (CHI-square results are reported in Table 10). All results are reported to a type I error level of $p<0.05$.

Table 10

CHI-square results for questions 1, 3 and 5

Question/variable	χ^2	df	Mean	Standard Deviation (SD)
Child's enjoyment of workshop	41.480	5	1.6	0.8
Child's interest in writing	18.440	5	2.4	1.4
Child's interest in visual art	30.440	5	1.9	1.1

As seen in Figure 24, parents were asked to rate their child's reaction to the workshop in term of their enjoyment level. All parents stated that their children enjoyed participating in the workshop to varying degrees. No one reported that their child did not enjoy the workshop.

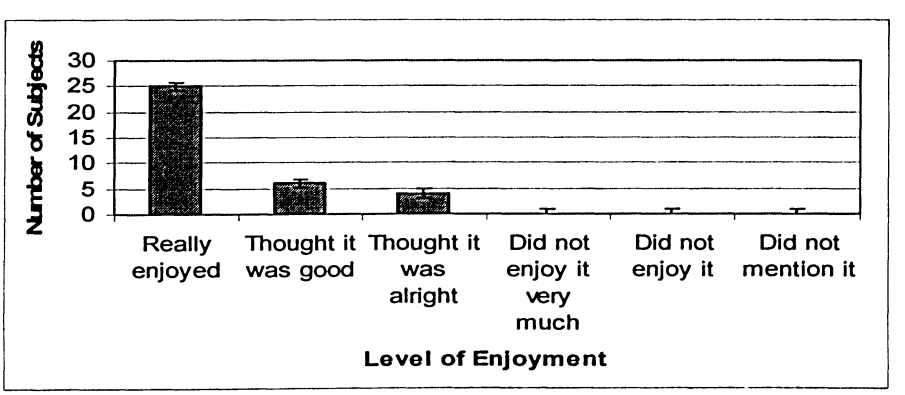

Figure 24: Distribution of results for question 1:
"Rate your child's level of enjoyment from their participating in the workshop"

As seen in Figure 25, parents were asked to gage the impact of the workshop on their child's overall desire to write stories. The majority of parents (68%) stated they noticed a positive change in their children's level of interest in writing as a result of participating in the workshop.

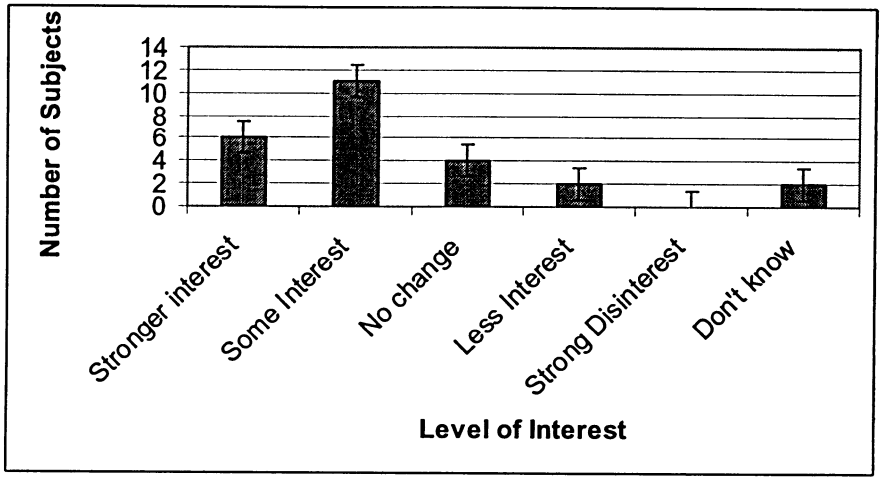

Figure 25: Distribution of results for question 3: "Has your child's level of interest in write stories changed through his/her participation in the workshop?"

As seen in Figure 26, the majority of parents (88%) stated that their children have shown more interest in visual art.

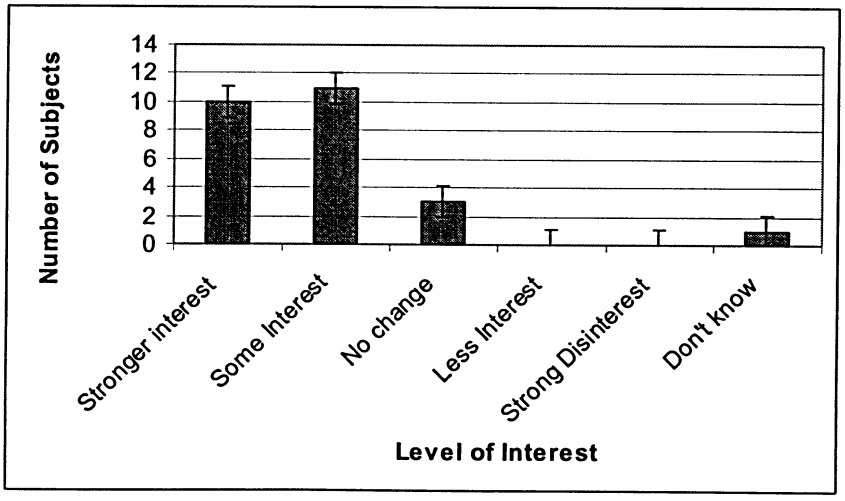

Figure 26: Distribution of results for question 5: "Has your child's level of interest in visual art changed through his/her participation in the workshop?"

4.6 Comparison: Pre Children and Pre Parent Questionnaire

Independent t-tests were used to compare pre-study responses to the same questions administered to children and parents. These questions related to the children's attitude towards writing and telling stories (e.g., whether writing is fun for the child, if spelling and grammar is difficult, if they enjoy it when others read their stories, if the child thinks they are a good writer, whether writing is hard work and if people like to hear their stories).

Two significant results were found in this comparison (see Table 11). The degrees of freedom are inconsistent because some parents did not respond to some of the questions. There was a significant difference in response to whether the children like it when others read their stories and whether they have self-confidence as a writer, as seen in Figures 27 and 28.

Table 11

Independent t-test Results: Pre Children and Pre Parent Workshop Comparison

Variable	t	df	Mean		SD	
			parent	child	parent	child
Child likes when others read his/her stories	-3.617	78	1.8	2.8	0.7	1.5
Child self-confidence as a good writer	-3.093	79	2.7	3.4	0.9	1.3

As seen in Figure 27, more parents (82%) thought that their children enjoyed when others read their stories compared with the children's self-rate enjoyment (55%).

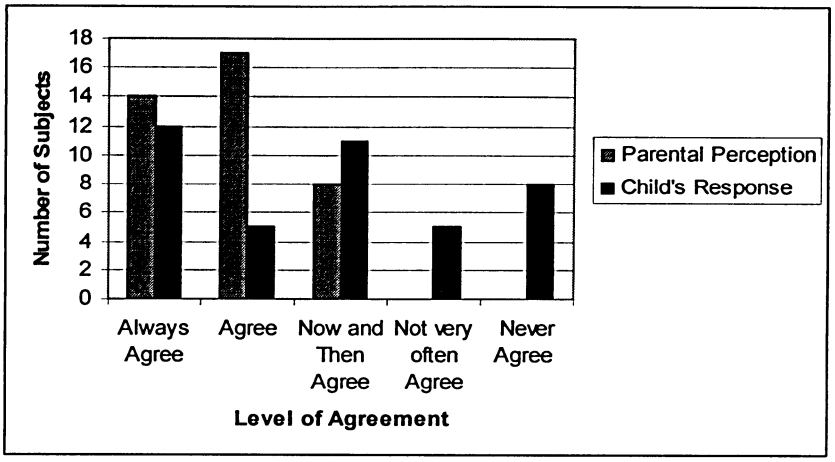

Figure 27: Parental-perception of response versus child's response: "I like it when others read my stories"

As seen in Figure 28, more children (52%) thought that they were good writers compared to parental perception, which was lower (46%).

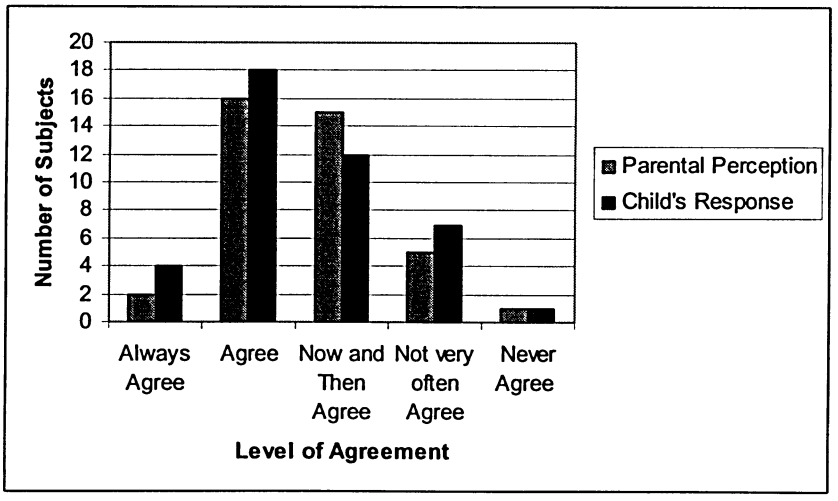

Figure 28: Parental-perception of child's response versus child's response: "I am a good writer".

Parents and children were also asked which method they would/their child would choose to record stories. No significant results were found between responses for parents and children.

4.7 Teacher Pre Workshop Questionnaire

The main purpose of the teacher questionnaires was to examine how the teachers involved in my study taught writing. Questions focused on the use of motivational techniques and the effectiveness of a variety of activities in helping to teach children to write stories. A CHI-square analysis was used to determine whether there was a significant difference between the answer categories for questions about the effectiveness of various motivational techniques. There were no significant results.

4.8 Teacher Post Workshop Questionnaire

The main purpose of the post workshop teacher questionnaires was to examine how these teachers have changed their teaching strategies as they grew more experienced as teachers. No significant results were found. Many of the questions were lists and are best analyzed by frequency and can be found throughout the discussion.

4.9 Story Evaluation

Children were asked to write two different stories so that their writing could be attached to their artwork for the auction and assessed for this study. Each story was graded by a qualified teacher according to the rubric devised for this study (see Appendix C). There were five assessment categories: Ideas & Reasoning, Supporting Ideas, Communication, Word/Vocabulary Use and Organization with 4 marks assigned to each for a total of 20 marks for the stories. According to Ontario Ministry of Education guidelines Level 1 = Much Below Provincial Standard, Level 2 = Approaching Provincial Standard, Level 3 = Meets Standard and Level 4 = Exceeds Standard. The Ministry of Education sets level 3 as the level at which most children are expected to perform. Not only was this carried out to compare before and after performance but also to examine how the children's stories compared with the results of the standardized tests used to assess whether children meet provincial expectations. Education Quality and Accountability Office Writing test results for 2003-2004 (EQAO 2004) positioned 1% of students at Level One, 31% at Level Two, 57% at Level 3 and 11% at Level 4. These averages do not account for those students who were exempted from the test. To test whether the children's stories are representative of a normal breakdown, the EQAO results were used as an expected breakdown.

4.9.1 Pre Workshop Stories (all Handwritten)

Overall, children's Pre Workshop Stories were below average when compared as a whole to the EQAO results. To understand the impact of using alternative technology on the children's ability to create/write a story further analysis was carried out with technology as the independent factor. A series of CHI-squares analyses were carried out on all five categories of the rubric, using a weighted distribution found in the EQAO reports for Toronto Area Catholic School Boards (see Table 12). This was done to determine whether there was a significant difference between the marks the children received on their pre workshop stories and those that EQAO results predicted. The EQAO expected distribution has been included in Figure 29. There was a significant difference for all of the assessment categories. All results are reported to a type I error level of $p<0.05$.

Table 12

Weighted CHI-square results for Pre Workshop Stories

Category	χ^2	df	Mean	Standard Deviation (SD)
Ideas and Reasoning	47.200	3	2.6	1.0
Supporting ideas	69.523	3	2.7	1.0
Communication	36.257	3	2.9	1.0
Word/Vocabulary Use	22.222	3	2.6	0.9
Organization	99.281	3	2.2	0.8

As seen in Figures 29-33, the collection of stories did not meet the provincial standard of 67% being at level 3 and above. Levels one and three seem to be problem areas, since there are more level one and not enough level three students. However, in all categories, there are more students than expected at the highest level, level four.

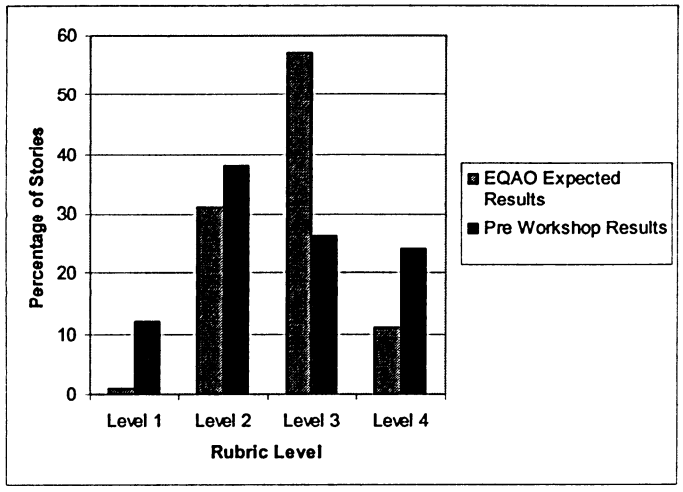

Figure 29: Expected versus actual distribution for Ideas and Reasoning of Pre Workshop Stories

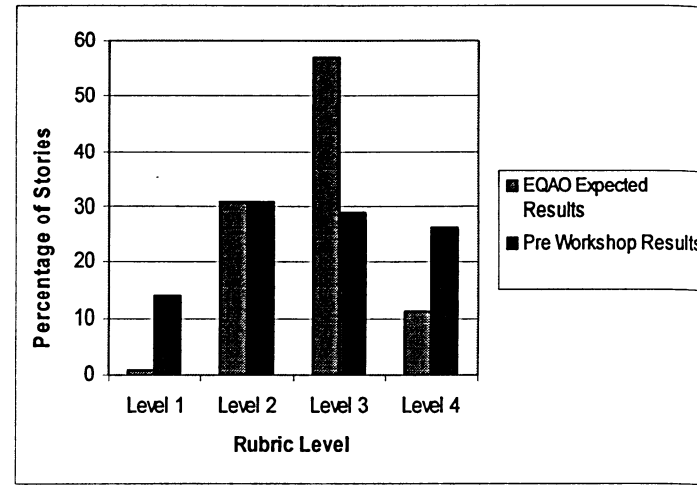

Figure 30: Expected versus actual distribution for Supporting Ideas of Pre Workshop Stories

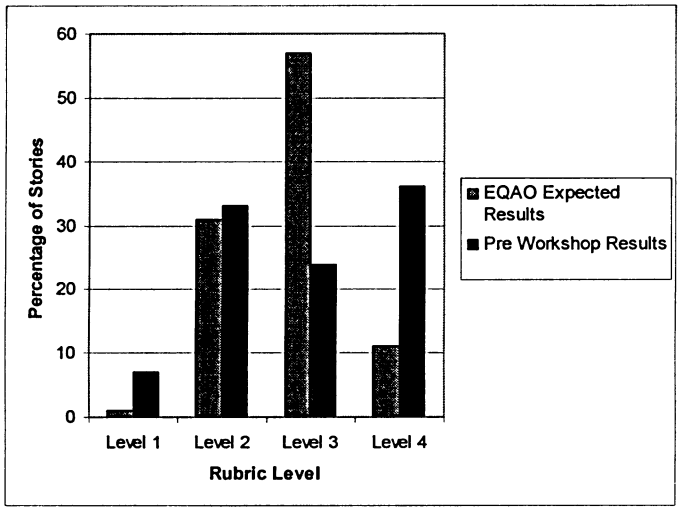

Figure 31: Expected versus actual distribution for Communication of Pre Workshop Stories

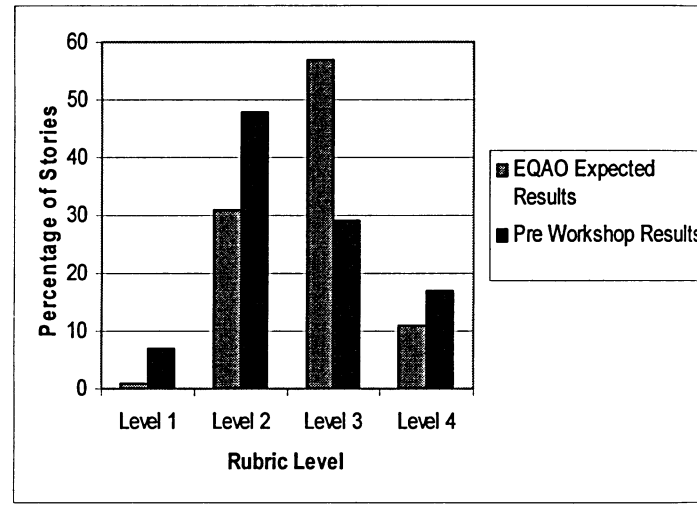

Figure 32: Expected versus actual CHI-square results for Word/Vocabulary Use of Pre Workshop Stories

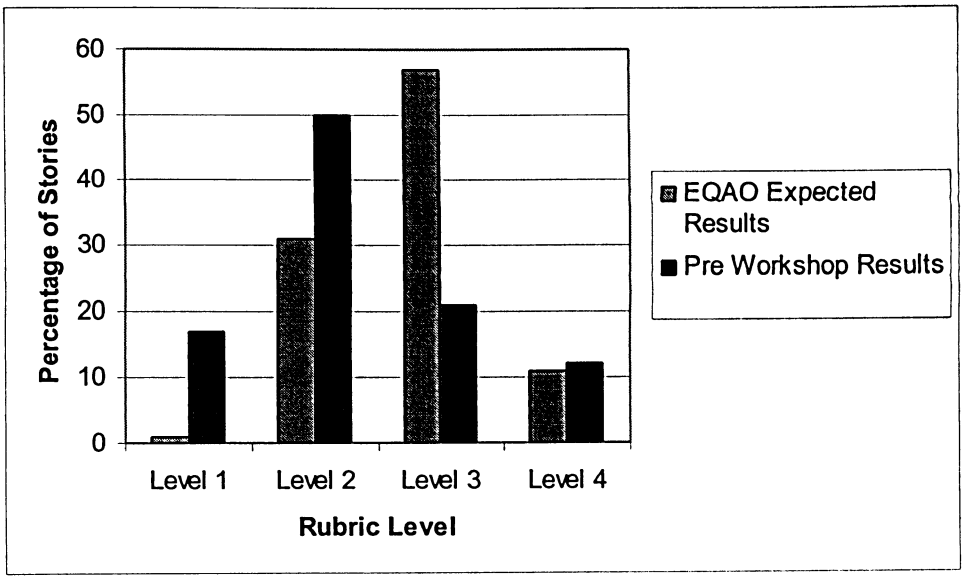

Figure 33: Expected versus actual CHI-square results for Organization of Pre Workshop Stories

4.9.2 Post Workshop Stories

To understand the impact of using alternative technology on the children's ability to create/write a story further analysis was carried out with technology as the independent factor. A series of CHI-squares were run on all five categories of the rubric, using a weighted distribution found in the EQAO reports for Toronto Area Catholic School Boards. This was done to see if there was a significant difference between the marks the children received on their post workshop stories and those that EQAO results predicted.

As shown in Table 13, all five rubric categories showed significant differences between the expected EQAO distribution of results and the actual distribution of the post-study stories. Figures 34-38 show the distribution of results by levels for the EQAO scores and the actual post-study stories scores that were authored with computers and dictated into an audio recorder for each rubric category. All results are reported to a type I error level of $p<0.05$

Table 13

Weighted CHI-square results for Post Workshop Stories

Category	χ^2	df	Mean	Standard Deviation (SD)
Ideas and Reasoning	213.700	3	2.2	0.9
Supporting Ideas	169.085	3	2.2	0.9
Communication	42.116	3	2.6	0.9
Word/Vocabulary Use	64.823	3	2.3	0.8
Organization	324.933	3	2.1	0.9

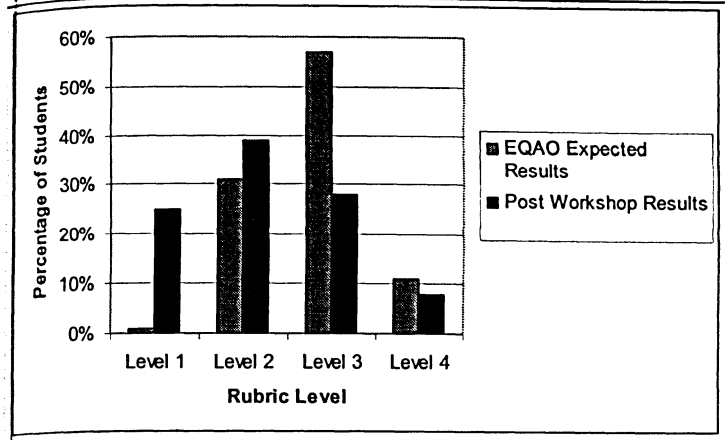

Figure 34: Expected versus actual distribution for Ideas and Reasoning of Post Workshop Stories

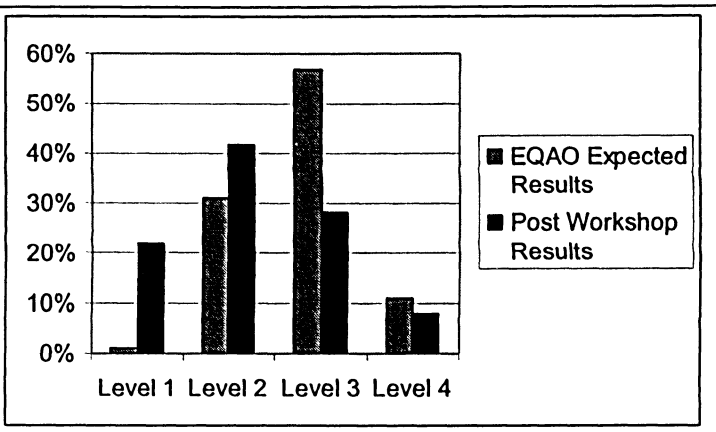

Figure 35: Expected versus actual distribution for Supporting Ideas of Post Workshop Stories

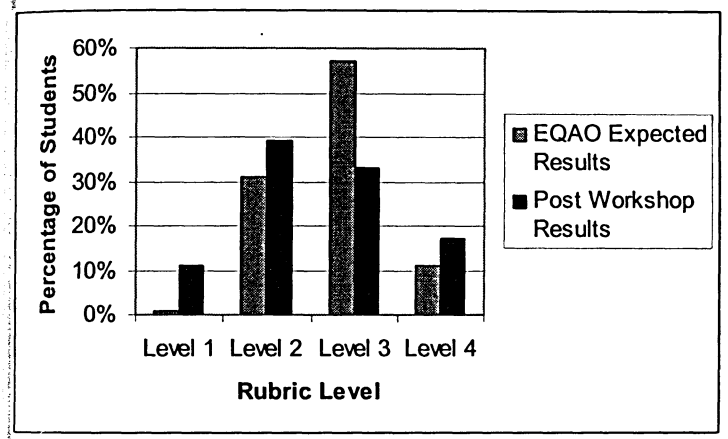

Figure 36: Expected versus actual distribution for Communication of Post Workshop Stories

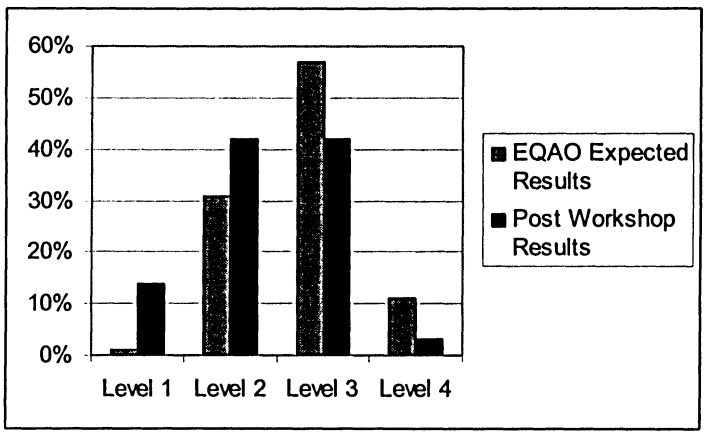

Figure 37: Expected versus actual CHI-square results for Word/Vocabulary Use of Post Workshop Stories

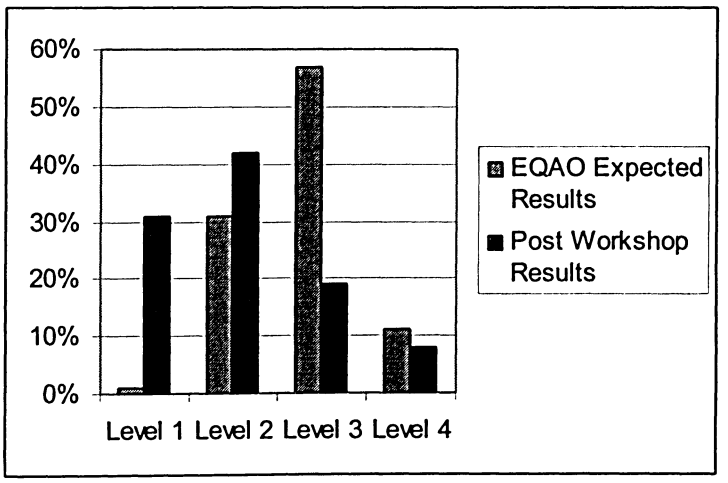

Figure 38: Expected versus actual distribution for Organization of Post Workshop Stories

4.9.3 Pre Workshop and Post Workshop Stories

As shown in Table 14, a paired t-test was run comparing pre (handwritten) and post (mostly technology authored) workshop stories. The categories of Ideas & Reasoning and Supporting Ideas were significantly different, with the pre workshop stories being better than those that were written post workshop For Ideas & Reasoning, 40% percent were at or above level 3 in the pre-study situation, and 27% percent were at or above level 3 in the post study situation). For Supporting Ideas, 55% percent were at or above level 3 in the pre-study situation, and 27% percent were at or above level 3 in the post study situation)All results are reported to a type I error level of $p<0.05$

Table 14

Significant paired t-test results for the categories of Reasoning and Supporting Ideas for Pre and Post Workshop Stories.

Variable	Type of Story	Mean	SD	df	t
Ideas and Reasoning	Pre Workshop	2.6	1.0	36	2.129
	Post Workshop	2.2	0.9	36	
Supporting Ideas	Pre Workshop	2.7	1.0	36	2.169
	Post Workshop	2.2	0.9	36	

As shown in Table 15, the category of Communication showed a possible trend favouring pre workshop stories over those that were written post workshop when the paired t-test was run.

Table 15

Paired t-test results for the category of Communication for Pre and Post Workshop Stories

Variable	Type of Story	Mean	SD	df	t
Communication	Pre Workshop	3.0	1.0	36	1.981
	Post Workshop	2.6	0.9	36	

4.9.4 Comparison: Pre Workshop (Handwritten) and Typed Stories

As shown in Table 16, a paired t-test was run comparing handwritten and completed typed stories. The categories of Ideas & Reasoning, Supporting Ideas, Communication, and Word/Vocabulary Use were significantly different, the handwritten stories being graded higher than those that were typed. The total score also showed a significance difference where the pre-study stories that were handwritten were graded higher than those that were typed as well.

Table 16

Significant results from paired t-test comparing those children who typed stories with the story they wrote before the workshop.

Variable	Type of Story	Mean	SD	df	t
Reasoning	Pre Workshop	2.9	0.9	13	2.857
	Typed	2.3	1.0	13	
Supporting Ideas	Pre Workshop	3.0	1.0	13	3.015
	Typed	2.2	1.1	13	
Communication	Pre Workshop	3.2	0.8	13	2.511
	Typed	2.5	0.9	13	
Word/Vocabulary Use	Pre Workshop	2.9	0.8	13	3.229
	Typed	2.3	0.7	13	
Total	Pre Workshop	14.3	3.6	13	3.621
	Typed	11.2	4.0	13	

All results are reported to a type I error level of $p<0.05$

4.9.5 Comparison: Pre Workshop (Handwritten) and Audio Stories

As shown in Table 17, a paired t-test was run comparing handwritten and audio recorded stories. The categories of Ideas & Reasoning, Supporting Ideas and Communication were significantly different, the handwritten stories being graded higher than those that were recorded. The total score also showed significance where the handwritten stories were graded higher than those that were recorded as well.

Table 17

Significant Results from a paired t-test comparing those children who audio dictated stories with the story they wrote before participating in the workshop.

Variable	Type of Story	Mean	SD	df	t
Reasoning	Pre Workshop	2.8	1.0	18	2.306
	Audio	2.1	0.9	18	
Supporting Ideas	Pre Workshop	2.8	1.0	18	2.157
	Audio	2.2	0.8	18	
Communication	Pre Workshop	3.2	0.9	18	2.882
	Audio	2.5	0.9	18	
Total	Pre Workshop	13.5	3.9	18	2.189
	Audio	11.3	3.6	18	

All results are reported to a type I error level of $p<0.05$

An independent t-test was run comparing audio and typed stories. No significant results were found.

5. Discussion

As children progressed through the exercises in my study, some surprising results were obtained. Particularly noticeable was their concern for the technical aspects of writing, evident in their behaviour when handwriting their stories as well as typing them. This concern for technicalities, especially spelling and grammar, rose after using alternative technology. Concern for technicalities seemed to follow the children into the visual art workshop as children displayed the need to perfect their sketches rather than allow for experimentation to occur through them. In this section, I will discuss the most significant results and their implications to my research questions.

As discussed in Chapter 2, children have long been given the chance to express themselves through writing. Until recently, the act of writing was considered the most appropriate and efficient method of creating meaning within society (Armstrong, 2003). However, recently other means of expression such as through art or sound have begun to receive some attention as valid forms of representing meaning (Greene, 1995; Gardner, 1999; Eisner, 2004). This liberal understanding of writing is slowly making its way into schools. Children within this study were given the opportunity to use art as an alternative means of writing and inspiring creative expression. Within this first section, I will first examine the differences in children's attitudes and performance as a result of using art as a motivator for writing. Within the second section, I will look at the influence of writing technologies on the attitudinal shifts and actual performance.

5.1 What are children's attitudes toward the "writing" of stories?

The first research question for this thesis relates to children's attitudes towards writing and whether any changes were experienced as a result of an art-centric approach to storytelling. Exploring these attitudes is important because it can provide the education community with information regarding the viability of using the creative arts to motivate children to write stories. In asking children for their opinions about the role of art as a motivator for writing, academics can take into account such attitudinal information and try to determine the validity of using art-centric learning on a wider scale.

In the series of studies carried out for this thesis, attitudes about storytelling were measured using subjective factors collected in a pre and post questionnaire. These factors involved children's own ratings of themselves as writers and storytellers as well as parental opinions and perceptions. There were some surprising results from these studies that provide some insight into the process and the attitudes of children about this subject. To assess these attitudes, the children were asked 18 questions that were repeated on both the pre and post (see Appendix B) instruments that were used. Parents were asked 29 questions in the pre instrument and six questions in the post instrument (see appendix B) in order to understand whether children's attitudes match their parent's perception and/or to collect data on parent's perception of their child's education.

Not only do the majority of children (66%) believe that their stories are understood by others (see Fig.12), over half (53%) rated themselves as "good writers" in the pre questionnaire (see Fig. 7) and slightly more (55%) after participating in the workshop (see Fig. 17). The children (52%) also agree that writing is fun (see Fig. 11).

Parents seem to be slightly less optimistic as to the quality of their children's writing skills, as seen in Figure. 28. The children were not given any criteria as to what made a good writer, allowing for their preconceived notions about good and bad writing to surface. In addition, all of the children that participated in this study followed the standard curriculum as defined by the Ontario Ministry of Education (http://www.edu.gov.on.ca/engdocument/curricul/curr97l.html) and had previously written the standardized provincial tests for literacy (reading and writing) and numeracy in an earlier grade.

All stories were assigned a grade by a qualified teacher according to a teacher-developed rubric (see Appendix C) and according to the Ontario Ministry of Education Curriculum standard (Ministry of Education and Training, 1999). The children's stories were thus assessed for five different standard criteria: Ideas & Reasoning, Supporting Ideas, Communication, Word/Vocabulary Use and Organization.

The children's pre workshop story grades were also compared with the Education Quality and Accountability Office (EQAO) test scores for grade three students to obtain a benchmark for comparison. Of the pre workshop stories, as seen together in Figure 39 and separately in Figures 29-33, the children as a whole performed worse than expected, less being at or above level three than projected.

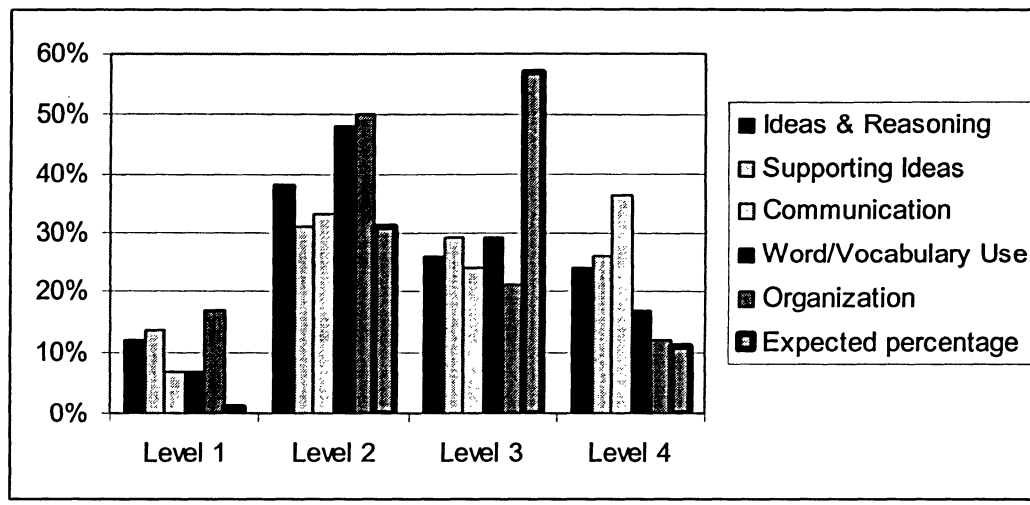

Figure 39: Percentage of pre workshop stories in each rubric level of all five rubric categories.

Of the post workshop stories created with technology, all five rubric categories were significantly different from EQAO standards, and, as seen combined in Figure 40 and as separate graphs in Figures 34-38, many more stories were rated at level one and two. This probably occurred because the children were not used to writing their stories through any other medium that paper and pencil.

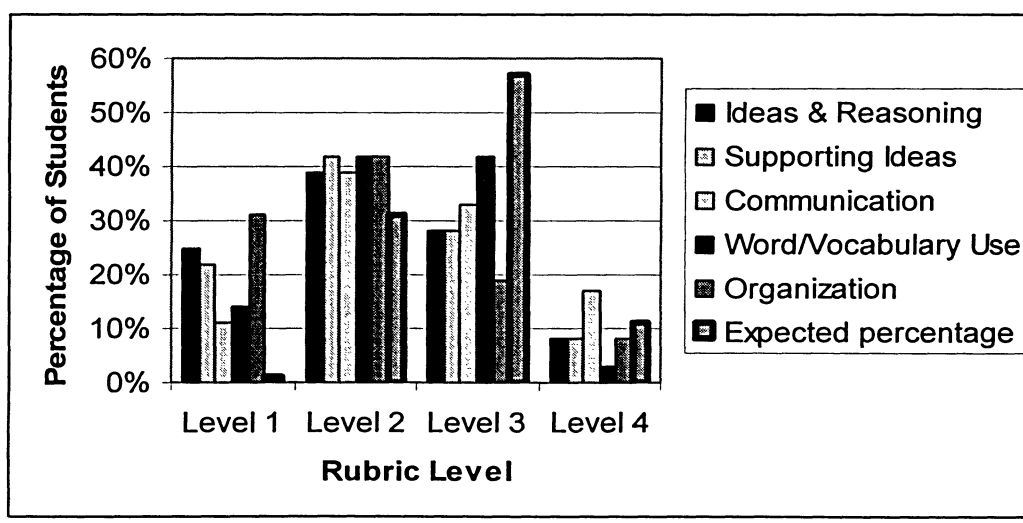

Figure 40: Percentage of post workshop stories in each rubric level of all five rubric categories.

There were two significant differences between the formal marks assigned to the completed pre and post stories in the categories of Reasoning and Supporting Ideas, as seen in Table 14. The pre workshop stories were significantly better than the those written with alternative writing technology In addition, the category of Communication showed a potential trend favoring the pre workshop stories over the post workshop ones (see Table 15). I propose several reasons for these results which include: how children are taught to write, a concern over the technical aspects of writing and visual art, lack of experience being taught visual art by a professional artist, time constraints and limited access to alternative writing technology.

Most children are taught that good writing occurs linearly (Sulzby and Barnhart, 1992; Farnan and Dahl, 1998; Planning a Connected Curriculum, 2003b) and that there is a particular order that writers follow: brainstorming, corrections, outlining, corrections, first draft, corrections, second draft, corrections, and then a final copy, supposedly void of any imperfections (Sperling,1993). The children that participated in this study underwent similar instruction as mentioned by their teachers, which focused on the final product rather than the process that accompanied it, where, Sperling (1993) argues, real learning occurs. As this pedagogical mindset does not privilege the creativity of the child but the time constraints of the curriculum (Kutz, 1991; Kellner, 1998; Lee, 2000; Eisner, 2004), teachers are forced to adopt a "one size fits all" (Farnan and Dahl, 1998) curriculum where there is barely enough time for teaching to occur, let alone learning. Learning at the lower grades is now partially assessed through standardized testing and one outcome of this approach is that children are focused on how to pass a test rather than

learning skills they need to succeed later in life (Simmons, 2004). Test marks become at least partially indicative of student intelligence and, because of this, technical elements such as spelling and grammar become more important than thoughts and ideas.

Similar to Vygotsky, Simmons (2004) argues that standardized tests often do not reflect learning that occurs within the classroom and, even when it does, fails to match the intended curriculum outlined. Because testing for higher order thinking skills (analysis, synthesis and evaluation) is difficult, standardized tests often focus almost entirely on technical skills. The children within our study consistently asked whether spelling and grammar "counted", trying to gage whether the production of their "good story" was dependent upon the ability to write a story without errors. The one significant result for attitudinal differences occurred for spelling and grammar. While the majority of children (53%) in the pre questionnaire (see Fig. 13) stated that they were *not* concerned about spelling or grammar when they write stories, a significant attitudinal shift occurred after their participation (see Fig. 19), where 29% stated that they are not concerned.

Not one child within these three groups asked whether they were being marked on the quality of their story as a set of ideas. Other questions surfaced that focused upon a similar want to achieve the "correct" outcome. For example, within the third group, when one child realized that he had not double spaced the first few lines of his story immediately wanted to rewrite what he already had. Other children expressed concern that their stories were single spaced after hearing their peer's comments, even though they had not been asked to format their stories in any particular manner but to write "the best story they could" within the space of a half hour. For Gardner (1990), the rise of the standardized test signaled the beginning of a system which teaches children from a young

age that only those abilities and sets of knowledge, such as spelling and grammar, which can be tested are important enough for learning. Writing "the best story they could" was hard for these children because they were not only concerned with the expression of their ideas but doing so in a way that was "approved" and "allowed" by their teacher.

Although the children wrote stories that were below the EQAO standards, it was not necessarily representative of their normal story writing routine, which all three of the teachers made very clear at the onset of this study. The teachers all taught writing according to a linear process, involving brainstorming activities, outlines, drafts and "good" copies. The teachers each went through examples of their work with the children, each story developed over a period of several days or, in most cases, several weeks. Only through mimicking these conditions, they argued, would I obtain a sample indicative of the student's writing abilities and, since this was not part of the assessment, I would be collecting an untrue representation of their writing skills.

The step by step writing process that these teachers follow divides the act of writing into a series of discrete acts which are linear rather than recursive. This means that writing is not a single activity but a series of separate and progressive steps that cannot be rearranged regardless of whether they impede the author from expressing their thoughts more coherently (Farnan and Dahl, 1998). This approach focuses on correctness over creativity and conventional structure over experimentation and expressiveness within the elementary school as outlined by Engels (1995).

The results of my study seem to indicate that children are still being raised within a pedagogy that privileges this need for correctness while devaluing skills that are much more difficult to attain. As Benton, Corkill et al. (1995) and Kellogg and Olive (2002)

have asserted, when children focus on the technical aspects of writing, their higher order thinking skills are not allowed to develop, since their concern for the correctness of their writing disallows them to devote attention to more important skills like planning and idea generation. Kellogg and Olive (2002) argue that children cannot write and think about what they are going to write at the same time, for they have to focus on the physical and cognitive aspects of text generation and production. The data that I have gathered thus far seems to support those who assert that such a focus on technical correctness is more damaging than helpful. While technical correctness can be taught relatively easily, developing higher order thinking skills often takes more time and effort and, most important with our society, cannot be measured with any accuracy (Eisner, 1994; Simmons, 2004).

In the pre workshop questionnaire, children were asked to rank the importance of various aspects to the creation of a good story. The children produced the following ranking:

1. Beginning, Middle and End (29 children)
2. Characters (29 children)
3. A Title (27 children)
4. Good Ideas (22 children)
5. Perfect Spelling and Grammar (20 children)
6. Very Neat and Tidy Writing (16 children)
7. Interesting Pictures (15 children)
8. A Big Fight (13 children)
9. Conflict (12 children)
10. A Happy Ending (10 children)
11. Big Words (8 children)
12. Lots of Pages (2 children)

On the whole, the children seem to think that a plot and characters are essential to a good story. They do, however, rank the technical requirement of a title before good

ideas and, after it, affirm the importance of spelling and grammar and very neat and tidy writing. Formatting, structural story elements and the technical aspects of writing seem to take a prominent role in children's perceptions of what defines a good story perhaps because these produce pleasing results for those responsible for evaluating the child's work: teacher, parents/guardians and the child him/herself. It could also be because technical concepts and story structure are more concrete and easier to understand and reproduce.

Storytelling and story writing are more abstract and require imagination (Benton, Corkill et al., 1995; Kellogg and Olive, 2002) which can be difficult to teach and impossible to measure (Greene, 1995). As Berninger, Vaughan et al. (1997) assert, higher order thinking skills, such as the ability to form a coherent story and plan in advance, rely on the automaticity of lower order thinking skills to function. The automaticity of these skills are essential if higher order thinking skills are to be used, for without it, the working memory would be overburdened with the need to concentrate on basic skills rather than more complex ones. In order for a child to produce a coherent story, the working memory needs to focus on these higher order skills (Benton, Corkill et al., 1995; Kellogg and Olive, 2002).

While composing their sample story, children from each of the three studies asked the teacher and the principal investigator for assistance spelling words properly. When they were denied this help, they still continued writing their stories. In the third group, one child asked to use a dictionary and when allowed, he and four other students ran to get one. Hoewisch (2001), The National Commission on Writing in America's Schools and Colleges (2003) and Kutz (2004) suggest that spelling and grammar have obtained

such primacy due to assessment priorities that children are fearful of making mistakes, sacrificing complex ideas for basic ones because they lack the proper spelling or are unsure of grammar. Although grammar and spelling was not going to be assessed within the rubric developed, the children's behaviour seemed to indicate that they were concerned about more objective factors like spelling and grammar instead of subjective aspects like the development of plot. Subjective elements did not seem to be of great concern for the children, as questions were seldom, if ever, asked about the quality or quantity of ideas during the actual writing process.

This concern for technical details also appeared in the artistic component of the study. The children were concerned about creating an artistic creation devoid of any discernable errors. When the art lesson was taking place, the first group of children did not seem to understand the need to sketch and experiment in order to come up with two cartoon characters. The children seemed more concerned with the production of artwork that was void of mistakes than trying out new ideas. They constantly switched between different colour markers in order to "finish" one "sketch" rather than try out many different ideas and experiment with them before committing to one. Because the children were not used to being "taught" art in school, I decided to provide groups two and three with one marker each during the lesson, so that they could concentrate on the new skills they were being taught. To emphasize this even more, the children were given many sheets of paper and told that they could have more if they ran out of it. Despite this effort, there was still some hesitation by the children to make rough sketches and learn through experimentation. Often, the children wanted to draw characters that they had already created or minor variations of popular ones. Although children were asked to draw their

own characters after being taught how to draw Sponge Bob™ and other popular characters as examples, many of the drawings that were produced were replicas of existing popular cartoon characters.

The children were not used to having a professional artist within the classroom and seemed unable to process the input that they were being given. The artist who taught the workshop, unlike the teacher, was able to provide an artist's perspective as to how the children could improve their drawing skills. Few of the children took visible advantage of the artist as a specialized teacher or coach. The artist was often asked whether the work a child was presented was good or not, acting more as judge of art than a teacher of it. Because of this, the lesson seemed more like "show and tell" of ability rather than as a means to develop it. They seemed to be using their pre-existing talent to draw stories, which could have explained the number of repeated characters, especially angels, as seen in Figures 41 and 42:

Figure 41: 16YY2's drawing

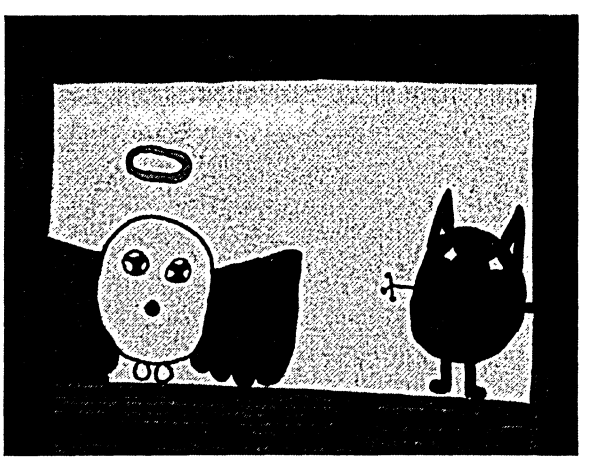

Figure 42: 10SE3's drawing

While the children knew the exact way that Sponge Bob Square Pants spoke, laughed, danced, sang, joked and walked, amongst other traits, they had little understanding of how their own characters would or could act. During the third

workshop, children corrected each other's impressions of various characters, each one believing that they "knew" the character better than the rest of their peers. Their own characters, however, did not receive such attention to specifics and, while the children seemed proud of the art they created, many of their drawings were similar to each other, which led to accusations of "copying". Television, as Hibbing and Rankin-Erickson (2003) have argued, also seems to be a collection ground for ideas, as one parent remarked: "My child gets her stories from what she watches on TV and puts them together".

When the children were given the chance to explain their story to us on an individual basis, as we observed them draw and asked questions, few of the children were confident in describing the creative aspects of their picture. "I don't know" became a very common answer. While this could be a typical reaction to adult questioning, some children, however, were able to clearly articulate the characters and events they were drawing. One boy (coded as 9SK2) explained his drawing (Fig. 43) and the story that would develop as he continued to draw:

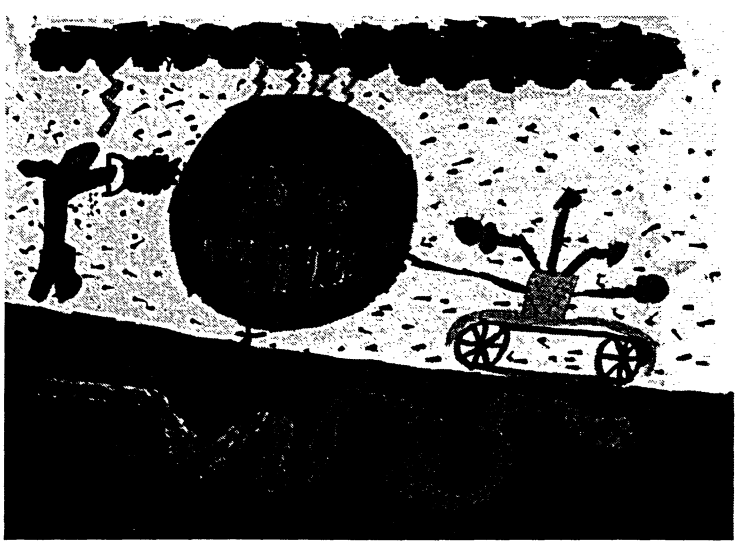

Figure 43: 9KS2's picture

Principal investigator (looking at the 9KS2's picture): "Oh my goodness, what happened to his body?"

9KS2: "It shrunk and he got a bigger head"

Principal investigator: "How did that happen?"

9KS2: "I don't know...I think this is what happened [he takes out a another sheet of paper and starts drawing out the scenario that he is describing] there was this rain cloud that came along and he got shot by all these lightening bolts, five very strong ones and he got turned back"

Gardner (1980, 1990, 1999) suggests that some children are endowed with the ability to communicate their thoughts and feelings through visual art. He believes that the medium of preference, for most young children, is art:

> "Indeed the child himself often seems most at home in expressing himself through his drawings; and the many hours that most children spend putting marker to paper and turning out one drawing after another suggest (if they do not exemplify) the important role played by artistic production in the life of the child"
>
> Gardner, 1980, p. 94

The children who participated within this study seem to agree with Gardner's assertion, since two thirds of them agreed that it was easier to find meaning in their artwork than conventional brainstorming. Parents affirmed their support for the use of art within the classroom, agreeing that it is an effective way to motivate children to learn (see Fig. 20 and 21). Some students (17%) thought it was harder to write stories about the art they drew (see Figure 16). While art may offer children another means through which to communicate their thoughts and feelings, academic work within this field often goes to the other extreme, arguing that all children possess this creativity. In an effort to make visual art an integral part of the curriculum, some academics are arguing against the point that they are trying to make by asserting that all children can learn through art but

not through traditional teaching methods. Art needs to be seen as having the ability to assist some children in learning and not as the saving grace for the academic community.

Some children are able to use art as a communicative medium but this does not mean that this communication is on a conscious or narrative level. Because children are taught that writing is a linear act that occurs through the use of brainstorming aloud and on paper, most are unaccustomed to looking to their drawings for ideas. Children do not necessarily think of what they are drawing as narrative, for when they were asked to communicate it using a variety of mediums, some were unable to "see" anything in their drawing. Ehrenworth (2003a and 2003b) argues that children can be taught to use drawings to "capture" their ideas for stories in picture form, allowing them to save a multi-medium representation of their thoughts which they can later translate into text. More research is required to determine whether Gardner's assertion is true, for, from my experience running this study, I was surprised at the lack of ideas the children's drawings inspired for their stories. Though they were excited to draw, it did not seem to come from the potential narrative that was being built within their minds and upon the paper. The connection between the drawing and the story that was to be written was not nearly as fluid as I had come understand studying the literature on the topic. As a result, further studies are required to test the common assertion that children's drawings tell a story.

In this study, the children were given 30 minutes to complete their stories. This time limit was imposed so that the stories were created under the same time constraints as the handwritten stories written before the workshop. The thirty minutes that the children were given in my study did not necessarily disallow this writing process to occur yet, viewed through the eyes of the teachers, it did. The children were not told that they had to

start writing immediately or that they couldn't brainstorm or outline their thoughts, though few did so on paper. They were asked to write the "best story" that they could within a half and hour. Most children did not seem to want to follow any "conventional" steps, as they almost immediately began to write out a story, some of them not stopping until their paper was removed. While the children may have been used to the process, as each teacher noted, they abandoned it when asked to write a story that was not for their teacher. Interestingly, the process was abandoned yet concern for spelling and grammar rose from 29% in the pre workshop questionnaire to 53% after (Table 5). For these children, the writing process generally occurred according to a time line that was laid out by the teacher. The timeline divided the process of writing up into smaller chunks of time that were allocated to specific aspects of story creation.

When the children were asked to write a story in the space of thirty minutes, few could be seen outlining their ideas or brainstorming, in the traditional sense, using paper and pen to write down their ideas. Several reasons for this behaviour are possible. One reason is that children are unaccustomed to having to break down the time that they had into small chunks devoted to particular tasks, as their teacher had previously done for them. The children seemed to opt to forge ahead as writers, either abandoning the "process" they had been taught or, at least, abbreviating it to deal with unusual circumstances.

A second reason could be that children find writing difficult and, because of this, they are more willing to dismiss the aspects which are more subjective and less measurable in favour of objective aspects which they can control. In this case, abandoning the process means less work and more time which can be spent on achieving

some semblance of technically accurate writing. For these students, working on getting better ideas is not a priority, as they strive to meet the basic requirements of a task. A third reason could be that the children are more concerned with their ideas and did not worry about their technical aspects of writing and opted to write their story with a focus on ideas and their development rather than the technical presentation of them.

The children that participated in these workshops had limited access to alternative forms of information and communication technology (ICT) within the classroom and used it infrequently, at best, which made it a special occasion when laptop computers and audio recorders were brought in for students to use. Almost all of the parents (95%) tended to agree that although the children had brought home stories that had been handwritten and then typed on the computer; they were not generally made aware of opportunities for their child to use audio or video recording technologies within the school (only 5% of parents reported being aware that this choice was made available to their child on a regular basis during the school year).

After speaking to the teachers who participated within this study, two said that computers were used for good copies only and one reported that she typed the stories for the children because they did not know how. While it is admirable that these teachers take time and effort to incorporate computers within the writing process, they are not making the computer a central part of the writing process. It seems to exist outside of the regularly taught writing process which Klerfelt (2004) believes hurts more than it helps children. This token inclusion may promote the idea that computers are only to be used at the end of the writing process and cannot be incorporated on a more substantial level. The inclusion of computers as essential to the writing process within the workshop excited the

children who saw their ability to use such technology as something very special and a prestigious occasion. I believe that since the children rarely had access to this technology, the prestige of being able to use it on their own and to write their stories definitely affected their choice.

As Lankshear and Knobel (2003) have argued, teachers are using computer technology to improve the surface value, the final presentation, of a piece of work. Writing still follows the same steps, except that the final copy is written on a computer. Although the finished product may look different, the children see technology as the last step within the process rather than the medium through which writing can be done. The children were very excited to use the computer and preferred it over the audio recorder or handwriting their stories. It is not surprising that the children wanted to use computers to author their text as they have seen other older children and adults use computers in their daily lives, in the office and at home. Because there were few computers within the two schools and only two working computers in all three classrooms studied, the children's irregular access to computers during the school day probably made the computers a welcome addition and offered a change.

Children who chose to type their stories on a computer (71%), tended to have their ideas regarding the primacy of spelling and grammar reinforced. I believe that this happened because the children were using word processing software that had automatic correction features for both spelling and grammar. When the children chose to type their stories, they did not understand the meaning of the green and red lines that appearing underneath their text. In Microsoft Word, the word processor on the laptops, red and green lines are used to indicate possible spelling and grammar errors respectively.

Frustrated, they asked what these marks meant and, learning that the green lines pointed out grammatical mistakes and the red lines spelling errors, became increasingly concerned with eliminating them.

Of the 18 typed stories that were completed on the computer without the children changing to a new medium, half contained fewer than two green or red warning lines, indicating that the children likely spent time eliminating spelling and grammar mistakes or had a good command of spelling and grammar. Although their stories tended to be shorter than the children who chose other mediums, the majority were relatively error free, and indicate that some children believed that creating error free writing was important.

5.2 What is the impact of using alternative writing technologies for authoring stories?

The second research question for this thesis relates to children's attitudes towards and use of alternative writing technology such as computers and audio recording devices, and the impact using such technology has on the writing they produce. Exploring these attitudes and results may assist in guiding the use of technologies in the classroom as a way of providing flexible and alternative approaches to creative expression for children.

While adding this technology factor to the study may have confounded the attitudinal results towards art, the component was added so that children would be given more than a single means through which to express themselves, as suggested by Eisner, (2004) and Armstrong (2003). In providing children with four different means to "write" their stories (handwriting, dictation, typing and visual art), this study works to

acknowledge the multiplistic ways in which meaning can be made and ideas communicated to an audience.

Using alternative recording technology had an impact on most of the qualitative and quantitative factors that were studied in this thesis. As part of the pre study questionnaire, the children were asked which technology they would like to use to record their story: laptop, audio recorder, or pen and paper. The majority (55%) chose laptop computers to record their stories (see Figure 15) which was expected as suggested by The National Commission on Writing in America's Schools and Colleges (2003) which urged schools to use the children's interest in technology to encourage them to write.

Twenty-six percent of students chose to record their stories while only 12% choose to handwrite their story, and even fewer chose (5%) to tell it to an audience. The children showed a remarkable preference for new writing technologies rather than older ones. The newer the technology, the more children seemed to think it would enable them to communicate using it. However, their parents seemed to have differing opinions. Thirty-nine percent of parents thought that their child would want to write out their story by hand while 42% thought they would like to type it on a computer (see Fig. 22). This difference in opinion, evident in Fig. 44, probably stemmed from children's lack of experience using mediums that parents are spending a considerable amount of time using or, through experience, have realized the benefits and drawbacks each medium possesses. Children, however, likely do not have ready access to laptop computers or audio recorders nor the need or experience using them, and probably do not have the same expectations as to the abilities of the technology.

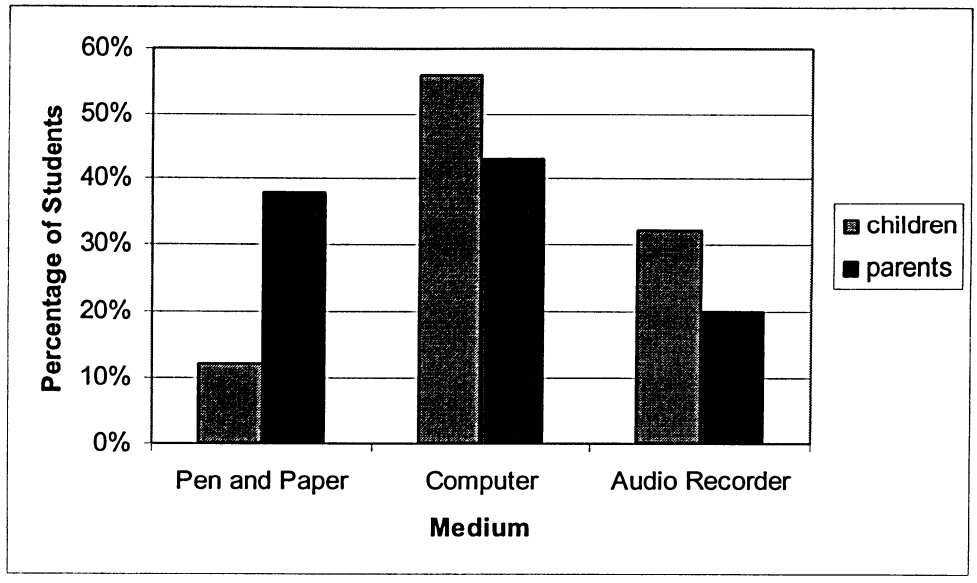

Figure 44: Children's Medium Choice versus Parents' Prediction of Child's Choice.

Parents who have used this technology, likely realize that it can only assist those who have the necessary skills to use them, whereas children would not share this knowledge because of their lack of experience interacting with it. Since most children likely have not had frequent opportunities to use the technology, it makes sense that they would want to use it. Parents who have already experimented with the abilities of technology probably projected their awareness unto their child. This could account for the difference in expectations between parents who thought their child who handwrite their story and those children that did.

On the day of the workshop, most of children (73%) initially chose to use a computer to type their stories but became frustrated with the lack of progress due to their inability to type. Many (29%) changed from the computer to the audio recording device and only five percent changed from the computer to writing with a pencil. Children seemed to be motivated by the use of technology possibly because it was something that they had seen others use with great ease, whether it be used for word processing, gaming

or Internet or possibly because they would be seen as computer savvy and more prestigious by their peers. However, once they discovered how difficult the task of typing was, they quickly abandoned the computer mostly in favour of audio recording. Surprisingly, few chose to use the more common and traditional hand writing system that is used almost exclusively in the classroom. Several factors could have influenced the children's preference towards their choice of technology: 1) Technology was not made available within the class on a regular basis and the children wanted to take advantage of the opportunity 2) Children wanted the opportunity to use "adult" mediums, especially evident in their preference of laptops over desktop computers, audio recorders or pen and paper 3) They wanted to "finish" their story by typing it out, as they seldom used the computer for anything other than good copies or "publishing".

Twenty-seven students began typing their stories (six in grade five and twenty-one in grade four). None of the grade five students gave up typing their stories while 52% (11 of 21) of the grade four students did. Of the eleven grade four students who gave up, eight had less than two spelling or grammar error lines indicating that these children likely had good technical skills or that they spent time attempting to correct their errors.

Many of the children complained that they could not type their stories fast enough because they did not know where the alphabetical keys were located and/or the function of certain keys. The children in grade five seemed to have fewer questions about how to use the computers, although many typed with only with their two index fingers similar to the grade four students. It appeared that the grade four students were not prepared or underestimated the degree to which typing would play a role in authoring a story on a computer. The children that participated within the three studies did not seem have much

formal computing class during school time as computer availability was very limited in the classrooms and at the school libraries. It is, therefore, not surprising that they were unable to type their stories without difficulty as Dowling (1999) suggests that without proper training particularly in keyboarding, users are unable to perform most computer-based tasks.

In the third group, a grade four girl (coded as 7LJ3) become very upset with the process, stating that she did not know how to type and that this was preventing her from writing her story about the art she had just created, as seen in Figure 45. While the girl wanted to communicate the story within her art, she would not consider using another recording medium, even though she knew that she could not possibly type her entire story in such a limited time. We arranged for an adult to type the story for her as she dictated. The girl was pleased that her story, seen in Figure 46, was recorded with the computer screen and, after asking whether the font could be adjusted, was happy with its presentation on the screen. Because the story was typed by an adult, there were no grammatical or spelling error lines which made it look like the final copy, for these children were used to having their work published on the computer, only after several copies had been done on paper.

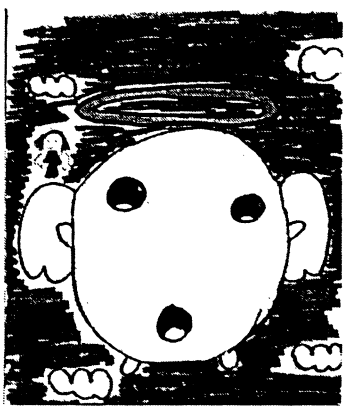

Figure 45: 7LJ3's picture

The Small Angel and the girl

Once up on a time, in the heavens there was a small angel. The angel was very lonely. One day the angel went to earth to find a friend. He found a girl. He wanted to bring the girl to the heavens, and he did. The angel and the girl had a lot of fun, but the girl knew that she needed to go back to earth. She told the angel that she needed to go back home and the angel told the girl that she can come anytime she wants to. He gave her a small shell. He said to blow in it and he will come.

The End

Figure 46: 7LJ3's final typed story

Initially, the children who experienced frustration using the computer seemed to view it as a technology that would facilitate communication, making it easier and more "fun". When the children discovered that typing was not as easy as they had initially thought, many found that their expectations did not meet with reality.

Approximately 50% of the children, who abandoned the computer, did not do so until about half way through the exercise. After realizing that most of their time had passed and little of their story was typed out, children began asking to record their story instead of typing it, possibly aware that the lack of "written" work was reflective of their typing speed rather than a lack of a story to tell. All of the children who chose to tape record their story after failing to use the computer successfully completed their audio story, suggesting that they did not abandon the computer because of a lack of ideas but rather because of the medium.

Further research is also required to better understand children's beliefs about computing technology and its role as a motivator in their education and lifestyle, and to determine whether these beliefs and practices fit with the education system and performance expectations. The Ministry of Education suggests the use of computers (http://www.edu.gov.on.ca/eng/document/curricul/scientec/scientec.html) and requires children's computing competencies to be taught and evaluated beginning at grade one. When typing is taught within the schools, it is most often in "computer class" which separates the skill from the curriculum as a whole, for typing is only done within the confines of the class. Typing should be seen as a skill which is applicable to the entire

curriculum and further studies should examine the viability of implementing such a program.

For others, the problem was not limited exclusively to typing, as another girl was unable to think of a good story to tell about the artwork that she created. While others looked at their picture and saw a story unfolding, she was unable to produce a story on the computer or using an audio recorder. After being asked to look at her picture for ideas, she eventually ran out of time and did not produce a second story. Even though only one child in the entire study produced this result, it may be worth further investigation. Several possible reasons for this behaviour can be hypothesized and need to be studied in greater detail. First, while children are being raised, as many (Bailey, O'Grady-Jones et al., 1995; Marsh and Millard, 2001; Efland, 2002; Ehrenworth, 2003a; Ehrenworth, 2003b; Carger, 2004) argue, in a visual culture, they do not necessarily have the skills needed to encode/decode visual their own representations with meaning. More research is required to determine the impact of art-centric teaching approaches on children who may not be visual learners.

While a child may have trouble thinking of a story that is representative of her drawings, this does not necessarily mean that she experiences these difficulties for all drawings. Second, the way in which this child has been taught to write might be limiting her to a single manner of story creation because alternatives have not been made available and/or deemed unacceptable by those in the school and home environment. If a child is seldom given the chance to write stories using different media and methodologies, it seems unsurprising that she is having difficulty doing so with art. More research is required on whether the way writing is taught discourages, whether overtly or

covertly, the creation of stories using other means. Third, as Gardner (1980, 1990, 1999), Armstrong (2003) and Eisner (2004) have asserted, all children are endowed with different strengths and weakness in a variety of intelligences, meaning that they are able to master some with ease while others are not nearly as easy. Perhaps this individual has not had the opportunity or reason to develop there spatial intelligence preventing her from creating stories using art.

All but one of the children (90%) who had trouble typing their stories abandoned the medium and chose to use the audio recorder as an alternative authoring technology, instead of writing out their story out by hand. Only one chose to handwrite his story. This is surprising and there may be several possible reasons for this outcome: 1) children may want to experiment with alternative technology; 2) children may see technology as beneficial or, at least, fun to use within the classroom; 3) children have an aversion to writing; or 4) the presence of "equipment" in the classroom caused the children to considered it a preferred method for the study. Further studies should be carried out to determine whether the effect of having this technology within the classroom was due to the novelty of its presence or whether it is a preferred solution to writing stories, and if it was what impact does that have on the pedagogical approach to writing.

In the pre-study questionnaire, eleven of 42 children (26%) stated that they would like to use tape recorder to write their story (see Table 15). During the workshops only nine of 37 (24%) percent to the children chose to use a tape recorder from the beginning. However, eleven of 37 (30%) switched from the laptop to the tape recorder during the workshops (54% of the children in this study then used a tape recorder although for some it was their second choice).

When the children audio recorded their stories, there seemed to be less of a discrepancy between their expectations of the activity and the actual activity itself compared with the behaviour exhibited by the children who typed or attempted to type their stories. The children who audio recorded their stories tended to have fewer problems using the technology and, instead of asking how to use the technology, were more concerned with whether they could begin using it. One of the advantages of a tape recorder is its simple interface consisting of five buttons, a tape and a microphone. This interface allowed the children to operate the tape recorder with ease requiring only limited instruction on which buttons were for recording. Several of the children who audio recorded their stories, for example, asked if they could rewind the tape in order to hear their story likely because the wanted to review their work to ensure it reflected their intentions, was free from errors, or was complete.

One of the limitations of analogue recording devices is the difficulty reviewing and editing the recorded work because of the time-based and transient nature of the recording process. Once verbalizations are made, they are no longer salient. To access those recorded verbalizations, a user must interrupt their recording session to, rewind the tape and then review. To replace a recorded verbalization, considerable effort is required to find the exact location in the recording or a new recording must be made. In digital recording systems, editing tasks are easier to manage but still the creative process of recording verbalizations must cease. Compared with handwriting or typing, the written work is omnipresent and can be reviewed at any time without much effort during the creation process. If tape recording is offered as an alternative for story writing, providing age appropriate methods for reviewing and revising would be necessary.

The children who chose to type out their stories on the computer seemed to expect that the computer would help them create a "better" story, for they were asked to pick the medium which would allow them to produce their best work. Because of this, they were dismayed when it hindered more than it helped. This disparity between expectations and reality was not as evident when children used the audio recorders. One possible reason why the children managed their expectations with the audio recording technology is that they may be more aware of the benefits and disadvantages of audio recording technology, because they likely have more frequent interactions with audio technology such as CD players, MP3 devices and DVD players. Even if the children do not own audio recording technology at home, they would likely be familiar with it through their use of listening stations commonly used in the lower grades within the classroom or the library. Because most, if not all, have had the opportunity to use technology similar to the audio recorder used for this study, the children likely had a better understanding of how it worked and what was required to use it.

The children's audio stories were examined and compared to those that the children handwrote. The results indicated that the quality of the audio stories was significantly worse in the areas of Reasoning, Supporting Ideas and Communication than those that were handwritten stories (see Table 17).

One possible reason for this result is that the children are likely used to telling stories to their family and friends rather than to an inanimate object, like a tape recorder. Almost half of the children (47%) stated that they like telling stories (see Figure 8) and more than half (57%) rated themselves as good storytellers (see Fig. 10), this does not

mean that they would necessarily like the act of audio recording their stories, since they are unable to gage their story's success or "play off the audience".

The central advantage of oral storytelling is that the teller is not limited to a script and, looking to the audience for clues, is able to write and re-write a story, trying out new ideas and reworking old ones. The teller is offered the unique ability to learn within the immediacy of the moment what aspects of the telling work and those that need to be changed.

While the original intent of this study was to encourage children to write stories through the use of various technologies, I did not account for what would be lost from the audio stories since my definition of dictation seemed to differ from that of the children. For example, during the workshops, five of the 20 children (25%) who audio recorded their stories chose to use sound effects and different voices for each character in order to make their stories better. At points, they attracted the interest of their peers who were entertained by the story that was being told. Many of those who recorded their stories took the opportunity to re-record their stories or pause the recording in order to gather their thoughts.

The technology that was given to the students served to enhance the experience of telling a story although, as discussed in Chapter 2, did not necessarily increase their story quality according to the performance rubric developed for the study. Although they were aware that their stories would be typed and put on display for people to read, the children displayed behaviour that indicated a desire for an audience within the immediacy of the classroom and found one by raising their voices and using hand gestures to gain the

attention they sought. Crowds began to gather around these students as they told their stories and distracted children who were on the computers or handwriting their stories.

Part of the problem was that the children were not dictating their story but telling it, which seems to indicate that they were unaware that their translated text would loose their distinct voice, or, in some cases, voices, that made their stories so unique. Most of the children seemed to see the audio recorder as more of a machine to record their stories rather than an alternative way to have them written down. It was, however, the first time that many of these children had used an audio recorder to dictate their stories and it is possible that the advantages that it offers for capturing dictation would become more obvious to them over time.

A future direction for this research could be to explore whether the children would use the technology differently if they were told how it is normally used for the purposes of transcription. More studies should be done to determine whether children understand the intended purpose of dictation as an assistive aid in writing stories and whether this changes the way they use the medium. While there is no harm in their use of it as a way to capture their stories, there seems to be a gap between what the children see the technology for and what adults originally intended.

A second factor influencing the children's audio story assessment was their lack of experience dictating stories. Although they were not discouraged from planning out their story the way they were used to, only one student took this opportunity, writing her story down and reading it into the audio recorder. She was able to write out her story and, knowing that she was the only one who would be reading the story, was not concerned about the technical elements of the story, such as spelling and grammar, and, instead,

focused on the aspects that were important to the specific medium, the overall plot and its development. The remaining children, however, did not visibly take advantage of being able to write out their stories or use the opportunity to make an outline. Most of these children gave the appearance of improvising their stories. For example, one girl, after recording her story, explained on the audio tape that she had not planned out what she would say till she hit record: "I'm just creating the story on the way I talk, so it is a bit hard. It's hard." The girl was not asked to defend her story, although she believed that she had to explain what she was doing. It was clear from her tone that she was dissatisfied with the quality of her story and needed to justify the end product. Because they lacked experience, this translated into poorer performance because the children were unable to think according to the benefits and limitations of the medium that they were using.

5.3 Limitations

While the study I carried out provided some insights into the attitudes of children towards writing, and their ability to translate ideas into stories using alternative technologies, there were a number of limitations in this study.

My two research questions were focused on different aspects of children's writing. The first was concerned with whether children's understanding of literacy could be expanded to include visual art and technology while the second sought to test the immediate effect technology had on the children's performance as writers. For this reason, the visual art pertained to only the first research question and was not considered as influencing the second. This is an important limitation of the study because the relationship between the drawing and the written story was not made available to the teacher who assessed the written stories. While I have always sought to consider the story as the written text and the picture, the picture's absence for the assessment process might have influenced the grade outcome, as the teacher did not have the complete story in front of her. However, currently the assessment criteria provided by the Ministry and the training received by teachers do not consider stories as expressed though art and writing in combination. A new assessment strategy and training mechanism is required in order to ensure that evaluating art and writing as a combined "story" could be applied accurately and fairly by teachers. This strategy would be more focused on accessing the two parts of the story as a whole. Instead of evaluating the children's stories as pieces of creative writing and visual art, the teacher would be asked to evaluate how the children

use the two mediums to work together to communicate a story to the reader. While it is important that both representational systems be accessed according to their expected outcomes individually, this second form of assessment would put the same amount of weight on the story as a whole. Other forms of assessment could look at specific aspects of the story and how they are depicted through words and drawings. Within the Communication category of the rubric, the children could be assessed on how they create a feeling of suspense through the use of words and drawings. To teach concepts, teachers could ask their students to create a story that would teach it others through the use of words and drawings.

Although in this thesis I argue that all texts should be available and considered equally as valid forms of expression, there are many variables to consider in practice. In order to begin to understand the impact of visual art on the potential to contribute to storytelling, visual art was included as a motivator for children to write stories and see whether they would accept it as a valid mode of storytelling. A next step for more advanced research would be to devise and deploy an evaluation strategy that would take into account the artwork as a valid or integrated element of a complete story.

In addition, I did not believe that a one-time exposure to an artist would have much immediate or long term effect on the children's writing process. The literature suggested that children were taught to write according to a very specific set of steps and that it would unrealistic to suggest that they could be influenced to write a story in a different way in only one hour; it would require exposure to the process over many sessions. When combining two different modes of representation such as art and writing, I would caution researchers to seek to treat all texts equally, assessing them both

individually, or, more beneficially, as a whole. However, as suggested fully validated and acceptable multi-medium friendly rubrics for story assessment as well as training methods in applying these rubrics are required.

It is also difficult to know what the pre and post differences are actually reflecting, given that the majority of students didn't know how to use the computers. Similarly, visual art could have influenced the students' use of and behaviours towards technology. It would be incorrect to assume that the effects were solely caused because of the use of technology as an intervention, for the visual art intervention probably impacted the attitudinal and behavioral results towards technology and vice versa.

The three segments of this study had to occur during the school day while the children were in school. This provided me with the chance to observe a medium size group of children within their regular class environment and in the presence of their peers and teacher. The study was, however, limited by scheduling the study during school time.

Participating elementary schools followed a heavily truncated schedule, which made planning activities difficult, as several specialty activities were scheduled on specific days which could not be changed; lunch and two recesses also served to shorten possible timeslots. While DiscoverAbility instructors were normally used to providing workshops that were half a day or a full day in length, the actual visual art component of my study had to be shortened to an hour and fifteen minutes. It would have been better if their normal routine could have been followed, yet scheduling a one hour session and a half day session proved to be much more difficult than originally thought. Though some teachers were willing to offer more time, to keep the results of this study consistent, the time limit of an hour and fifteen minutes was more realistic. The writing aspect of this

project also could have been lengthened to include the children's normal storytelling and story-writing routine, yet this, like the art lesson's time, had to be shortened to fit the constraints of the school day.

Large class sizes also had to be avoided due to a lack of computers and audio recorders. Twelve children participated in the first study and fifteen in the second and third. In addition to the three laptop computers provided, desktop computers located in the library and classroom were made available. After the first study was completed, I was able to secure five additional laptops from Ryerson University.

Because the second group was located in a portable, desktop computers were not readily available. Some children had to wait for their turn on the computers. Eight laptops were used in the second study. Because there was more of a demand then expected even with the additional computers, I was able to access three more laptops for the third workshop. Even with 11 laptops in the third workshop, one student had to wait for a computer to become available. It would have been beneficial to include more students but this would have required extensive funding and support, which was not available.

The relatively small sample size of this project was, therefore, limited to forty-two children. There are two main issues with small sample sizes: the chance that significance will be reached when there is none (Type 1 Error) and the chance of not getting significance when there is or a low power (Type 2 Error). I accounted for this possibility by using a $p<0.05$ which means that there is only a 5% chance that the data that is returned as significant is actually is not. Because of the lack of previous academic research to inform my study, the empirical aspect to this study was exploratory and not reliant upon statistical analyses. Accessing schools and finding co-operative teachers and

principals is a difficult task and ideally to increase the chance of finding significance more subjects would be required.

Though the questionnaires were designed with children in mind, several of the students, especially those in grade four, experienced difficulty answering questions where they were required to rate their opinion. It is possible that some of the children were confused by the questionnaires and accidentally answered contrary to their original intent. For this reason, two similarly worded questions were included in the Children's Post Workshop Questionnaire (see Appendix B). Cronbach's Alpha indicated that the children's answers were reliable.

Even though there were limitations in the scope and scale of this study, my thesis provides the academic community with some justification for the need to give children alternative means and mediums through which to express their thoughts and stories. I do, suggest, however, that while children are willing to communicate through visual art and technology, they seem to have limited experience using it for writing likely because of the methods and techniques used to teach writing in schools. When technology was provided for the children to use, they seemed to have unrealistic expectations about its ability to enable them as writers. In fact, they seemed unaware that computers could disable them as authors. The children's excitement, however, turned to disappointment and then frustration, for the most part, as they realized that using a laptop computer required skills that they did not possess. The same frustration was not as evident when children audio recorded their stories, seeming to indicate that the children's prior experience and casual use of audio recording technology did not have the same mystifying effect as the laptop computers.

Similarly, when the children were given visual art instruction by a professional artist, they seemed unable to relate to the artist's instruction, for they were used to "learning" visual art from the same teacher who taught all of their courses. Teachers, for the most part then, lack any professional training in visual art. However, my findings indicated that children seemed motivated and genuinely interested in using art to write or tell stories even though their performance in the tasks did not necessarily improve. This behaviour was similar to the children's use of technology.

6. Conclusion and Recommendations

Through the incorporation of art within the writing process, I have attempted to test the common assertion that art can better the quality of children's writing. While many are proponents of its inclusion throughout the curriculum as a means of motivating children to learn, few empirical studies have been done that test this assumption. For this reason, my first research question was designed to seek answers as what children think about the construct the act of writing and whether such a construction of authorship extends as far as to "writing" stories through and/or with visual arts. My second research question focused on the whether the use of alternative writing technologies within the classroom would facilitate communication of the children's stories they found in the art that they created.

The findings in my research indicate that children's attitudes towards writing are generally positive and that they enjoy writing stories, seeing it as a means through which to communicate their thoughts and ideas to others. The children that participated within my study seem eager to experiment and learn how to author different texts, as seen in their want to express their stories through visual art. In addition, they seemed even more willing to use different tools to produce text, evident in their widespread adoption of technology when given the choice. While the benefits of using alternative writing technologies seem to be limited to motivation and, even then, only initially, there is promise in the use of computers and audio recorders, as children remained optimistic about the idea of using the technology, though frustrated by their lack of skill.

I was also motivated to look for ways to assist children tell stories through alternative writing technologies and visual art because academics and teachers have

argued that, although children have something to say, sometimes their thoughts and ideas are not represented within the writing, for the lack the technical abilities required to do so. Although this evidence is anecdotal, I wanted to explore this perceived gap between children's want to tell stories and their reluctance to write them. Upon extensive consideration of the literature, I realized the potential motivation that an art-centric approach could have on children's understanding of writing. DiscoverAbility Inc.'s focus on the teaching of writing through visual art seemed to offer an art-centric approach and, after seeing the work that children were producing, I wanted to explore the effects of such an approach, for little empirical research has been published on the subject, much of it anecdotal.

In giving children the chance to write stories about the visual art they created, I was able to see whether the children's investment in the story of their picture would transfer into qualitatively better stories. Yet, these children would still be limited in their expression of the story itself as a piece of text, for they would be left with a singular way of making meaning through the printed word. While they would be able to "write" their story using visual art, the children would be left with a text that, while no less valuable because of its format, could not be conventionally "read", for it was not presented in the printed word. Working under the constraints that this singularized notion of literacy imposed, I was able to give children three ways to translate their stories into printed word: audio dictation, typing and the conventional pen and paper. Modifying the writing process to include visual art and the use of alternative communication technologies, I set out to answer to questions: 1) what are children's attitudes toward the "writing" of

stories? 2) What is the impact of using alternative recording technologies for authoring stories?

To begin to address these questions, one study containing three segments was carried out with three separate groups of children, and their parents and teachers. In the first segment, children took part in a pre workshop segment to obtain a sample of their writing as well as gather attitudinal information. The second segment of the study occurred within one week of the first segment. In this segment, children participated in an art workshop where they were taught how to draw cartoon characters by a professional artist, and then asked to write a second story about the drawing they created. In the third segment, parents, teachers and children filled out surveys in order to see whether there had been any significant attitudinal changes because of their participation in the workshop. These three segments enabled me to gather data on how children understand writing and on their attitudes towards the potential use of art and technology within the writing process.

For the second story, children were also allowed to author their stories one of three possible mediums: pen and paper, laptop computer and audio recorder. My goal was to see whether technology and visual art would motivate children to write stories as well as increase the quality of their stories. In the first and third segments, parents were asked to complete a questionnaire, providing additional attitudinal information about their child's storytelling as well as their own opinions on how writing is taught within their child's class.

Teachers also completed a questionnaire for these two segments which provided information on their teaching background and their experience teaching writing with

technology and visual art. This provided a clearer picture of what teachers had tried within their classrooms and their opinion about the workshop itself. The teachers were present during each segment as this workshop occurred during class time. Their presence facilitated the data collection process, as they would help children having trouble with the questionnaires and by answering questions. They also provided any disciplinary action and helped the principal investigator distribute and collect the questionnaires and stories. The teachers often explained how they taught writing and visual art which provided a more accurate picture of their practices and pedagogical approaches.

There were three major findings in this study. The first major finding was that children generally thought of themselves as "good writers" while their handwritten stories did not seem to be reflective of this perceived ability. In the categories of Reasoning & Ideas, Supporting Ideas and Communication, most children were within range of the EQAO, with a few more children in levels one and four. The categories of Word/Vocabulary Use and Organization were poorer than expected with many more children in levels one and two. The second stories that were created using alternative communication technology were also significantly lower than EQAO results in all categories. There were two significant differences between the formal marks assigned to the completed pre and post stories in the categories of Ideas & Reasoning and Supporting Ideas. The first stories (written prior to the workshop) were significantly better than the ones written after it within these categories. In addition, the category of communication showed a potential trend favoring the handwritten stories over the technology enabled ones.

The children that participated in these workshops had limited access to alternative forms of information and communication technology (ICT) within the classroom and used it infrequently, at best, which made it a special event when they were given the chance to use audio recorders and laptops. Children who chose to type their stories tended to have their ideas regarding the primacy of spelling and grammar reinforced and became frustrated by their lack of experience typing. Children should be taught how to properly use a computer in the same way they are taught how to write. While a child is taught how to hold a pen and co-ordinate his movements and cognitive functions to produce handwritten stories, the same needs to be carried out on the computer. This could include learning the "touch-type" as well as some of the general functionality of the fairly sophisticated productivity applications they can expect to use (e.g., what do the green and red underlines in MSWord mean). Care must be applied in the teaching methods to not focus on the technical aspects of these applications such as how to applying sophisticated formatting or automatic spelling and grammar checks.

Those who recorded their stories wanted to review their stories and change aspects of the story while keeping other parts. When they were told that they would have to record the entire story again, they too became frustrated. The children's expectations of audio recording technology were more or less compatible with the actual process, whereas those who used laptop computers experienced unanticipated difficulties due mostly to their inability to type their stories quickly and accurately. While children were probably used to using audio recorders, the difficulties that they experienced using laptops were probably a result of their lack of experience with this technology and, in turn, their perceptions as its easiness reinforced through their observations of older

children as well as adults. If audio recorders are going to be used for the purposes of dictation, they should be digital, as the analogue recorders, while easier to use, did not allow the children to revise or review their stories.

These results provide some important insights as to the viability of using visual arts as a tool to motivate children to write stories. As many have argued, some with more empirical evidence than others, that art is a universal medium through which all children are able to express themselves in a way that their oral or written language does not. The results of my thesis seem to challenge this basic assumption as some of the children in my study experienced great difficulty using this "inherent" ability to tell a story about the art they created.

Although the children reported enjoying participating within the workshop and creating art, they seemed less aware of a developing narrative within their pictures than the literature on the topic and anecdotal evidence suggested. The children seemed to indicate through their words and actions that it was, in fact, the quality of their drawings as aesthetic pieces that most concerned them; much less than any developing story that they might want to write.

It appears that the ability to motivate narrative through art is not necessarily innate in children but rather must be taught as an approach. There is also the possibility that the innateness of visual art lies within children at an early age yet is dismissed and replaced with other approaches. In acquiring written literacy skills, children may be overwhelmed and taught or devalue their innate tendencies. I recommend that studies be done within younger children to see whether this ability is more fluid earlier before elementary school begins. Further studies should also be carried out to explore whether children can be

instructed to see stories through their art in much the same manner they have been taught to find meaning within the printed word and compare this with the existing pedagogical approach to story writing.

Because the story that the children were asked to write included the use of two mediums, they could have both been assessed as a whole. Doing this, however, would have required the development of a new kind of evaluation method for assessing work that is completed using multiple-mediums. Further studies should focus on developing an appropriate rubric or other assessment technique that is multi-medium friendly and a training strategy on the use and application of this assessment technique that consider the whole story as presented, rather than the individual parts.

Some of the important outcomes of my research have pointed to areas requiring further investigation. Two areas are of special interest: 1) the children's concern with the aesthetic elements of their drawings and writing; and 2) their lack of experience being taught visual art under the instruction of a professional artist. Children who participated within this study showed a marked concern for technical accuracy and flawlessness as they were participating within the art lesson and "writing" their stories.

Although children were asked to use draft paper to sketch out their ideas, they were more concerned with the quality of single drawings than the creation of several rough drawings of many of their ideas. They seemed more comfortable drawing something that they knew they were capable of doing even if this lacked a great amount of creativity. This possibly speaks to their lack of experience being taught art by an artist rather than by a regular teacher with limited formal art training.

The children that participated in this study could be seen as being severely limited by their fear of making mistakes and having their work seen as "lesser" because of this. In a medium where creativity is supposed to be of utmost concern, most of these children privilege technical mastery to such an extent that, when given the chance to sketch out several drawings in rough form, they did not want to experiment with different aspects from each of their sketches. Most children had to be asked several times to "sketch" preferring to "draw" their characters out fully before moving on to a new one. It would be worthwhile to explore this kind of behaviour on a larger scale to see whether it is indicative of schooling as a whole or limited to the two schools where this research took place.

This thesis also explored the use of technology to motivate writing and eliminate barriers to writing that some children may experience using the conventional pencil and paper. It is important that the children are motivated to write and their use of technology did seem to raise their interest in writing. One important issue in using technology to motive writing is that schools and teachers must adapt their educational practices so that technology is integrated in rather than peripheral to the main processes. Schools need to work with children to develop their skills so that they will continue to stay motivated about writing using technology.

While this study did not test a longitudinal approach to technology, data was collected on children's initial impression and subsequent interactions with laptop computers, audio recorders and the conventional technology. Some unexpected results appeared. Although almost all children were excited that laptop computers were included as a central part of the workshop and wanted to use them, most encountered difficulty and

switched to another medium. It seems that the children's initial impression was that technology would help them write a story, most of the students who chose to use laptops were frustrated to find that the technology did not give them any added advantage while, in most cases, limiting them and decreasing the quality of their writing.

One of the major barriers that these children experienced was their lack of experience as typists and this could be remedied with the introduction of typing classes early in the elementary school. Outside of the elementary school experience, most societies no longer privilege handwritten communication and seldom acknowledge it as valid on its own, especially within the business world. As computers with keyboards become almost ubiquitous in schools, homes and general society, children who are growing up today need to learn, at an early age, how to type so that it becomes an automatic skill early and the computer does not impede their need to participate in and learn higher order thought processes and activities such as story writing. I recommend that further studies be carried out to examine the effects of using laptop computers within elementary schools on student writing, and how to best support children's use of computing. Further studies should also explore the way training children as touch typists would affect the quality of their stories and whether computers can still be motivators after children have sufficient computer skills. After all, it is not that surprising that the children became frustrated with writing using the computer when they had little or no experience/skill using it for word processing. In addition, I recommend examining how computing can be integrated as a tool and motivator for writing in the younger grades.

After the children participated in the workshop, where most attempted using computers to write their stories, a significant attitudinal shift was noted, for children's

concern for the technical aspects of writing rose. When children wrote their stories they were limited by time and, because of this, became frustrated when they were unable to type correctly or, when they did type a word, that the spelling and grammar auto check immediately told them that they were in error. The children decided to stop typing their stories primarily because they were running out of time and realized they could not finish their story if they continued using a laptop or because they were unhappy with the text they had written. However, all of the children who tried typing their stories still chose to try and write their story using audio recorders or pen and paper. Most of these children chose to audio record their stories and, in doing so, completed their stories. None of the children who tried using technology completely gave up trying to write their story. This behaviour indicates that children who used laptops were not so put off by it that they were unwilling to try writing their story again using a different medium. This could mean that they are willing to try new ways of writing stories because they realize that their performance has the possibility of being qualitatively enhanced if they acquire the necessary skills, like typing, earlier.

Within this study, I looked at how a group of grades four and five students understand writing. Specifically, I wanted to test whether children would favour the introduction of visual art and technology within the writing process as a way of facilitating and simplifying the task itself. In researching, implementing and discussing the study that I have conducted, I believe that this is a fertile area of research that has yet to be adequately explored by those within the field of education and communication. The results seem to be promising, as children were motivated by the prospect of using visual art and technology to write stories. I recommend that further empirical studies be carried

out to test whether the outcomes that were gained within my study are representative of a larger population. As well, longitudinal studies should be done to test the merit of including visual art and technology within the writing process both to motivate students and improve their writing.

7. APPENDICES

7.1 APPENDIX A: Information, Consent and Assent Forms

Project Title:	Motivating Children To "Write" Stories Through the Use of Art
Principal Investigator:	John-Patrick Udo, Masters Student, Ryerson/York Joint Program in Communication and Culture (416) 688-6927 or judo@ryerson.ca
Supervisor:	Deborah Fels, P.Eng., Ph.D., Ryerson University (416)-979-5000 ext. 7619 or dfels@acs.ryerson.ca

Information Form for Parent Re: Child's Participation

In this study, I would like to determine whether providing alternative means of expression and forms of storytelling through art will improve children's abilities as "writers". Working with DiscoverAbility, a non profit arts and athletics program, I want to have children explore the relationship between "valued" artistic expression and storytelling as an alternative mechanism or motivation for storytelling.

If you agree that your child can participate in the study, he/she will be involved for a total time of three hours, spread out into two sessions. During the first session, your child will be asked to write a story about a topic of their choice. During the second session, you child will participate in an art lesson and be asked to write a story about the art that he/she has created. Your child will be given a choice as to how their story becomes text, choosing from one of three methods: audio recording it, typing it out themselves or writing it using paper and pencil. The first session will last 45 minutes while the second session will be 2 hours and 15 minutes in length. The art will be displayed at The DiscoverAbility Children's Arts and auctioned off with the proceeds going to charity. Your child will be credited for his/her artistic creation through the use of their first name and grade.

The study will take place within the school and be supervised by your child's teacher and DiscoverAbility instructors. Your child will also be asked to complete a short questionnaire before and after the study to give their impressions and opinions on how the session has effected their perceptions of writing and storytelling.

Confidentiality

All data will be confidential and will not be published except as summary data. The student's first name and grade will be displayed beside their artwork which will be exhibited. This information is essential, for the students need to be given credit for their work as authors and artists. This information will not appear in research papers or presentations. All data will be used exclusively for research and educational purposes. Audiotapes and other data will be kept in a locked location for five years and then destroyed. It should be noted that while confidentiality can be maintained by the researcher, there is the possibility that children will discuss the exercise with peers and family members.

Project Title:	Motivating Children To "Write" Stories Through the Use of Art
Principal Investigator:	John-Patrick Udo, Masters Student, Ryerson/York Joint Program in Communication and Culture (416) 688-6927 or judo@ryerson.ca
Supervisor:	Deborah Fels, P.Eng., Ph.D., Ryerson University (416)-979-5000 ext. 7619 or dfels@acs.ryerson.ca

Risks and Discomforts

There are only minimal risks associated with participation in this study involved in the potential discomfort with the amount of effort required to carry out the study tasks of creating a piece of artwork, a story and with completing the questionnaires associated with the study. These data will only be used to analyze the way children distinguish between storytelling and writing. Only members of the project team will have access to all the data, which will be stored in the study office in a locked filing cabinet.

Expected Benefits

Though subjects will not directly benefit from their participation in this study, the data will be used to assess the limitations of the current education system in hopes of providing some insights into whether the act of writing stifles a child's ability to tell story and whether DiscoverAbility's approach may be more beneficial.

Opportunities for Feedback

Copies of any conference proceedings or publications arising from this research will be available upon request. We sincerely appreciate your co-operation. If you have any questions or concerns, please do not hesitate to call John-Patrick Udo at (416) 688-6927 or Deborah Fels at (416) 979-5000 ext. 7619. In addition to the principal researcher and his supervisor, The Research Ethics Board may also be contacted should there be any complaints or concerns about the project, c/o Office of Research Services, Ryerson University, 350 Victoria St., Toronto, ON M5B 2K3, Tel: 416-979-5042.

Voluntary Participation

I understand that my participation is voluntary and that I have the right to withdraw from this study, or from parts of it, at any time by contacting John-Patrick Udo. Whether or not I participate in this study will have no affect on my future relations with Ryerson University

Project Title: Motivating Children To "Write" Stories Through the Use of Art

Principal Investigator: John-Patrick Udo, Masters Student, Ryerson/York Joint Program in Communication and Culture
(416) 688-6927 or judo@ryerson.ca

Supervisor: Deborah Fels, P.Eng., Ph.D., Ryerson University
(416)-979-5000 ext. 7619 or dfels@acs.ryerson.ca

Consent Form for Parent Re: Child's Participation in Study

Please return this form by: ASAP

Child's Name: _____

___ I give permission for my child to participate in the Ryerson University study conducted by the principal investigators mentioned above.

___ I do NOT give permission for my child to participate in the Ryerson University study conducted by the principal investigators mentioned above.

Parent/Guardian's Name _____

Parent/Guardian's Signature _____

Consent Form for Parent Re: Audio Taping of Children

Please return this form by: ASAP.

Child's Name: _____

___ I give permission for my child to be audiotaped as part of a Ryerson University study conducted by the principal investigators mentioned above.

___ I do NOT give permission for my child to be audiotaped as part of a Ryerson University study conducted by the principal investigators mentioned above.

Parent/Guardian's Name _____

Parent/Guardian's Signature _____

Project Title: Motivating Children To "Write" Stories Through the Use of Art

Principal Investigator: John-Patrick Udo, Masters Student, Ryerson/York Joint Program in Communication and Culture
(416) 688-6927 or judo@ryerson.ca

Supervisor: Deborah Fels, P.Eng., Ph.D., Ryerson University
(416)-979-5000 ext. 7619 or dfels@acs.ryerson.ca

Consent to Participate in Study from Parent/Guardian

- Information Form

In this study, I would like to determine whether providing alternative means of expression and forms of storytelling through art will improve children's abilities as "writers". Working with DiscoverAbility, a non profit arts and athletics program, I want to have children explore the relationship between "valued" artistic expression and storytelling as an alternative mechanism or motivation for storytelling. If you agree to participate in the study, you will be asked to complete two questionnaires. One will be administered before and one after the workshop is completed. This questionnaire will ask for your impressions and opinions on how the session has effected your child's/class's perception of writing and storytelling.

Confidentiality
All data will be confidential and will not be published except as summary data. The student's first name and grade will be displayed beside their artwork which will be exhibited. This information is essential, for the students need to be given credit for their work as authors and artists. This information will not appear in research papers or presentations. All data will be used exclusively for research and educational purposes. Audiotapes and other data will be kept in a locked location for five years and then destroyed. It should be noted that while confidentiality can be maintained by the researcher, there is the possibility that children will discuss the exercise with peers and family members.

Risks and Discomforts
There is only minimal discomfort associated with participation in this study as you may have to reorganize your timetable in order to complete the questionnaires. The data will only be used to analyze how you see your child's understanding of storytelling and writing change through participation in the workshops. Only members of the project team will have access to all the data, which will be stored in the project office in a locked filing cabinet.

Expected Benefits
Though subjects will not directly benefit from their participation in this study, the data will be used to assess the limitations of the current education system in hopes of providing some insights into whether the act of writing stifles a child's ability to tell story and whether DiscoverAbility's approach may be more beneficial.

Project Title:	Motivating Children To "Write" Stories Through the Use of Art
Principal Investigator:	John-Patrick Udo, Masters Student, Ryerson/York Joint Program in Communication and Culture (416) 688-6927 or judo@ryerson.ca
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Voluntary Participation

I understand that my participation is voluntary and that I have the right to withdraw from this study, or from parts of it, at any time by contacting John-Patrick Udo. Whether or not I participate in this study will have no affect on my future relations with Ryerson University

Project Title:	Motivating Children To "Write" Stories Through the Use of Art
Principal Investigator:	John-Patrick Udo, Masters Student, Ryerson/York Joint Program in Communication and Culture (416) 688-6927 or judo@ryerson.ca
Supervisor:	Deborah Fels, P.Eng., Ph.D., Ryerson University (416)-979-5000 ext. 7619 or dfels@acs.ryerson.ca

Consent form for Parent/Guardian's Participation in Study

I acknowledge that the research procedures described above have been explained to me and that any questions that I have asked have been answered to my satisfaction. I have been informed of the alternatives to participation in this study, including my right not to participate and the right to withdraw without compromise. As well, the potential harms and discomforts have been explained to me and I also understand the benefits (if any) of participating in the research study. I know that I may ask now, or in the future, any questions I have about the study or the research procedures. I have been assured that records relating to my child will be kept confidential and that no information will be released or printed that would disclose personal identity without my permission unless required by law.

___ I want to participate in the Ryerson University study conducted by the principal investigators mentioned above.

___ I do NOT want to participate in the Ryerson University study conducted by the principal investigators mentioned above.

Your Name: _____

Your Signature: _____

Project Title:	Motivating Children To "Write" Stories Through the Use of Art
Principal Investigator:	John-Patrick Udo, Masters Student, Ryerson/York Joint Program in Communication and Culture (416) 688-6927 or judo@ryerson.ca
Supervisor:	Deborah Fels, P.Eng., Ph.D., Ryerson University (416)-979-5000 ext. 7619 or dfels@acs.ryerson.ca

Assent Form for the Child's Participation within the Project

Child's Name: _____

___ I want to participate in the Ryerson University study conducted by the principal investigators mentioned above.

___ I do NOT want to participate in the Ryerson University study conducted by the principal investigators mentioned above.

_____
Child's Signature

The person who may be contacted about the research is:
John-Patrick Udo

Who may be reached at telephone #:
(416) 688-6927

_____
Name of person who obtained assent

_____
Signature

_____
Date

7.2 APPENDIX B: Questionnaires

Pre-Workshop Student Questionnaire

This set of questions will ask you about some of the work you do in school on writing stories. The purpose of asking these questions is to find out a little bit about you and what you think about writing stories.

1. What grade are you in? Please circle one.

   Grade 3 Grade 4 Grade 5 Grade 6

2. Please tell us whether you always, usually, now and then, seldom or never *agree* with the following statements about writing stories. Place a check-mark in the box that best represents what you think

Statement	Always	Usually	Now and then	Seldom	Never
It is fun to write.					
I am a good writer.					
I have stuff to write about.					
I like it when people read my stories.					
People understand what I write.					
Spelling and grammar are difficult.					
It is hard to write stories.					
I write in a journal.					

3. Please tell us whether you always, usually, now and then, seldom or never *agree* with the following statements about telling stories. Place a check-mark in the box that best represents what you think.

Statement	Always	Usually	Now and then	Seldom	Never
I like telling stories.					
I am shy.					
I am afraid of making a mistake that everyone will notice.					
I like to listen to other people read their stories.					
I like speaking in front of people.					
Telling stories is harder then writing them.					
I do not know how to tell a good story.					
People like to hear my stories when I tell them.					

4. Which way do you think is best for recording your stories? Please check-mark only one.

- ❑ Writing it out on paper.
- ❑ Typing it out on a computer.
- ❑ Telling it out loud.
- ❑ Recording it on tape or video.
- ❑ Other (please specify).

5. If your teacher told you that you had to write a story, what are the top five things that you would have to be sure to include? Please check-mark only five boxes.

- ❑ Conflict
- ❑ Beginning, Middle and End
- ❑ Characters
- ❑ A big fight
- ❑ Big words
- ❑ Perfect spelling and grammar
- ❑ Good ideas
- ❑ Very neat and tidy writing
- ❑ A happy ending
- ❑ A title
- ❑ Interesting pictures
- ❑ Lots of pages

Thanks for helping me. I really appreciate it! All data will remain confidential.

Post-Workshop Student Questionnaire

This set of questions will ask you about some of the work you do in school on writing stories. The purpose of asking these questions is to find out a little bit about you and what you think about writing stories.

1. What parts of the workshop were most important to you? Please check-mark all that apply.

- ❑ Making the art.
- ❑ Talking with artists.
- ❑ Being with my friends.
- ❑ Writing my stories.
- ❑ Having people look at my work.
- ❑ Having people buy my work.
- ❑ Participating in the workshop.
- ❑ Other (please specify).

3. What do you think was the main purpose of the workshop? Please check-mark only one.

- ❑ Working with others
- ❑ Combining writing and art
- ❑ To show me that writing can be fun.
- ❑ To show me that art and writing are the same in many ways.
- ❑ To show me how stories can be told in many different ways.
- ❑ To have fun.
- ❑ To give me ways of getting ideas for stories.
- ❑ To give me the chance to discover my abilities as a writer.
- ❑ To get help from artists.
- ❑ Other (please specify).

4. You were given the opportunity to write a story about the art that you created. Compared to how you write stories at school, how much easier is it to write a story about art that you have created? Please circle your answer.

It is easier to write a story about artwork that I have created.	It is a little easier to write a story about artwork that I have created.	It does not make any difference whether or not I write about my artwork.	It is a little harder to write a story about my own artwork.	It is much harder to write a story about my own artwork	I don't know if it is harder or easier.

5. Please tell us whether your attitude towards each of the following statements has changed because of your participation in the workshop. If there has been no change, put a check-mark in the no change box. If there has been a change, tell us how you presently feel about the statement.

Statement	No change	Always	Usually	Now and Then	Seldom	Never
It is fun to write.						
I am a good writer.						
It is hard to find a good topic to write about.						
I like it when people read my stories.						
People do not understand what I write.						
I worry about spelling and grammar.						
When I am writing about something that I like, it makes writing easier.						
I want to write in a journal.						
Writing is relaxing.						
I like it when people read the stories that I write.						

6. Please tell us whether your attitude towards each of the following statements has changed because of your participation in the workshop. If there has been no change, put a check-mark in the no change box. If there has been a change, tell us how you presently feel about the statement.

Statement	No change	Always	Usually	Now and then	Seldom	Never
I like telling stories						
I am afraid of making a mistake that everyone will notice.						
I like to listen to other people read their stories.						
Telling stories is harder then writing them.						
I do not know how to tell a good story.						
People like to hear my stories when I tell them.						

Pre-Workshop Parental Questionnaire

The purpose of this questionnaire is to gain an understanding of your child's interest in storytelling and art before he/she participates in this workshop. All data will remain confidential. Thank you in advance for taking the time to complete this survey.

1. In what grade is your child? Please circle one.

   Grade 3 Grade 4 Grade 5 Grade 6

2. Which form for writing stories is used in your child's class? Please check-mark all answers that apply.

   - ❑ A pen/pencil on paper.
   - ❑ A computer.
   - ❑ Drawings or art.
   - ❑ Recorded on tape.
   - ❑ Recorded on video.
   - ❑ Don't know.
   - ❑ Other (please specify).

3. In what form does your child bring home his/her stories?

   - ❑ On paper.
   - ❑ A computer printout.
   - ❑ A drawing or artwork.
   - ❑ Audio tape.
   - ❑ Video tape.
   - ❑ Don't know.
   - ❑ Other (please specify).

4. Which form of writing stories do you think best suits your child? Please check mark only one.

- ❑ A pen/pencil on paper.
- ❑ A computer.
- ❑ Drawings or art.
- ❑ Recorded on tape.
- ❑ Recorded on video.
- ❑ Don't know.
- ❑ Other (please specify).

5. Please rate the effectiveness of the following storytelling methods for encouraging your child to write stories. Place a check-mark in the box that applies.

Statement	Not at all effective	Not very effective	Somewhat effective	Very Effective
Using the method of writing out an outline of plot, characters, theme before writing the story.				
Telling a story to the teacher or another adult who can record it.				
Telling a story in front of the class.				
Drawing a picture or a series of pictures to represent the story.				
Other, please specify.				

6. Please rate your level of agreement with the following statements (please place a check-mark in the box that applies):

Statement	Strongly disagree	Disagree	Neither agree or disagree	Agree	Strongly agree
a. My child thinks that writing stories is fun.					
b. My child likes to use his/her imagination when writing.					
c. My child finds spelling and grammar difficult					
d. My child likes it when others read his/her stories.					
e. My child has difficulty holding a pen or pencil.					
f. My child thinks that the stories he/she writes are not very good.					
g. My child thinks he/she is a good writer.					
h. My child thinks that writing stories is hard work.					
i. My child enjoys art or drawing.					
j. My child likes telling stories in front of an audience.					

7. Rate how important the following activities are in motivating children to learn how to write stories:

Activity	Very Important	Important	Does not Matter	Unimportant	Very Unimportant
Using the creative arts (drama, dance, music, etc.)					
Using other subjects (science, math, etc.)					
Learning in a classroom with a teacher.					
Reading stories.					
Finding a unique motivator (books, movies, games).					
Being coached/ instructed by parents.					
Other, please specify					

8. If your child was required to tell a story, he or she would prefer to have it recorded in the following manner (check-mark the manner that would be most preferred).

- ❑ Writing it out on paper.
- ❑ Typing it out on a computer.
- ❑ Telling a story out loud.
- ❑ Other (please specify).

9. Rate your satisfaction with the way in which your school teaches story-writing or creative writing? Please circle your choice.

Completely unsatisfied Not satisfied No opinion Satisfied Very satisfied

10. Does the system give your child enough options through which to better their written and oral skills? Please circle your choice.

Always Sometimes Do not know Not usually Never

11. From what you have read/heard about the upcoming workshop, what aspects do you think will appeal to your child? Place a check-mark beside each of your answers.

- ❑ Writing a story.
- ❑ Telling a story.
- ❑ Being given options as to how they "write" their story.
- ❑ Being allowed to write about something that matters to them.
- ❑ Writing a story about their art.
- ❑ Donating the proceeds of their artwork to charity.
- ❑ Having their work displayed, viewed and purchased by others.
- ❑ Other (please specify).

Thank you for taking the time to give us your thoughts. All data will remain confidential.

Post-Workshop Parental Questionnaire

The purpose of this questionnaire is to gather your opinion on the story-writing and art workshop that your child has just completed. Thank you in advance for taking the time to complete this questionnaire. All data will remain confidential.

1. What was your child's reaction to the workshop on art and story-writing? Please circle one.

He/she really enjoyed it.	He/she thought it was good.	He/she thought it was alright.	He/she did not like it very much.	He/she really did not enjoy it.	He/she did not mention it

2. What aspects of the workshop did your child find most appealing? Please check-mark all that apply.

- ❑ Creating the artwork.
- ❑ Talking with artists.
- ❑ Being with his/her friends.
- ❑ Writing the stories.
- ❑ Having people look at his/her work.
- ❑ Having people buy his/her work.
- ❑ Participating in the workshop.
- ❑ Other (please specify).

3. What aspects of the workshop did your child find least appealing? Please check-mark all that apply.

- ❑ Creating the artwork.
- ❑ Talking with artists.
- ❑ Being with his/her friends.
- ❑ Writing the stories.
- ❑ Having people look at his/her work.
- ❑ Having people buy his/her work.
- ❑ Participating in the workshop.
- ❑ Other (please specify)

4. What has been the impact of this workshop on your child's overall desire to write stories?

He/she has developed a strong interest in writing.	He/she has shown some interest in writing.	He/she has not shown more or less interest in writing.	He/she has shown less interest in writing.	He/she has shown a strong disinterest in writing.	I don't know.

5. How has this workshop affected your child's want to create artwork?

He/she has developed a stronger interest in creating artwork.	He/she has shown some interest creating artwork.	He/she has not shown more or less interest in creating artwork.	He/she has shown less interest in creating artwork.	He/she has shown a strong disinterest in creating artwork.	I don't know.

6. Do you have any other comments about the workshop? Please provide them within the space below or on a separate piece of paper.

Thank you for taking the time to give us your thoughts. All data will remain confidential.

Pre-Workshop Teacher Questionnaire

This set of questions will ask you about how story-writing is taught to children, asking for both your methods and those of your peers. Please answer all of these questions to the best of your ability. All data will remain confidential.

What grade(s) do you presently teach? Please circle all that apply.

Grade 3 Grade 4 Grade 5 Grade 6

How do you teach story-writing? Please check-mark as many boxes as necessary.

As a subject on its own.
Having the children first write an outline of their characters, setting, plot, and theme.
Using other topics such as art, math, news, television to supplement it.
Using games such as....?.
Using many examples.
Using small modules or steps.
Having the children brainstorm about their topic.
Other (please specify).

How do you motivate children to explore their writing abilities? Please check-mark as many boxes as necessary.

Through the use of a tracking system that monitors progress.
Through the use of a system that rewards progress.
By discussing issues that matter to the children.
By having the children brainstorm about their topic.
Other (please specify).

Have you tried approaching writing through the use of other subjects? Tick off the boxes of each subject that you have used.

Math
Science
Gym
Family Studies
Religion
Geography
Social Science

- ❑ Art
- ❑ Drama
- ❑ Dance
- ❑ Music
- ❑ Other (please specify).
- ❑ I have never approached writing through another subject.

5. How effective have the following activities been in motivating children to write stories. Please check-mark the answer which best represents your experience working with students.

Motivator	Highly Effective	Effective	Neutral	Ineffective	Highly Ineffective
Asking students to tell a story before writing it					
Encouraging students to write about something that excites them.					
Giving students additional resources through which to gain ideas (books, flyers, posters, crafts).					
Pairing up a weak writer with a strong writer to help them.					
Asking students to think about what they would like to write about at least a day in advance					
Letting the children create/produce something and then write about it.					
Telling the children that their work will not be graded for spelling or grammar mistakes.					
Providing incentives that benefit the students (longer recess, more free time).					
Putting the work that is produced on display for others to see and read.					

6. How aware are the following groups in terms of the motivation techniques used within your classroom? Please place a check-mark in the boxes that best represent you opinion.

Groups	Highly Aware	Occasionally Aware	Occasionally Unaware	Highly Unaware
Students				
Parents				
Principal(s)				
Other Teachers				
Administration				

How useful do the following groups find the use of another subject as a method for motivating children to write stories?

Groups	Often Useful	Useful	Seldom Useful	Often Useless
Students				
Parents				
Principal(s)				
Other Teachers				
Administration				

Thank you for taking the time to give us your thoughts on writing and storytelling. All data will remain confidential.

Post-Workshop Teacher Questionnaire

This set of questions will ask you about how story-writing is taught to children, asking for both your methods and those of your peers. Please answer all of these questions to the best of your ability. All data will remain confidential.

1. To be a good writer, a student must be able to use three different skill sets: cognitive, motor and linguistic. Does the current writing curriculum acknowledge these three skill sets as essential to writing?

   - ❑ The present curriculum does not acknowledge that three sets of skills are used in order to write.
   - ❑ The present curriculum sees story-writing as a combination of three distinct skill sets
   - ❑ The present curriculum acknowledges that there are many factors that allow or disallow a child to write stories and takes this into consideration in terms of grading.
   - ❑ The present curriculum acknowledges that there are many factors that allow of disallow a child to write stories yet does not take this into consideration in terms of grading.
   - ❑ The present curriculum gives children many means through which to express their thoughts, allowing them to "write" stories using unconventional tools such as audio recording or dictation.

2. In teacher's college, how were you taught to motivate children to learn, especially in terms of English as a subject? Please check-mark all those that apply.

   - ❑ To offer rewards (points and stars)
   - ❑ To track their progress
   - ❑ Use games to teach lessons
   - ❑ Approaching English through the children's interests
   - ❑ Learning how to alter/change lesson plans to fit the children's moods and abilities
   - ❑ Breaking down the process in to smaller skills which will allow students to see that they are making progress.
   - ❑ Motivation was not addressed in any of my courses.
   - ❑ Other (please specify):

3. How did your approach to writing change when you became a more experienced teacher?

- ❑ My approach seldom differed from those I was taught in school.
- ❑ I have learned to adapt the teaching strategies that I was taught to fit my own teaching style.
- ❑ My approach has changed completely since my first years of teaching.
- ❑ I have had to find teaching strategies that were not addressed within teacher's college because those that were taught were not working for me.
- ❑ My approach is based on a variety of teaching strategies that have been molded and interwoven.
- ❑ My approach constantly changes based upon the needs of my students

4. From your participation in the workshops, you have had the chance to see many different stories written in many different ways. Which stories do you think will be seen as more advanced according to Ministry of Education guidelines? Please check-mark only one.

- ❑ The story that the children wrote about a topic of their choice and was written out using pen and paper.
- ❑ The story that was produced verbally while the children produced their painting.
- ❑ The story in which the children had the choice of writing their story with the help of their choice of an audio recorder, a computer or a pen and paper.

5. If a student were to submit a story that was to be graded strictly according to the Ministry of Education guidelines, what aspects would be considered crucial in order to obtain a good grade (B+ or above). Please check-mark as many boxes as necessary.

- ❑ Conflict
- ❑ A title
- ❑ Interesting pictures
- ❑ Number of pages
- ❑ Creativity
- ❑ Level of ability
- ❑ Progress that student has made
- ❑ Cognitive skills
- ❑ Linguistic skills
- ❑ Motor skills
- ❑ Beginning, Middle and End
- ❑ Characters
- ❑ Vocabulary
- ❑ Spelling
- ❑ Grammar
- ❑ Good ideas
- ❑ Neatness
- ❑ Resolution of Conflict

6. What additional aspects do you take into consideration when marking a story? Please answer on the reverse of this sheet.

7.3 Appendix C:Rubric

Narrative/Fictional Story Rubric for Assessment

Categories	Level 1	Level 2	Level 3	Level 4
1. Reasoning (out of 4) Complexity of ideas and connection to the story line	-uses only a very few ideas that have little or no connection to the story line	-uses simple ideas that are connected to the story line	-uses developed ideas that are connected to the story line	-uses well developed, interesting ideas that advance the story line
2. Number and Relevance of Supporting Ideas (out of 4)	-uses very few supporting details	-uses some supporting details	-uses sufficient supporting details to clarify the point of the story	-uses imaginative details that develop the story line
3. Communication (out of 4) -voice (uses personal experiences, feelings, attitudes, opinions)	-the writer's individuality of voice is not evident	-the writer's individuality of voice is somewhat evident	-the writer's individuality of voice is clearly evident	-the writer's individuality of voice is clearly evident and sustains the interest of the audience
4. Word/Vocabulary Use (out of 4) - (e.g. descriptive words, use of appropriate/ interesting synonyms)	-the vocabulary is limited or used inappropriately, with few descriptive words	-a limited variety of vocabulary is used appropriately but with limited effect	-a wide variety of vocabulary is used appropriately to add descriptive detail to the story	-an extensive vocabulary creates images or pictures for the audience
5. Organization (out of 4) -overall structure of story: considering the 30 minute time limit	-has no clear beginning, middle or end (did not manage their time)	-shows some evidence of beginning, middle and end (attempted to manage their time)	-has a clear beginning, middle and a logical end (managed time effectively)	-flows smoothly, progressing logically from the beginning to the middle to the end (managed time effectively and revision is evident)

Rubric Score Total: 5 Categories X 4 Levels = Total of 20 Marks

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