Drawing Children Into Reading

A Study of Art Lessons' Effects on Literacy

A Helen Gill Memorial Research Grant Project

By Marlene L. Smith and Robert L. Smith

2010

Marlene Bruno Smith is a past president of Michigan Reading Association. Robert L. Smith served MRA during his time as a regional representative. Both now function as independent Educational consultants. They can be contacted at msmithmra@comcast.net.

Drawing Children Into Reading: A Study of Art Lessons' Effects on Literacy

This paper is an analysis of Drawing Children Into Reading, a preschool through first grade program created by illustrator/author Wendy Anderson Halperin. In 2007 the Michigan Reading Association honored Halperin, with its Gwen Frostic Award, for her contributions to children's literature. In addition to being known for children's books such as Love Is, Soft House with Jane Yolen; Full Belly Bowl, Once Upon a Mail Route with John Mooy, Turn, Turn, Turn and many others, Halperin has been teaching art in the schools since 1992. Her latest instructional intent, however, goes well beyond art instruction and seeks to impact literacy, beginning with the children's pencil grip and handwriting.

Brief Theoretical Framework

Steve Graham and colleagues (1996, 2009) have collected a body of research supportive of direct instruction of handwriting. If primary teachers invest 50 - 100 minutes a week in handwriting instruction including proper pencil grip, students' sentence skills, volume of writing, and quality of writing improve along with eligibility and speed (Graham, 2009). A free handwriting curriculum is available at www.peabody.vanderbilt.edu/casl.xml. The goal is for all students to write quickly and legibly with little conscious attention.

Other bodies of work that examine the meanings of children's drawings would be Goodnow, 1977; Brookes, 1996; Kress, 2003; Anning & Ring, 2004. Even without instruction, children often use their drawings to tell and retell stories, making no distinction between drawing and literacy (Sheridan, 2001). If the task of learning to read and write conventionally is made easier by drawing instruction, does it not follow that people will benefit affectively, if in no other way, and therefore be more apt to enjoy reading and writing? Psychologist Lev Vygotsky contended in 1930 that play and drawing are both preparatory of authentic written discourse, stating that "written language of children develops in this fashion, shifting from drawings of things to drawings of words . . . The entire secret of teaching written language is to prepare and organize this natural transition appropriately…" (1978, p. 115-116).

Brittain (1979) studied literacy in relation to school-based art opportunities finding that children who were most active in drawing and painting scored higher on reading readiness test than did students who did not enjoy art activity. The findings also showed that children who make recognizable objects also make recognizable letters. "Perhaps the best way to teach writing," he stated, "would be to have children draw and paint . . ." (p. 201).

Susan R. Sheridan (1991, 1997, 2001) has written most extensively on the cognitive connections between drawing and writing, showing that even scribbling trains the brain to pay attention and to sustain attention. More globally, children's mark making prepares their minds for consciousness organized by literacy. Sheridan draws from neurobiology research to assert that elementary students' brains do profit from combined art and literacy instruction. She encourages teachers to adopt the instructional strategy of using drawing and writing as complements specifically because it can facilitate optimum brain activity. It is cognitively helpful to explore the dot, the line, the circle and the spiral -- In other words, geometric shapes -- before formally exploring letters and numbers which are made of these shapes. Sheridan also suggests having children "read" their own drawings and writings before asking them to read someone else's compositions. Her web site provides more details on the chronology of her intellectual and artistic journey: www.drawingwriting.com.

Many other scholars have reflected on the dynamic nature of literacy, especially on the rapidly increasing integration of visual image and written language (Arnheim, 1969; Williams, 1983; Olson, 1992; Kress, 1997, 2003; Piazza, 1999; Richards & McKenna, 2003; Anning & Ring, 2004). Many of these researchers believe that our evolving communication technologies, in which images on screens matter significantly for effective communication, require multimodal instruction and carefully designed new paths to multiple literacies including visual perception.

Drawing Children Into Reading: Three Projects and Their Conceptual Framework

Many educational theorists have concluded that guiding preliterate drawing can improve printing, reading, writing and thinking -- if skillfully done (Arnheim, 1969; Catallo, 1969; Vygotsky, 1978; Williams, 1983; Dyson, 1986; Sinatra, 1986; Sheridan, 1991; Olson, 1992; Gallas, 2003; Richards & McKenna, 2003; McBride-Chang, 2004; Horn & Giacobbe, 2007). Because drawing is a substantive cognitive activity that most children wish to do, many good things occur when instruction is provided. For example, Halperin (2011b) notes that Gandhi asserted the connection between drawing instruction and penmanship. (1993) In his autobiography as he laments his own poor handwriting:

"I am now of the opinion that children should first be taught the art of drawing before learning to write. Let the child learn his letters by observation as he does different objects such as flowers, birds, etc. and let him learn handwriting only after he has learned to draw objects. He will then write a beautifully-formed hand." (p. 16)

Halperin's own hypothesis goes well beyond penmanship however, and may be stated as follows: Providing preschool and early elementary students with regular, sustained art instruction impacts their abilities to learn literate behaviors (Personal communication, March 8, 2009).

The Project Questions: What would happen if a professional artist drew with children, and did so over and over for two to three years? How far can an illustrator take the very young with their drawing, fine motor and literacy skills?

The Project Concept: When adults teach children to draw things they want to draw--like ballerinas, bugs, and bulldozers, then forming the alphabet is not difficult: they become very familiar with making straight lines and careful curves. Next, they learn to read their own letters, words and books and become drawn into literacy through their own successes.

Halperin has always answered the question "When did you start drawing?" with "In kindergarten when I started DRAWING the alphabet." It is this concept, that printing is drawing, which led her to Drawing Children Into Reading (Halperin, 2011a, 2011b, 2001c). This program consists of three projects in preschool, kindergarten and first grades: Project 50, Project 64 and Project 120. Each project name refers to the number of artistic implements needed. Beyond drawing lessons, the projects aim to connect children with books, with writing, with vocabulary development and with a self-confident love of learning.

Project 50: This is a yearlong, innovative series of drawing classes for preschoolers. Each student uses 50 implements: one pencil, one sharpener, 24 crayons and 24 twistables, a hard-covered crayon suitable for young artists. A pilot was conducted during 2009-10 in a South Haven, Michigan classroom.

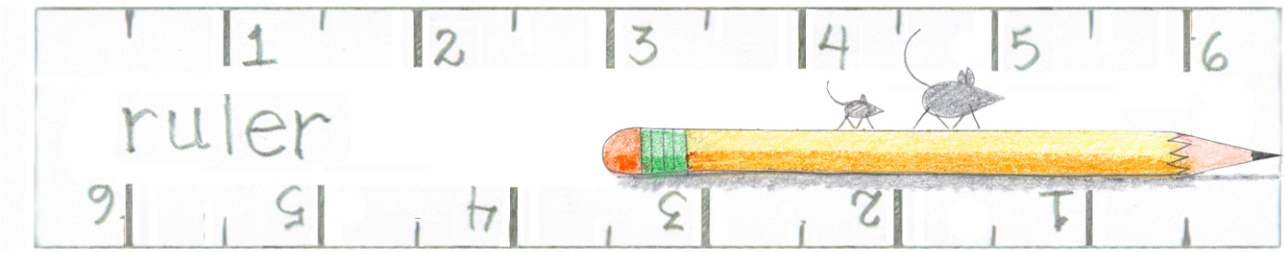
Project 64:

Kindergartners receive 64 crayons and learn the following in weekly 70-minute lessons: (a) drawing a straight line and a circle, (b) coloring with the finger muscles, not wrists or arms, (c) following step-by-step directions, (d) inventing colors and (e) making patterns. Using technology such as a document camera and a projector, teachers lead students in modeled instruction. Project 64 proponents, including participating teachers and others, believe literacy is also enhanced because students write and illustrate books throughout the year. Students draw many characters in heavy-cardstock books to illustrate program-provided narratives, which consist of words from a beginning word list. Halperin and her colleagues reported that all students read those words aloud fluently and proudly. In the fall of 2010, Project 64 began its fourth year.

The broader goals are to improve (1) hand-eye coordination, (2) following directions, (3) fine motor skills, (4) handwriting, (5) directionality, (6) drawing, (7) organization, (8) attention span, (9) self esteem and (10) literacy skills. Students hear stories, learn interesting content (e.g., about Einstein, Lincoln, dinosaurs, rockets, dancing, as well as many other subjects), and connect drawing to books via a culminating illustrating project.

Project 120: In the third phase, which was piloted in 2008-09, first graders gradually receive 120 colors, which they learn to organize as artists do. The project goals are to continue improving the outcomes listed above. To increase the connection with literature, students discuss various parts of libraries, hear more stories, learn more interesting content, and further connect drawing to books. Their new artistic skills are intended to link with and lead to excellent handwriting, composition and reading skills.

All beginning writers struggle with fluency and legibility. To remind yourself of how difficult it is to learn to write, try composing with the hand you don't usually use. Notice how your resulting lack of speed and the cognitive energy that must be put into mechanics reduces your ability to activate deeper reflective processes that normally would help you compose your thoughts. Once students have mastered fluent, legible handwriting, they can focus more of their attention on their composing -- on generating and organizing ideas (Graham, 2009). However, children who learn handwriting more slowly than the classmates they see around them often develop a negative mindset about writing (Graham, 2009).



The Study

The main action research questions are in what ways the Drawing Children Into Reading program succeeds in advancing children's literacy and to what extent? Secondarily, how do stakeholders -- including children, their parents and their teachers -- react to the new instructional program?

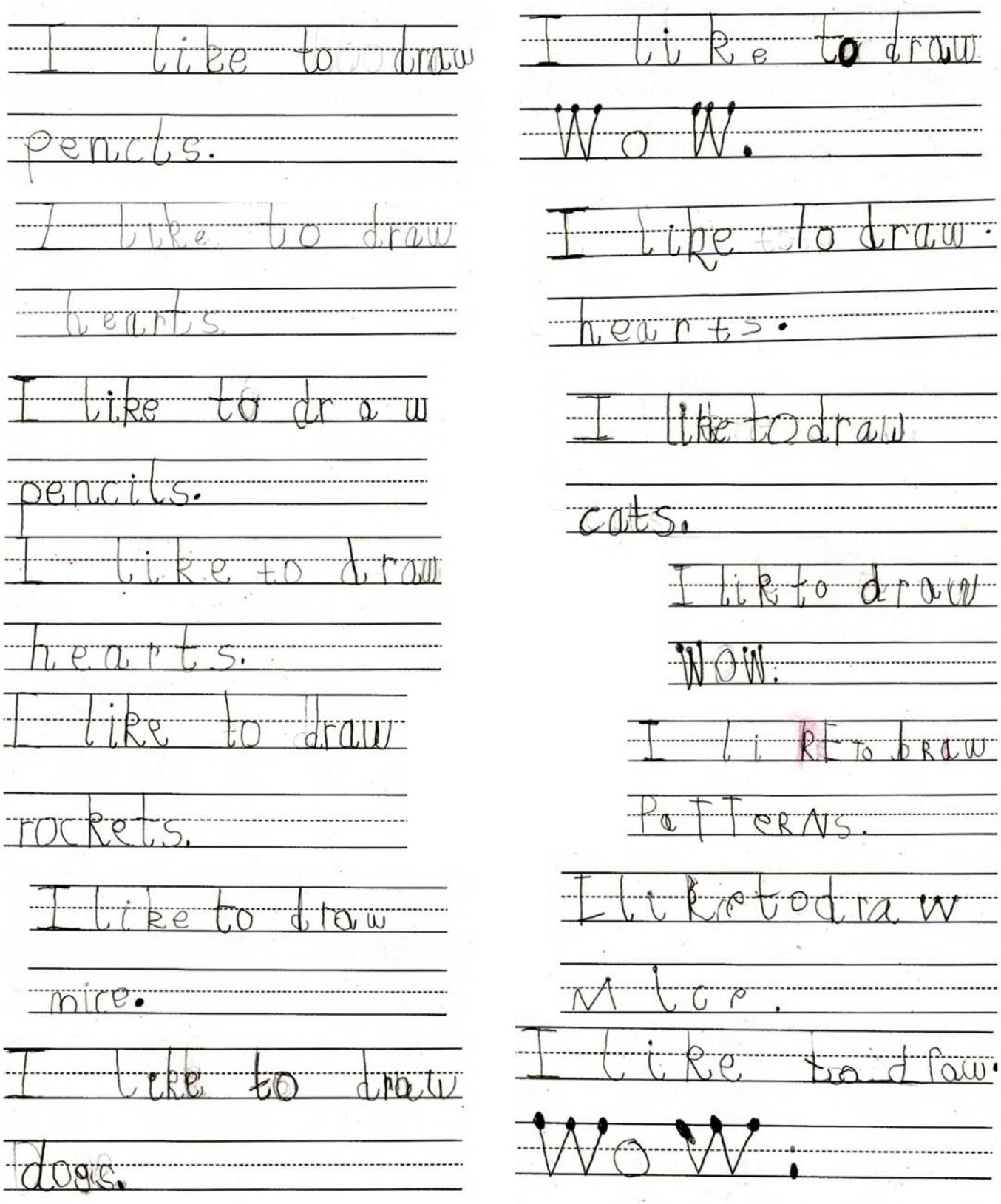
Programmatic Setting

This study was limited to the elementary school in South Haven, Michigan where Halperin's program originated -- Maple Grove Elementary School. The school had two years of experience to critique at the kindergarten level and one year at first grade when we began our inquiry. 155 students were involved during the school year via weekly lessons. The school's ethnic make-up was as follows in 2008: 79.7% White, 12.6% Hispanic, 3.3% African American, and 4.4% Other. Currently, the school is 62 percent "economically disadvantaged" according to the Council of Chief State School Officers (www.schoolmatters.com). The control group was from a second school with similar demographics within the same public school system.

We observed the learners responding to the Project 64 and Project 120 instruction on multiple occasions and collected samples of children's artwork and writing. We also participated in professional development activities and interacted with participating teachers who had embraced the goals of the program. We interviewed and interacted with stakeholders: teachers, children, parents and the project's director/originator.

Selection Tests: Outside Educators' Evaluations of Students' Work

We obtained copies of South Haven's end-of-year drawing and writing task: the 2008-09 prompt was to draw and then write about "your favorite thing to do." Students had worked independently without assistance on this task.



This is the first time the students copied a sentence from a white board in January.

They could choose how they wanted the sentence to end.

We briefly oriented 24 primary-level educators from outside districts on the program's intents and techniques. For each of the three tests described in the table below, the educators then individually sorted 40 randomly-selected papers into two piles: those they believed had participated in the program's instruction and those they believed had not participated. Tallies of the educator's correct selections (that is, a participating student's paper identified as such or a control group member's paper identified as being drawn without benefit of instruction) and incorrect selections were recorded. After completion of the tasks, the reviewers' comments were collected. The following indicates the percentage of time the evaluators were able to correctly identify those who participated in the drawing instruction.

Test	*Project 64 and 120 Evaluation Description*	*Percent of time project papers were correctly identified*
1	Can educators distinguish random samples of 20 participating kindergartners' *drawings/writing* from 20 nonparticipating kindergartners' *drawings/writings?*	79.1%
2	Can educators distinguish random samples of 20 participating first graders' *drawings* from 20 nonparticipating first graders' *drawings*?	76.9%
3	Can educators distinguish random samples of 20 participating first graders' *writing* from 20 nonparticipating first graders' *writing*?	61.2%

When evaluators were asked after reviewing the papers if they thought kindergartners could be taught to draw, they answered: "absolutely," "definitely," and similar comments. Their general comments about the Project 64 and Project 120 outcomes were positive and included these examples:

- "I noticed spacing in the writing, also not a lot of erasures."
- "I like the fact that the kindergartners' handwriting is so good."
- "I found the spacing, correct use of lower case letters, writing on the lines and words I can read, very interesting."
- "I wish my son had had this instruction."
- "I want this training."

Four Types of Interviews:

Interviews with Teachers

Based on a standard protocol, we interviewed Maple Grove's participating K-1 teachers. These 30-minute interviews explored the teachers' reactions to the Project 64 and Project 120 art instruction and their perceptions of its affects on children's reading and writing. 2008-09 data is on file for six of the seven participating teachers (one was on leave).

The main theme echoed by the teachers was that the participating children developed greater focus and ability to "notice" things. For example, they noticed punctuation and letters within words. The teachers in kindergarten asserted that the drawing lessons contributed to 100% achievement of district reading expectations this year. The teacher thought the "noticing things" carries over into all aspects of the children's learning, for example paying attention to punctuation when reading. They also felt that the children paid more attention to details that children of previous years neglected to notice. Organization of materials is a strong focus during the lessons. Teachers feel that the children are more organized than those of previous years. Fine motor skills are also more highly developed than in the children previous to Project 64. The teachers all reported that the children have more confidence in their ability to try new tasks.

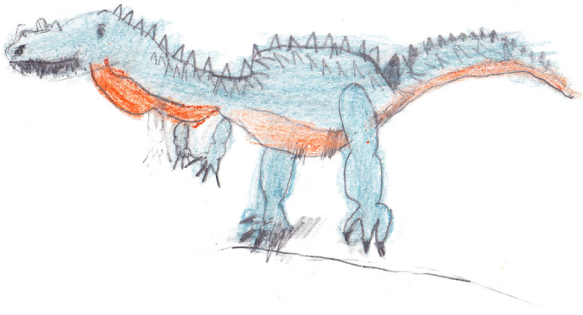
The South Haven teachers described the drawing lessons as calm and peaceful and not stressful for the children noting that 100% of them achieve success in the lessons. The children's work is kept in portfolios rather than going home and, as an intentional result; the children are unable to compare their drawings. At the end of the year, all of their drawings are sent home in a folder. While one parent expressed her wish to see children's drawings come home throughout the year. When the procedure's purpose was explained, she understood the usefulness of letting children progress without developing feelings of inferiority, which can result from comparing their drawings with others' more gifted work.

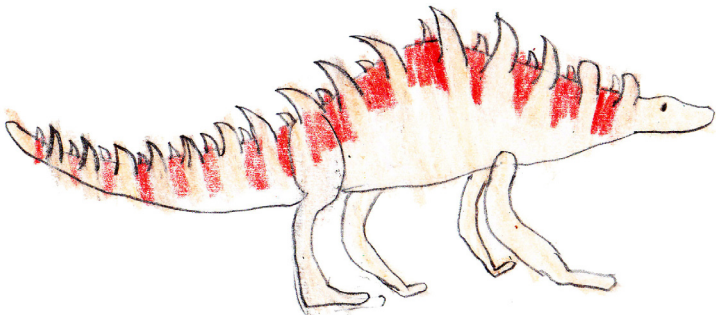
Interviews with Parents

To consider the view from guardians, we informally interviewed six parents whose children were participants. All of the parents commented on their child's level of confidence. Several felt that the success their child had with drawing extended into other areas of life as shown by the child's willingness to try new tasks. They felt that this success also gave the children confidence and, as a result, success in other areas of their lives. The parents all felt that their children's handwriting and ability to draw was impressive. Some commented on their child's love of color and art. All of the parents commented on their child's powers of observation. Several said that the Project 64 participants saw details that even they, as adults, missed. They all thought this helped with their child's ability to read because of increased attention to punctuation and endings of words. All six of the parents said that their child was a very good reader and a focused student.

Interviews with Students

The third type of interview involved meeting individually with 35 first graders who were participating in Project 120 at the time. Halperin has created a curriculum with many types of drawings in order to appeal to a broad spectrum of children's interests. Out of 35 children, there were 25 different responses about what was their favorite thing to draw. Dinosaurs and the human skeleton ranked in the top. All of the children thought the drawing lessons were fun and one child commented on how quiet and "creatiful" the room was during their drawing lessons. One forward-looking child commented that he was learning things to pass on to his children. The children also enjoyed making the "little books" that they could read.





Interviews with Wendy Anderson Halperin

Numerous informal interactions with the projects' originator and director from 2008 through 2011 shed light on other outcomes. Halperin's efforts to interest children in literature, libraries and books included involving students in illustrating interesting interesting stories and famous people. She also asked the children to read and draw at home, especially with siblings. Early in the school year when Halperin invited students to report orally on their reading, few would. By May, however, we witnessed numerous students (more than could be accommodated in the time available) lining up to make brief oral reports to the class on their at-home reading. More generally, Halperin is pleased with the learners' progress. Composites of students' drawings of the Obama family or other subjects have impressed adults with whom results were shared.

First graders drew the Newspaper on the day the Obama family moved into the White House

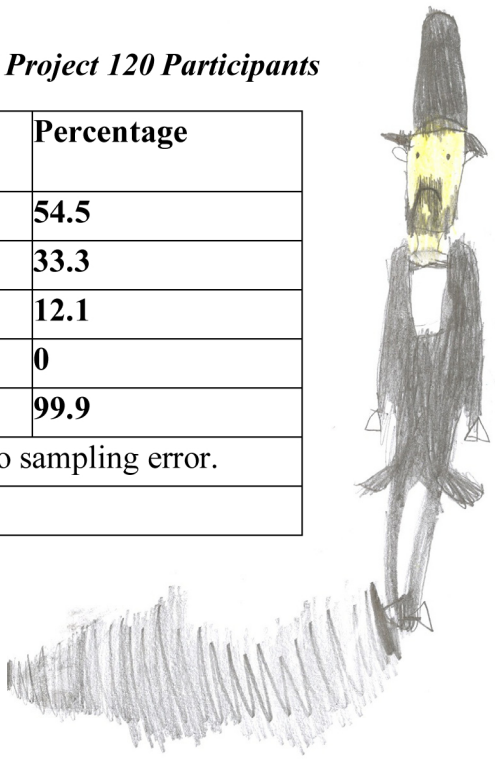
Participants' Scores on MEAP ReadingTests

To evaluate the students' growth as readers, we checked for a correlation between participation and reading proficiency measures. The only standardized test data, which were available from the school district, were the Michigan Educational Assessment Program (MEAP) reading test items which are first administered at the third grade level. From the fall of 2010 data, we accessed the scores for the first group of South Haven students who had received Project 64 (kindergarten) and

Project 120 (first grade) instruction. Of the students who had been in Drawing Children into Reading for two full years, 33 were still in the district for the third grade assessment. Of these, 87.8 percent performed at the top two levels (1 or 2) of the MEAP reading test as shown in the table below.

2010 MEAP Data for Project 64 and Project 120 Participants

MEAP Reading	Number of Students Achieving	Percentage
Level 1	**18**	**54.5**
Level 2	**11**	**33.3**
Level 3	**4**	**12.1**
Level 4	**0**	**0**
Total	**33**	**99.9**
These are not samples & so have no sampling error.		
n=33		



Both drawings on this page were done by kindergartners

Findings

General Observations

Teachers told us, and observations confirmed, that most early-elementary students are able to focus with ease on the hands-on instruction for 70 minutes. The atmosphere in the classrooms was relaxed, and the lights were dimmed to enable the children to focus on the images projected on the screen. There is little wiggling, talking out of turn, or children asking to use the bathroom - just total focus on what they are drawing and writing. As a former kindergarten teacher, one of the authors was impressed by 100% of the children having proper pencil grip and having the ability to write on lines. Also impressive was the level of success in creating the drawings. Given an image to draw and step by step instruction on how to achieve it, kindergarten students are able to create pictures of Abraham Lincoln or Albert Einstein that are readily recognizable.

Discussion

While the kindergarten program (Project 64) had been in its second year when the primary data was collected, the first grade program (Project 120) had been a pilot test. Forty-four of the 111 first graders had received the Project 64 instruction while more than half lacked Project 64 instruction. This may account for the project 120 results being slightly lower than the Project 64 results. We predict even better Project 120 results in subsequent years. Had the drawings of first graders who experienced two years of instruction been disaggregated from the entire group, rather than applying random selection, even more powerful patterns may have emerged.

The small sample sizes of the selection tests (n = 24) make reliability of our evaluations less than ideal. While our intent was to interview all of the teachers, rather than a sample, 85.7 percent (6 of 7) of the instructional participants were enough to instill adequate confidence that the views of teachers are reliably captured. Because of sampling issues, the interviews of children and parents instill less confidence in reliability. Reflecting on our many types of data made the overall inquiry satisfactory as action research, allowing us to conclude that Drawing Children Into Reading is promising curriculum deserving of further development and evaluation.

The program can be reasonably implemented. In kindergarten, teachers are guided in a few ways: by a Project 50 manual, (Halperin, 2011b) lesson DVDs and training that the artist provides at her summer conferences. Kindergarten teachers are able to replicate the lessons in their own classrooms. Because Project 120 requires instructional leaders to have access to, and to have read, 38 specific books, the artist's presence is created through technology (DVDs). A manual is available to help 1st grade teachers conduct the classes, as well as training through summer conferences. See www.drawingchildrenintoreading.com. Equipment needed for Project 50, 64 and 120 are a document camera, LCD projector and a large screen. A DVD player would need to be added for 1st grade. The equipment for all three of the projects may be

assembled on a cart and shared with multiple classrooms with the exception of the screen. While the program's cost of time (up to 70 minutes per week) concern some 1st grade teachers, Drawing Children Into Reading's broad connections with Michigan's standards in science, social studies, math, language arts and physical education are being established as a result of this inquiry. Each of the Project 120 lessons will have connections to the Michigan standards in the manual included in each lesson (Halperin, 2011c). Professional development of teachers has been developed for all three projects. Additional study to ascertain the extent to which children progress through these projects, including further examination of participating students' literacy test scores, is warranted.

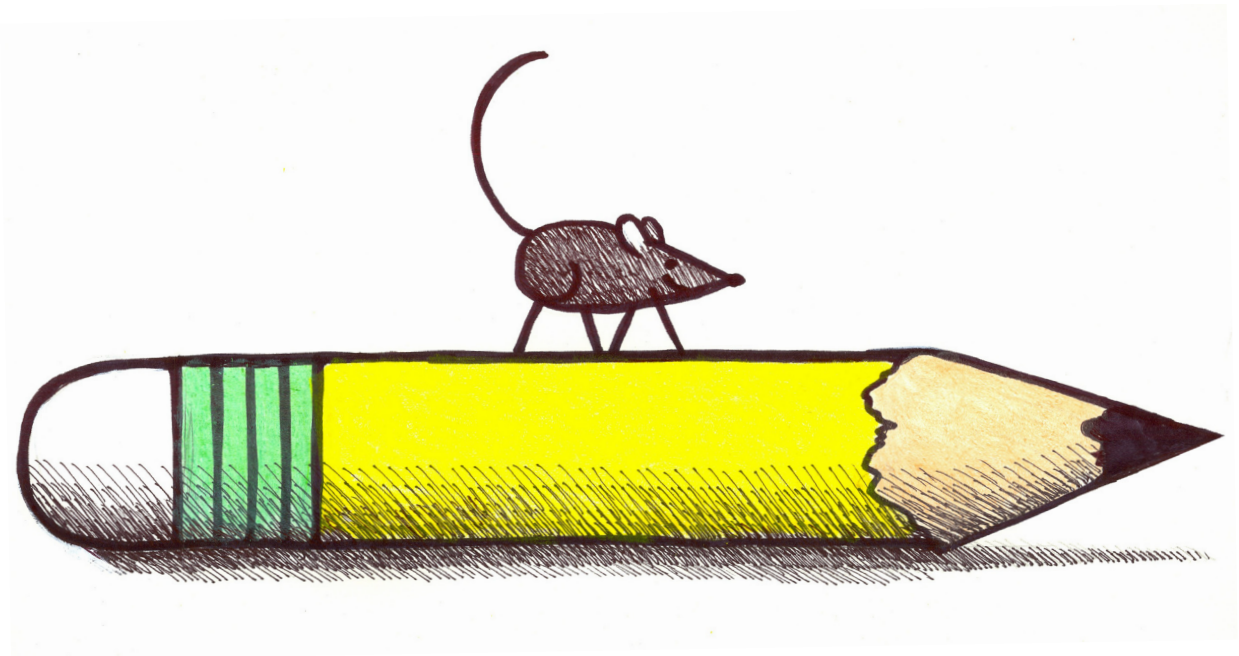
Conclusion

Children deserve good instruction in both literacy and drawing. According to Brookes (1996, p. 47), "Only the rare child learns how to draw representational or realistically on his own. It is just like learning to play piano, learning ballet, or learning to write stories. Children need information about the subject and guided instruction." Learning to draw well is more important than it appears to be. Horn and Giacobbe (2009, p. 52) make a strong case that "For young children, drawing is writing: it gives them opportunities to do what writers do: to think, to remember, to get ideas, to observe, and to record."

Wendy Anderson Halperin, who frequently uses crayons to illustrate books and who has been actively teaching children for many years, is an ideal model for drawing children into reading via weekly fine motor skill lessons. Our main questions about this program were in what ways it succeeds in advancing children's literacy. This inquiry shows that Drawing Children Into Reading is successful in building students' confidence in both drawing and printing. Parents and teachers report that students are more observant and more organized. Their pencil grip and fine motor skills improve because of the program. The end-of-year drawings participants' produce without

adult guidance can be distinguished from the work of a control group more than 75 percent of the time. At the end of first grade, participants' writing alone could also be distinguished from the control group's more than 60 percent of the time. Preliminary examination of MEAP test data suggests a correlation between reading proficiency and participation in Project 64 and Project 120. Most importantly, there is evidence that participants deepen their interest in reading and writing.

How do stakeholders react to the new instructional program? South Haven students, teachers and parents all express strong support for Project 64 and Project 120. Students were definitely engaged by the tasks. We observed growing teacher interest in the program, as the projects are being expanded within Michigan and implemented in other states. Interest is even being expressed in other countries. Additional inquiry efforts are being initiated in Detroit; Homewood, Illinois; Waterford, Michigan and elsewhere. We recommend that other schools implement all three projects, conduct inquiries similar to ours, and record results longitudinally.



REFERENCES

Anning A. & Ring, K. (2004). Making sense of children's drawings. NY: Open University.

Arnheim, R. (1969). Visual thinking. Los Angeles: University of California Press.

Brittain, W. L. (1979). Creativity, art and the young child. NY: Macmillan.

Brookes, M. (1996). Drawing with children. NY: Jeremy P. Tarcher/Putnam.

Catallo, J. (1969). Words and calligraphy for children. NY: Reinhold.

Dyson, A. H. (1986). Transition and tensions: Interrelationships between drawing, talking, and dictating of young children. Research into the Teaching of English, 25(4), 379-409.

Gallas, K. (2003). Imagination and literacy: A teacher's search for the heart of learning. NY: Teachers College Press.

Gandhi, M. (1993). Gandhi an autobiography: The story of my experiments with the truth. Boston: Beacon Press.

Goodnow, J. (1977). Children drawing. Cambridge, MA: Harvard University Press.

Graham, S. & Weintraub, N. (1996). A review of handwriting research: Progress and prospects from 1980 to 1994. Educational Psychology Review, (8)1, 7-87.

Graham, S. (2009 -10 Winter). Want to improve children's writing? Don't neglect their handwriting. American Education, 20-27, 40.

Halperin, W. A. (2011a). Project 50 preschool manual. Available from Drawing Children into Reading, 76990 14th Avenue, South Haven, MI 49090.

Halperin, W. A. (2011b). Project 64 kindergarten manual. Available from Drawing Children into Reading, 76990 14th Avenue, South Haven, MI 49090.

Halperin, W. A. (2011c). Project 120 first grade manual. Available from Drawing Children into Reading, 76990 14th Avenue, South Haven, MI 49090.

Horn, M. & Giacobbe, M. E. (2007). Talking, drawing, writing: Lessons for our youngest writers. Portland, ME: Stenhouse.

Kress, G. (1997). Before writing: Rethinking the paths to literacy. London: Routledge.

Kress, G. (2003). Literacy in the new media age. London: Routledge.

McBride-Chang, C. (2004). Children's literacy development. Oxford: Oxford University.

Olson, J. L. (1992). Envisioning writing: Toward an integration of drawing and writing. Portsmouth, NH: Heinemann.

Piazza, C. (1999). Multiple forms of literacy: Teaching literacy and the arts. Upper Saddle River, NJ: Merrill.

Richards, J. C. & McKenna, M. C. (2003). Integrating multiple literacies in K-8 classrooms: Cases, commentaries and practical applications. Mahwah, NJ: Laurence Erlbaum.

Sheridan, S. R. (1991). Drawing/Writing: A brain research-based writing program designed to develop descriptive, analytical and inferential thinking skills at the elementary level. Dissertation, Amherst: University of Massachusetts.

Sheridan, S. R. (1997). Drawing/Writing and the new literacy. Amherst, MA: Drawing/Writing Publications.

Sheridan, S. R. (2001). The neurological significance of children's drawings: Scribble hypothesis. Journal of Visual Literacy, 22(2), 107-128. Retrieved May 30, 2009 from www.drawingwriting.com.

Sinatra, R. (1986). Visual literacy: Connections to thinking, reading and writing. Springfield, IL: Charles C. Thomas.

Vygotsky, L. (1978). The mind in society: The development of higher psychological processes. Cambridge, MA: Harvard University Press.

Williams, L. V. (1983). Teaching for the two-sided mind: A guide to right brain/left brain education. Englewood, NJ: Prentice-Hall.