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TO FIND OUT THE IMPACT OF VISUAL LITERACY SKILLS ON THE PRE-SCHOOL STUDENTS

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ABSTRACT

The effect of visual literacy interventions on pre-literacy development was investigated in research jointly undertaken by the Toledo Museum of Art (TMA) and Toledo Public Schools (TPS). They collaborated on a program to help preschoolers acquire more complex words, incorporating curriculum interventions into TPS classrooms and organizing regular field excursions to the TMA. This study highlights the significance of museums of art as places of learning that extend beyond the confines of traditional classrooms. Scientists have shown that students learn more when they draw, but how often do ECE instructors include drawings into their teaching is unclear on scientific concepts is little known.

Keywords: Visual Literacy, Skills, Pre-School and Students

INTROADUCTION

The term "visual literacy" describes a set of skills related to the visual field that people may hone via exposure to and integration of various sensory inputs. As a general rule, learning requires the cultivation of certain abilities. Once mastered, they allow an individual to discern and understand the observable phenomena, whether they be artifacts of nature or constructed by humans, that they come across in their daily lives. He is able to express himself creatively by drawing on these abilities. He understands and appreciates works of visual communication because he makes thoughtful use of these talents. With the proliferation of digital media, teaching students to effectively navigate visual content has taken on more significance in today's classrooms. Both the instructor and the student need to work on their visual and critical thinking skills for this to work. Visual symbols are nonverbal representations that come before verbal symbols; this is in accordance with the Dale Cone of Experience paradigm, which states that learning progresses from the concrete to the abstract (Sinatra, 1986). There are a number of ways in which visual representations like drawings and sketches could capture and convey the tangible experience, as they are analogs of experience and are only a logical step away from real occurrences.

Visual learning relies heavily on visual aids. In order to communicate, develop comprehension, and make the learner learn, it consciously provides and organizes images such pictograms, graphs, photos, photographs, and animation. It may help students think more critically and open their minds to new ideas. Images, graphics, colors, and maps are the preferred means of communication for educators using the visual learning technique. In order to retain knowledge, visual learners need to see it. Those who learn best using visual cues, such as color, tone, and brightness, may possess a photographic memory. Some students learn best with visual aids, such as diagrams shown on a blackboard or in a presentation.

The term "visual learning" describes a teaching method in which the use of visual aids helps pupils retain information. In addition to having an excellent sense of proportion and alignment, being highly color-oriented, and having little trouble seeing images, visual learners also have an easy time visualizing things. For those who learn best visually, strategies such as creating to-do lists, idea maps, and color-coding notes may be very helpful. Learners often rely on visual cues such as color, brightness, spatial awareness, and

images to internalize information. When given the opportunity to use photography as a tool to hone this skill, teachers can cap "Ivat" and inspire their students to reach their full potential.

LITERATURE REVIEW

Dinehart, Laura. (2014). A growing body of research links early development of fine motor abilities in writing to longer periods of academic achievement in school. However, there is a lack of information about how handwriting develops, its usefulness in the early life classroom, and the best methods for instructing elementary-aged students handwriting or at least handwriting readiness. This paper summarizes previous research on the topic of handwriting instruction for preschoolers. The article concludes by urging (a) academics to keep digging into how early writing impacts kids' learning and development and (b) teachers to put what they've learned about what works in teaching early writing—also called "handwriting readiness"—into practice.

Terreni, Lisa. (2017). Teaching young children visual art is an excellent way to improve their cognitive abilities, vocabulary, and language development. Educators in New Zealand have adapted their methods and approaches to visual art instruction for young children throughout the years in reaction to global developments in the subject. Currently, there are a number of learning areas in Te Whāriki, which is the early childhood education national curriculum, include mention of visual art instruction. There is a wide variety of ways to visual art instruction for young children, despite the curriculum's heavy emphasis on sociocultural learning and teaching. Presenting a concise historical history of art instruction in the early years of primary school in New Zealand programs, this article concludes with a discussion of three cutting-edge art projects happening right now.

Vermeersch, Lode et.al. (2015). Despite the fast development of the visual literacy (VL) paradigm, there is yet no practical specificity inside the concept itself. In this work, we provide an approach to visual language (VL) that emphasizes the importance of skill sets, categorizing them as follows: perception, imagination and invention, conceptualization, and analysis. This taxonomy is grounded on the semiotic view of visual culture as an ongoing activity of "making meaning." Using pictures is only indirectly addressed in the Belgian mandatory education curriculum requirements, according to a qualitative review of the curriculum based on this framework. Curriculum requirements pertaining to the analysis of pictures are particularly limited, and there is a general decline in the emphasis on VL skills beginning in secondary school.

Anderson, Elizabeth et.al. (2021). Among the most important literacies of the modern era is visual literacy (VL). This is because VL is crucial to so many different areas of study, and because without it, we would be severely lacking in today's visually rich society. Beginning with a brief overview this chapter explores two sources that provide practical examples of visual literacy (VL) and its importance in education: (a) the joint effort of two faculty members who designed and delivered a visual literacy (VL) course to preservice teachers of education; and (b) the account of a classroom teacher's encounters with visual literacy in both the formal and informal settings informal classrooms.

Brooks, Margaret. (2017). This chapter will show how instructors may better understand and encourage young children's sketching processes by using a unique Vygotskian sociocultural framework. Drawing on examples from a kindergarten and first grade classroom, I will investigate the idea that studying the meaning-making processes in children's drawings reveals a connection between drawing and mind. As a means of encouraging higher-level cognitive processes, drawing facilitates the development of ideas from their most basic, spontaneous forms to more intricate ones. As a result, drawing becomes a powerful tool for communicating when done in a group setting. When sketching is seen as a way for kids to make sense of the world, it becomes an integral part of their education.

RESEARCH METHODOLOGY

Teachers' willingness to participate from at least one preschool, one preschool-class, and one primary school class in each unit was a criterion for the sample. Also, we added one rural unit in the southern part of India and one urban unit in the northern portion since we wanted the units to reflect different local characteristics. Eleven classes' worth of teachers took part in the initiative. In a total of 45 scientific classes, we went to each classroom anywhere from twice to five times. Note that although we did say that we wanted to see how they taught science, we didn't say anything about wanting to sketch. the 10 classes where the sketching activities took place, and this research is based on observations and interviews with the thirteen instructors who taught in those classrooms. Twelve of the educators had degrees in early childhood education, and one was a certified barnskötare in India. Before, we indicated that we characterize and analyze ECE science classroom activities by drawing on activity theory (AT) (Engeström, 1987).

RESULT

In the first case, we see Sanna, a primary school teacher, and her eighth-grade students. The instructor read aloud from a book on the Big Bang to the students, then led a discussion about the phenomena while showing them how "the planets and sun still move, the Universe still becomes bigger and bigger" via the use of her arms. Sanna gave the kids the assignment of sketching the Big Bang. Sanna showed the class how to use pastel crayons to make dots in the center of a sheet of black paper, and then she showed them how to use her finger to spread the color outward. The kids, meanwhile, remarked on her moves and asked why she did certain things while drawing the painting. "No, then it won't be like an explosion," one of the kids said in response to a question on whether or not to fill the whole page. "It ought to appear as though it extends from the middle," the instructor chimed in. For that reason, I did not fill the whole sheet of paper; rather, I began in the center and worked my way outward, applying color as I went. Sanna stressed to the students many times during the class that they were to depict an expansion starting in the center using both words and visual cues.

Our working hypothesis is that the goal was to introduce kids to the Big Bang and the idea that the cosmos is constantly expanding. The results of the activity are in line with this item. Our team has failed to

Figure 1. One child's picture of Big Bang.

found any inconsistencies in this activity system's components. Here we see how the teacher sees the function of art in scientific education and how it ties to science in particular. At one point in the interview,

Sanna quips, "The use of drawing 'depends on the [science] content area.'" She goes on to explain that there are various ways in which scientists use drawings in their work, including when describing experiments, illustrating scientific phenomena, or explaining processes like the water cycle. The most important thing for the kids to remember when doing the exercise was to draw an expansion starting in the center. The teacher's selection of pastel crayons was deliberate; the markings they could "draw out" were a perfect fit for the item the students were meant to learn about—the expansion of the universe. When it came to the division of labor, the instructor and the students had a conversation on how to best communicate the scientific material via sketching. Also, in comparison to our dataset, this activity system distinguishes out for its division of labor, since both the instructor and the students were sketching throughout the class.

Figure 2 Triangle model of the activity 'make a picture of Big Bang'.

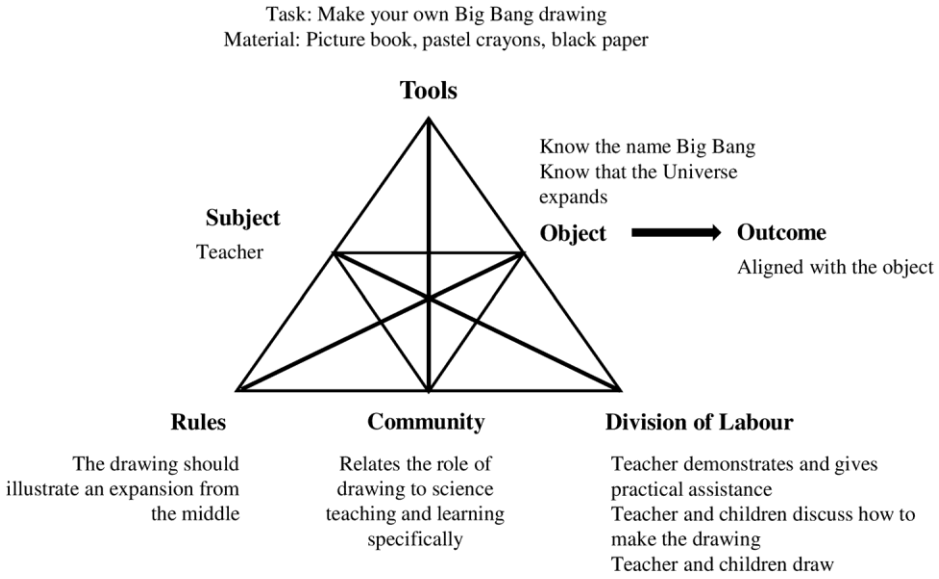

Figure 3 A view from the drawing table. The teacher writes the children's responses to 'who lives inthe mushroom'.

Story 2: making drawings of 'who lives in the mushroom'

Children between the ages of three and five are the focus of the second example, which comes from a preschool. The preschool's Mushroom theme included the lesson that was analyzed. The kids once used knives and magnifying lenses to look into mushrooms and discovered bugs and larvae. A week later, we paid a visit to the preschool. Mary, one of the instructors, and four kids sat at a table surrounded by various types of paper, pencils, scissors, and photographs of mushrooms. After selecting a mushroom picture, Mary had the kids cut it out and put it onto paper. Then she told them to sketch the inhabitants of the mushroom chamber. After the kids gave Mary the go-ahead to finish sketching, she inquired, "Who lives in the mushroom?" and jotted down their answers. Although the kids were free to choose whatever animal they

liked, she insisted that they identify the glued-on mushroom by name. As an example, a young artist once claimed that a bird called one of the mushrooms her picture home. The educator proceeded to jot down "The duck lives on the Fly agaric" after asking the student to identify the fungus.

Two items were assessed to be present in this task. The objective of the exercise was for the kids to match the mushroom's look with its correct name. Since Mary said in the interview that children's drawings might help to solidify information, this item is in line with the teacher's beliefs on the function of sketching in scientific activities (community). Apart from just calling anything a "bird" or "flower," she stressed the need of teaching youngsters the correct names for various creatures. The second objective was to test the students' memorization of the organ-isms they had identified in the mushrooms during the prior lecture. The pupils failed to include any of the insects or larvae they had seen inside the actual mushroom during a prior class into the drawing exercise, hence this item did not align with the intended result. In this case, we see a discrepancy between the item that kids should

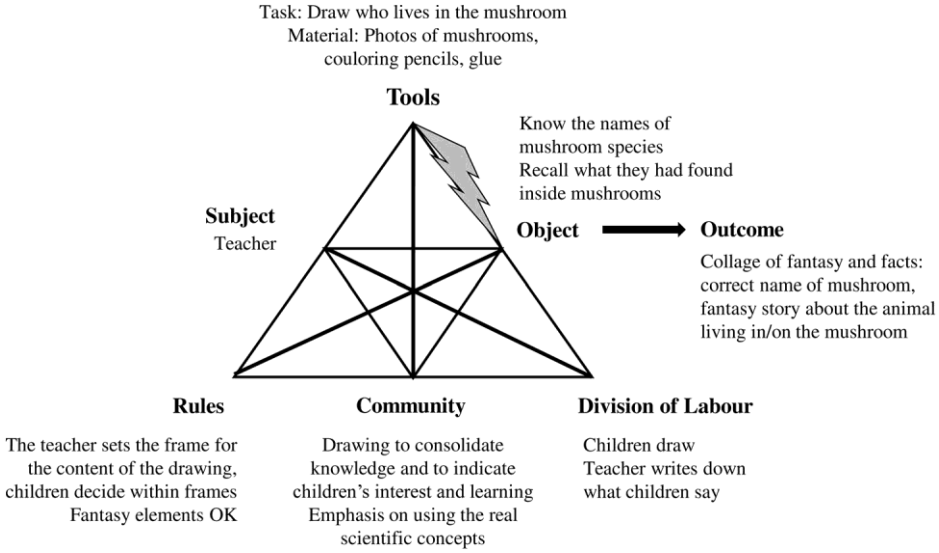

Figure 4. Triangle model of the activity 'draw a picture of who lives in the mushroom'. The flashesrepresent contradictions identified within the activity system.

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Story 3: making paintings of different types of weather

The third example is from a preschool for children aged 1–5 years. In the analysed activity, the teachers Wendy and Vera instructed a group of 4–5-year-old children to print clouds using pieces of cauliflower and liquid paint. Wendy told the children to 'make any weather you like', giving the examples 'beautiful weather clouds' and 'thunder- clouds. At the table were photos of different types of clouds. When the children had finished they showed their paintings to the teachers who asked the children to tell what weather they had made. Depending on what the children said, the teacher chose a name from a list of cloud names and helped the children to paste it onto their paintings. After that, the children could leave the table to engage in free play.

We interpret that the science learning object was that children should learn that there are different types of clouds and that they have certain names. The outcome of the activity did not align with the object since the teacher–child communication centred on producing a painting and not on what different clouds looked like or were called. Here, we identify a contradiction in the rules-object relation because, in the teacher's communication with children, the science learning object was down-prioritised in favour of the prominent rule that children should finish the task. We also identify a contradiction in the community-object relation. Overall, we characterise this community as oriented towards 'doing', because, during our visits, the activities per se, and the material results of the activities, were in focus, rather than making meaning about the science content. When interviewed about drawing and other creative activities in science teach- ing, Wendy said that she 'thinks that children remember better if they get to do things in various ways'. Here, the community view that drawing activities mainly serve to be a part of teaching variation, did not support the object that children learn the names and appearances of different clouds. Instead, the outcome was the 'doing' as such, as children had engaged in an activity and produced a painting.

RQ1: teachers' views of drawing in science teaching

The overall pattern is that the teachers have relatively little to say when we ask them about drawing in the science classroom. When we look into what they do say, we conclude that their answers can be categorised in relation to whether they relate drawing to teaching and learning in general or to science teaching and learning specifically.

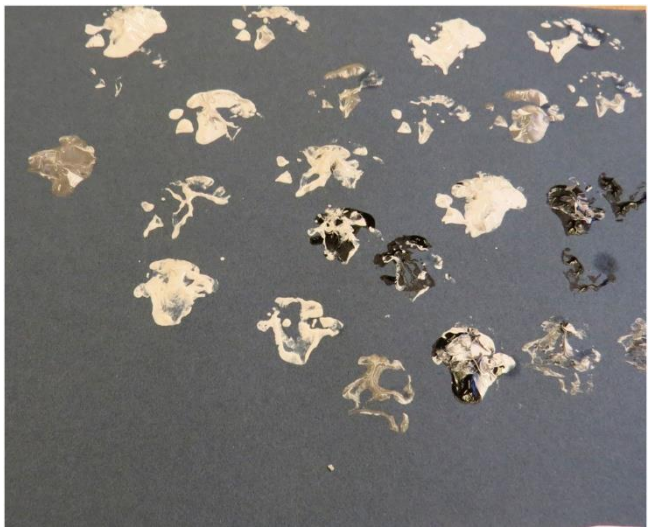

Figure 5. One child's paintings of weather. On the bottom to the right

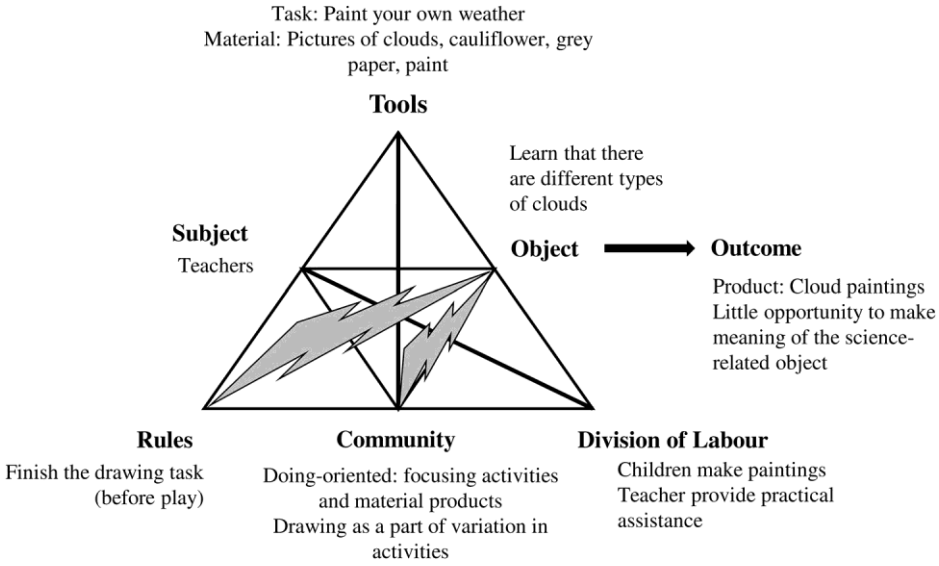

Figure 6. Triangle model of the activity 'making a weather painting'. The flashes represent contradictions identified within the activity system.

Drawing as a part of teaching and learning in general

Although questioned about sketching in science class, most instructors' answers were about education in general, rather than scientific education specifically. First, educators often bring up the importance of sketching as a means for students to express themselves and solidify what they have learned. Some educators claim they can utilize students' drawings to show what they already know and what they've learned from an activity. Educators who see drawing as a means of conveying information often point out that young students lack the motor skills necessary to write, which means that drawing might serve as a substitute form of communication; after all, "if you cannot write and show your knowledge, then you may draw and show your knowl-edge" (Preschool B).

Contrarily, educators highlight the importance of drawing in relation to variance, which they frame as beneficial to students' learning. For instance, professors often cite the following reason for incorporating art into scientific lessons: "I believe that children remember better if they get to do things in different ways." In my opinion, all children, in their own unique ways, benefit from it (creating art and other forms of expression) (Preschool D). While some kids retain more information when they construct and converse, others perform better when they write it all down (.....). Make sure to complete both sections. (Elementary Academy A)

This article uses activity theory (Engeström, 1987) to explain if and how ECE science classes made use of drawing's educational potential. We found that cultural influences, such as the teacher's material choices and local, sometimes unconscious, drawing conventions, undermined the potential in many of the activities we saw. The most interesting thing that came out of this paper is that the way instructors regard the use of drawings in science class is a big deal when it comes to the chances that students have to learn science using these visual aids. An interesting trend emerged from our data: only a small percentage of instructors who participated in our interviews really used drawing as a tool for scientific instruction. Interestingly, these same teachers were the ones who most often brought up the topic in class discussions. Additional research is necessary to go deeper into this trend and uncover the connection between early childhood education teachers' perspectives on scientific drawing and their actual usage of drawing in the science classroom. Another noteworthy finding is that the ECE instructors who participated in our research do not discuss the

importance of sketching in science very much. Their explanations for combining art and scientific education tend to be vague and unfocused when asked about it in interviews. From what I can see, most early childhood education (ECE) educators do not see sketching as having any of the educational benefits that have been discussed in the literature.

Table 1 Categories of activity systems, as regards to how teachers make use of drawing activities in early childhood science education.

RQ1 (teachers' views on the role of drawing in science teaching)	RQ2 (teachers' framing of drawing activities)	RQ3 (how teachers' views and framing influence science learning opportunities)	Classroom
Category 1. Makes explicit use of drawing for science learning			
Drawing as a part of *science teaching and learning specifically* – to communicate science knowledge in adequate ways – to support creative thinking and experimentation in science	*Tools*: Support directed towards drawing in relation to science learning object *DoL:* Teachers and children discuss aspects of drawing – in relation to science learning object *Rules:* How to draw depends on the science learning topic	Science learning object aligns with the use of drawing	Preschool C Primary school A Primary school B *Primary school C (Big Bang)*
Category 2. Does *not* make explicit use of drawing for science learning			
2a. Teaching emphasis on written language			
Drawing as a part of *teaching and learning in general:* – to communicate interest and knowledge – to evaluate/consolidate children's learning	*Tools*: Support directed towards writing in relation to science learning object *DoL:* Children draw and write/ speak, teacher writes *Rules:* Children should write if they can and all children should draw The written science words on the drawing should be correct	Science learning object focused in relation to written/oral language but not in relation to drawing	*Preschool A (Mushroom)* Preschool-class A Preschool-class B Preschool-class C
2b. Teaching emphasis on producing a drawing			
Drawing as a part of *variation in teaching and learning in general:* – the more modes that are involved, the richer the learning – children learn in different ways, drawing may fit some children	*Tools*: Support directed towards practical assistance *DoL:* Children draw *Rules:* Finish the task	Activity focus is to produce drawings Science learning objects not prioritised	*Preschool D (Clouds)* Preschool B

scientific education. In our research, not a single educator brought up the topic of drawing in relation to visual literacy—defined here as the capacity to understand, work with, and produce visual information (Lopatovska et al., 2016). In addition, very few educators bring up the possibility of students sketching as a means of learning science (cf. Danish & Phelps, 2011) or as a means of communicating scientific information (cf. Ainsworth et al., 2011). Based on our findings, elementary school teachers are more likely to associate drawing with scientific instruction and learning than their preschool and kindergarten counterparts. The disparity in cultural and historical contexts, as well as the fact that elementary school curricula place a greater emphasis on scientific literacy development in students, may account for this trend (e.g. Sandberg et al., 2017). Another possible interpretation is that the professional perspectives on incorporating science into preschool and primary school lessons vary depending on whether the instructors have backgrounds in the arts, sciences, or general education. One of the four preschool teachers we interviewed also mentioned the importance of sketching in scientific lessons, so it's safe to say that our sample is small and the trend is inconsistent.

CONCLUSION

Furthermore, the research shows that kindergarten teachers see visual arts instruction as an important part of their students' education and have a favorable attitude about it. Teachers seem to favor the Free Approach, which is in line with current trends in ECE and places an emphasis on inquiry and experimentation. Yet, in an effort to provide a fresh and engaging learning environment, educators often highlight the significance of letting students explore with various forms of media and equipment. Even when they have a good outlook on the visual arts, teachers nevertheless struggle to include visual activities into their lessons. Poll results show that insufficient funding and issues with classroom management are the main obstacles. There are a lot of ways to solve these problems and make the most of visual arts education, such as pre-school teachers' professional development programs. Teachers may get the information and training they need to effectively use visual arts in the classroom via these programs. Furthermore, it is crucial to provide pre-school facilities with art materials, equipment, and designated art areas so that instructors may successfully include visual arts into their lessons. Educators may overcome these obstacles and provide young children with visual arts-based learning experiences that foster creativity, imagination, and holistic development by coordinating efforts and providing specialized assistance.

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