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History, Methods, and Psychology of Illustrations in Children's Literature

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When thinking about what makes a book suitable for children, one of the first things that comes to mind is pictures. Children's literature is filled with illustrations of all kinds. Intensive research is being done on the writing of children's books, looking at the content, style, word count, and complexity, among other things. What has not been investigated so much is the illustration. This is unfair to the children for whom these books are being written because illustrations are abundant, but are they as carefully considered as the text? Illustrators, along with others who are involved in the process of creating children's books, should work towards understanding the components that play into illustrations in today's children's literature. There are three main areas in which illustrators should be well informed about: history of illustration, illustration mediums, and psychological effects of illustration. These three domains are tightly knitted together to form the premise of the impact that illustration can have.

This type of research is relevant to the field of education because literature will forever be a resource for students in their growth both developmentally and academically. The illustrations that come with this literature play just as vital a role as the storytelling, especially for the younger children. This paper will delve further into many of the details as to what makes this research significant.

A Brief History of Illustration in Children's Literature

General Early History

Firstly, it is important to understand the historical development behind how illustrations came to be a vital part of children's literature. Illustrations have not always been included with the literature written for children, nor has there always been literature written specifically for children. In an article titled "Picturing Childhood: The Evolution of the Illustrated Children's Book", author Cynthia Burlingham (n.d.) wrote about how before the mid-eighteenth century,

the range of literature for children was slim, including mainly books containing etiquette and moral lessons. There were a few instances of books written before the eighteenth century that used illustration to depict the text that it came with, often done in woodcut vignettes. Some of these works include *Les jeux et plaisirs de l'engance* (The games and pleasures of childhood) (Jaques, 1657), *Orbis Sensualim Pictus* (Comenius, 1658), and the hornbooks that children would use to learn the alphabet (Burlingham, n.d., para. 4). While these books stood out from the others of the time for their focus on writing for children, they still only included a few illustrations. The illustrations were small and did not add much to the quality of the text, but they still proved for a step in the right direction.

This idea of using books in a strictly educative way came from a time when children were treated as nothing more than small adults. Writer Corryn Kosik (2018) explained this in her article "Children's Book Illustrators in the Golden Age of Illustration", wrote that "there was no time for 'childhood'" because the "daily chores which were commonly more labor intensive than making the bed or loading the dishwasher…were often necessary to stay alive" (para. 1). On top of the daily tasks that had to be done, many families had all members, women and children included, working long hours and hard jobs as the Industrial Revolution roared. However, despite the negative consequences that came from difficult laborious work, the Industrial Revolution brought along many improvements that aided the rise of the Golden Age of Illustration.

The Golden Age of illustration spanned the late nineteenth and early twentieth centuries and saw the immense improvement and spread of literature written children. The invention of the printing press was one of the most important developments that made it possible for people to have greater access to literature. Books could be produced faster and distributed to a wider

population. The larger, wealthier middle class created by the Industrial Revolution could now afford to buy books for their children. This increase in commercial consumption then led to a new demand for authors and illustrators that could create books for children.

In terms of the content of children's literature, the change from bland educational texts to engaging and entertaining stories began with gory fairytales and nursery rhymes that parents would censor to make them more appropriate for young minds, although not to the same degree that would be acceptable today. These early stories, along with fables, "were often laced with heavily moralist values aimed at scaring children into becoming submissive, well-behaved young people" (Kosik, 2018, para. 2). It was not until the late seventeenth century that researchers and educators began advocating for something more appropriate. Instead of scaring children into being well-behaved, it was discovered that children might learn better if they had fun while doing it. Bulingham (n.d.) nods to the contribution of philosophers John Locke and Jean-Jacques Rousseau in bringing this concept to light. Locke believed that children "must not be hindered from being children, nor from playing and doing as children." Rousseau believed that preserving the pure state of childhood through education. (para. 6). This new perspective opened a whole new market of literature, which is where many of the first foundational illustrators emerged.

Significant Early Illustrators

Many of the first children's book illustrators were first political caricaturists. One of the most important names in the field at the time was George Cruikshank (1792-1878). Cruikshank was a well-known artist that the time, best known for his satirical cartoons. He took the opportunity to illustrate some of the significant pieces of children's literature of the time, including *German Popular Stories* and several Charles Dickens novels, which were deemed by William Thackeray, a British novelist, as "the first real, kindly, agreeable and infinitely amusing

and charming illustrations in a child's book in England" (Burlingham, n.d., para. 19). Cruikshank's success became a major influence for other artists to do the same, and thus the Golden Age of Illustration began.

John Tenniel (1820-1914) followed Cruikshank along the same path from political cartoonist to children's book illustrator. Tenniel had worked with the British comic magazine *Punch*, which is how he originally got his name out into the field of illustration. Tenniel was inspired by Cruikshank's work, and he eventually became an illustrator for *Alice's Adventures in Wonderland*. He worked closely with Lewis Caroll to create "illustrations that set the standard for a work that has been interpreted by more than one hundred illustrators since its initial publication" (Burlingham, n.d., para. 23). Of these many interpretations that would come to be, Tenniel's illustrations depicted visual representations of what was written in the text. While others would go on to create more abstract and disconnected illustrations, Tenniel's art gave breath to the story through precise detail and the absurd blend of life and fantasy (Kosik, 2018, para. 9).

Another important development of this time was the improvement of the toy book by Edmund Evans (1826-1905). While this style of book had already been around since the Victorian era, they were basic. "They were published in great numbers by Dean and Son, Routledge, and other firms, but usually without the participation of notable illustrators" (Burlingham, n.d., para 21). Evans was able to bring on board many famous artists to create the art for these books, which brought attention to the books and the colors that could now be printed. Walter Crane (1845-1915) was one of the most influential artists that Evans worked with. Crane was an illustrator of Evans' fairy tales, nursery rhymes, and alphabet books. He was aware of the impact that he could have, "knowing that he could reach a wide, sprawling range of

children with his illustrations," which led him to be increasingly considerate of "the compositions, colors, and figural designs of his drawings to make them easier for children to read and appreciate" (Kosik, 2018, para. 10). Crane's thoughtfulness about the way his work contributed to the growth of children's minds would encourage other illustrators to follow.

While there was an increasing focus on the educational value of children's books, Edward Lear (1812-1888) created works for the pure purpose of entertainment. The most apparent example of this is the *Book of Nonsense* series that Lear wrote and illustrated. These books were full of poems written about absurd characters and silly events, comparable to that of current day poet, Shel Silverstein. Lear originally "began creating silly pen and ink drawings to make the children at Knowsley Hall laugh" (Kosik, 2018, para. 14). He paired limericks to his drawings, which would become his chosen format for all his nonsense books. This kind of literature allowed people to read for fun, for children and adults alike to see that reading did not always have to be a serious thing.

Beatrix Potter (1866-1943) was another illustrator that defined the Golden Age of Illustration. Potter authored *The Tale of Peter Rabbit*, as well as many other tales of other animal characters. The stories she wrote were thoughtful and catered to children and their curiosity and imagination. Her illustrations for each of these books was done in pastel watercolor, which has become "almost synonymous with children's literature…a reminder of childhood and daydreams of the pristine countryside" (Kosik, 2018, para. 17). The illustrations were first printed in black-and-white with only the front cover in full color, but the stories became so popular that she was eventually able to print full color editions. Potter's art was significant, but so was the format of her books. Her books were created to be "small [and] cozy…designed so that even very young children could comfortably hold them" (Burlingham, n.d., para. 26). The books also featured the

format that is the standard of classic children's literature, in which the words are on one page by themselves with the illustration on the page next to it. Potter set the bar for all children's literature to come.

Some illustration also came to be multidimensional with interactive moving parts, and illustrator Lothar Meggendorfer (1847-1925) produced some of the modern concepts that are still used in moving books today. This includes "moving pictures with interchangeable segmented parts, books with pop-up designs, and large unfolding books…the technical wizardry of these books remains unequaled" (Burlingham, n.d., para. 15). The illustrations allowed even children who could not read the chance to experience the enthralling nature of literary stories. Many of the most popular books he created featured pull tabs that when used would move multiple elements on the page. He did so using an intricate system that involved "layering the page, the colorful paper cutouts, and an intricate system of levers made of a lightweight but sturdy material such as cardboard or copper wire" (Davis, 2017, para. 3). Meggendorfer's books were so popular in their time that they were produced in many languages and editions. The genius of Meggendorfer continues to live on today as illustrators continue to practice the tradition of moving books.

The Creation of the Caldecott Award

Randolph Caldecott was another incredibly significant early illustrator. His contribution to the art of illustration is best explained in a quote from Maurice Sendak, another great illustrator. In his essay *Caldecott and Co.: Notes on Books and Pictures*, Sendak (1988) said "[Caldecott] devised an ingenious juxtaposition of picture and word, a counter pint that never happened before. Words are left out – but the picture says it. Pictures are left out – but the words say it" (pp. 21-25). This advance in the interaction between text and illustration propelled the

expectation for quality in children's literature towards what it is today. This contribution made such an impact that in 1937, the Caldecott Award was created to commend the artist of the most distinguished American Picture Book for Children (Arkansas State University, 2020). This award created a new and separate acknowledgement from the Newberry, an award given to the most distinguished American children's books, that would recognize the special value of illustrators.

The Development of Various Mediums Used in Illustrations for Children's Literature Methods

Illustrations in children's books have come a long way since they were first introduced into literature. This section is going to reflect much of the early history that has already been discussed, except this time the focus will be shifted to the specific ways in which illustrations were produced. Although far from what would be considered the modern-day picture book, the first method of visual storytelling goes all the way back to cave paintings. There is evidence of illustration in many of the different ancient civilizations of Rome, Egypt, and Pompeii. Pictures have always been a powerful tool humans use to express narratives, and they have proven their importance as they continue to accompany literature throughout the centuries. The first real method of widespread production came in the 15th century when "the invention of movable type by Johannes Gutenberg…opened the way for viable mass publishing" (Salisbury & Styles, 2012, p. 12). Literature could be created at a cheaper cost so that more of the public could afford it, but having any illustration was rare. Often, the only illustration would be the frontispieces that were included at the beginning of books. These illustrations were usually done through woodcut blocks, and would depict the characters, main events, or significant elements of the piece.

An article on The Met website describes the detailed process of woodcutting. The end goal is to create a kind of stamp in which an artist must create an image and then carve away at a wooden block to create that image. The image must be carved in reverse so that it will be printed correctly. The parts of the image that will be seen will be left uncarved, and parts that are considered "negative space" are carved out so that ink does not reach it. Once the carving is complete, ink is applied using a roller to make sure that it is distributed evenly over the raised surfaces. A piece of paper is then placed over the block and pressed. The pressing can be done by machine or by hand, but a simple machine ensures a more even pressure for a higher quality image. Depending on the size of press available, large images sometimes require carving of multiple blocks which will then be pressed separately to create the full illustration.

Considering that many frontispieces were done in intricate detail, it is no wonder why illustrations were few and far between. These frontispieces were also done mostly in black and white up until the Golden Age of Illustration, as there was not yet a way to mass print in color until then. If color was desired, it had to be painted in after the initial print was done.

In 1796 German playwright Alois Senefelder, discovered that he could create prints via a method that would come to be known as lithography. He discovered this method when he "accidentally discovered that he could duplicate his scripts by writing them in greasy crayon on slabs of limestone and then printing them with rolled-on ink" (Ives, 2004, para. 1). Lithography would become a printing method for artists who did not want to spend all their time painstakingly carving out relief images from woodblocks. This chemical process would allow a more efficient and practical way of printing illustrations.

An article on Britannica (Parrott-Sheffer, n.d.) describes how lithography starts with a plate that is treated to retain water. Originally, this was the limestone that Senefelder wrote his

scripts on. A greasy substance is then used to create an image on this plate. The plate is then moistened so that the areas that are blank absorb the water that will prevent ink from sticking to them. When ink is applied, it will coat the greasy image and be repelled from the blank areas. This image can then be printed onto a rubber roller or onto paper, depending on the intention of the artist. One major appeal of this method is that the lithographic plates do not wear out and can be used for infinite amounts of prints. Although there are now more advanced variations of lithographic printing, lithography remains one of the most popular methods for modern mass printing.

The next major development in illustration production happened in the 1830s. Two separate men came up with printing methods that would allow color to be included in the prints rather than painted in later. The first was George Baxter, an English artist who created the "Baxter process." Mic (n.d.), creator of georgebaxter.com, described the process in detail. Baxter would create a key plate by engraving steel to create a relief image. This key plate "provided the main lines of the image and much of the tone, light, and shade…usually printed in a neutral tone" (Mic, n.d.). After this initial print, color would be added using various blocks created for specific colors. Each block would be the exact same size and would be lined up to the initial key plate print so that the colors were being printed in the right places. This was a tedious process and could take long amounts of time to get everything just right, but it was the start of the first commercial color printing.

The other man who discovered a way to color print was Charles Knight. Knight patented his method in 1838, which was called "illuminated printing." This method differed from Baxter method by building up the colors of illustrations rather than filling in the outlines. Instead of using key plates and woodblocks for each color, illuminated printing only used four colors. In an

article on historyofinformation.com, author Jeremy Norman (n.d.) quotes *Colour Printing and Colour Printers* to describe the process. "He describes the printing apparatus as resembling a square box, each of the four sides of which carried a printing plate, for blue, yellow, red and black respectively, which were applied to the sheet in the order named, the last having the letterpress matter for the names of places, etc" (para. 2). He goes on to talk about how the overlapping of colors would blend to create more colors so rather than just the four colors that were being used, the prints could have up to seven colors. Although Baxter's process allowed there to be more detail and a greater variety of colors, Knight's process was much more efficient.

Today there are virtually endless ways that literary illustration is produced. An article from B&B Press (n.d.) describes some of the most popular printing methods used currently. The first is offset lithography. This works much like the original lithography, except the original plate is made from treated aluminum. The image is printed onto a roller which then prints the image onto paper. This helps preserve the plates so they can be used for longer amounts of time than if they were being printed straight onto paper (para. 4-5). The paper may travel through various rollers to pick up different colors that will come together to create the whole image. Another modern printing method is digital printing. Digital printing is what is used in inkjet and laser printers that are found throughout schools, businesses, and homes. Being able to print directly from a computer "eliminates the need for a printing plate…and can save time and money" (para. 10). A subtype of digital printing is LED UV printing, which is used for posters and magazines, among other things. This type of printing uses UV lights to cure ink as it is printed, so the ink does not need to dry. This "saves time and the colours come out looking much sharper and clearer" (para. 21). When it comes to book illustrations, offset lithography is likely the most used

method, but printing has come so far since it was invented and continues to advance as more efficient, effective, and sustainable methods are being discovered.

Types of mediums

The advancement of book illustrations led to the discovery and creation of many branches of mediums that illustrators can choose from. There is a wide array of possibilities when it comes to creating storytelling visuals.

One of the most common mediums used for children's book illustration is paint. Within this broad medium, there are two specific types of paint that illustrators generally choose from. One type is watercolor, which can be seen in some of the most widely known children's books in the world. This includes *The Little Red Hen* illustrated by Jerry Pinkney, *Strega Nona* illustrated by Tomie dePaola, and *Click Clack Moo, Cows that Type* illustrated by Betsy Lewin. Watercolor offers a versatility that other mediums may not have due to its transparent and stackable qualities. It allows illustrators to create depth using the very slightest changes in hue. Those who choose to use watercolor do have to possess "a significant degree of forward-planning…always [working] from light to dark" (Creative Repute, 2019, para. 10).

The other form of painting that is often used is acrylic. Illustrators who use acrylic paint often take advantage of the bold and bright colors that this medium offers. Acrylic paint is also very adaptable and can be altered to have certain qualities an illustrator might desire. An article from the University of Minnesota (n.d.) mentions how adding different things to acrylic paint can give it qualities of oil painting, watercolor, or gauche. Acrylic-based illustrations can be found in *Freedom in Congo Square* illustrated by R. Gregory Christie, *Goodnight Moon* illustrated by Clement Hurd, and *When Stravinsky Met Ninjinsky* illustrated by Laura Stringer.

Another popular medium for children's book illustration is drawing utensils. Again, there are multiple variations that are used within this category of medium. Pen and ink drawings are some of the most common and are often combined with other mediums such as the various types of paint. The popularity of ink illustrations likely began because of their ability to be easily copied and printed in large quantities and cheaper prices. It also allows illustrators to explore their creativity and how they can take something simple and use it to create immersive illustrations. Some great examples of books that employ the use of just the pen and ink medium are *Ben's Trumpet* illustrated by Rachel Isadora, *Imagine a City* illustrated by Elise Hurst, and *Millions of Cats* illustrated by Wanda Ga'g.

Along with the pen, another well-known drawing instrument is the pencil. Illustrators who use pencil have the opportunity to create soft lines and subtle shadows through certain techniques that can only be used with pencil. Pencil is also more forgiving than some of the other mediums, so illustrations done in pencil are generally more flexible and can be changed more easily. Books that feature pencil illustrations are *Jumanji* illustrated by Chris Van Allsburg and *The Story of Jumping Mouse* illustrated by John Steptoe.

Colored pencils are also a widely used medium among children's book illustrators. There are variations among kinds of colored pencils that give certain ones different properties than others. The University of Michigan (n.d.) informational page on colored pencils states that "colored pencils consist of pigment and binder…binder can be wax or oil based allowing for glossy or matte textures as well as altering its layering and blending ability" (para. 1). Books that feature colored pencil illustrations include *The Song and Dance Man* illustrated by Stephen Gammell and *Madlenka* illustrated by Peter Sis.

A fourth drawing medium for illustrators is pastel. Chalk pastels are a good choice of medium for illustrators who want to experiment with blending and subtle color details. They are generally soft in texture and require a more delicate handling. Creative Repute (2019) points out how chalk pastels are "perfect for blending colors due to their dusty texture which allows for physically 'rubbing' the colors to achieve a much-desired softness" (para. 12). Besides chalk pastels, there are also oil pastels. Oil pastels are not so easily blended. They can be more easily compared to a crayon-type of texture, feeling waxy and harder than chalk pastels. Illustrators use both types, which can be seen in the chalk pastels of *The Gardener* illustrated by David Small and the oil pastels of *Bad Day at the Riverbend* illustrated by Chris Van Allsburg.

The final category to be discussed for illustration mediums in children's literature is multimedia, the combination of many mediums to create one cohesive illustration. This blending of mediums happens frequently in modern day illustration, but there are two specific times that mixed media stands out. The first is collage. Collage requires an illustrator to take many fragments of different patterns, colors, or materials, and create images from those fragments. Collages can be made from just about anything and can create a unique look that draws in a reader in a new way. Books that employ collage are *Big Hugs, Little Hugs* illustrated by Felicia Bond, *Last Stop on Market Street* illustrated by Christian Robinson, and *Mouse Paint* illustrated by Ellen Stall Walsh.

Another popular way to create multimedia illustrations, especially today, is through digital mediums. With the advancements of computers and other technology, the means of children's book illustration expands. Now illustrators can paint, draw, collage, and do nearly anything all with a good creation program and a stylus. While this kind of art might not be as authentic as the other types of illustration that came before it, it offers proficiency, flexibility,

and more variability than anything that has come before. Illustrators can even scan in material art and combine it with digital art. Digital illustrations are featured in *Are We There Yet?* illustrated by Dan Santat, *Max Speed* illustrated by Stephen Shaskan, and *Babymouse, Queen of the World* illustrated by Matthew Holm.

Illustrators Who Specialize in Different Mediums

Having choice of medium allows illustrators to express their ideas creatively. Many illustrators chose a specific medium for their creations, which allows them to adopt a unique and personal style. These styles are often what draw people to want to read books. While writing style is important, illustration style can play just as crucial of a role when parents, teachers, and children choose their books. Some of the most popular children's books were illustrated by artists who are known, and loved, for the distinct style they use.

One of the most well-known children's book illustrators to date is Eric Carle (1929-2021). Carle's creations stand out because of their distinct construction and bright colors. His preferred medium? Tissue paper. Eric Carle would paint white sheets of tissue paper and print bold patterns on them, which he would then cut and use to create his famous collage illustrations. He chose to create his own paper because "the colors of [commercially available, pre-dyed papers] quickly faded" and would not ensure that his art could stand the test of time (*Artistic Process*, n.d., para. 2). Carle authored and illustrated many books that are staples in classrooms across the world. Some of these include *The Very Hungry Caterpillar*, *The Very Busy Spider*, and *Brown Bear, Brown Bear, What do you See?*

Another illustrator who chose to illustrate via collage was Leo Lionni (1910-1999). Lionni's collages, however, were of cut paper. Many times, it was paper that had been painted in different ways to create an "ethereal and soft" look (Rutigliano, 2020, para. 2). Lionni would combine the

collages he made with paintings done in various mediums to bring his stories to life. These illustrations feature unique dimensions that cannot be found in any other book and solidify Leo Lionni as a pioneer and inspiration for illustrators to explore the manipulation of mediums in ways that may not be standard practice. Some of Lionni's most known books are *Frederick*, *Swimmy*, *Inch by Inch*, and *Alexander and the Wind-Up Mouse*.

Tommie DePaola (1934-2020) is another illustrator with an easily recognizable style. DePaola's illustrations have distinct brown lines that are filled in with colors. In a quote originally included in *Children's Books and Their Creators* by Anita Silvey (1996), DePaola described the three variations of his technique that he used throughout his illustrations. One included creating the outlines and then filling them in with liquid transparent acrylic paints. These illustrations often look as if they were done in watercolor due to the transparency of the paints. The next variation he used was also done with acrylic paints, but DePaola would lay down a base, then create the dark brown lines, and then fill in those lines with layers of color that would build up to be bold and opaque. His third variation was to use a combination of those first two, which would create a new depth and interaction within the illustrations. These variations can be found in his books *The Art Lesson*, *Bonjour, Mr. Satie*, and *Hark!* respectively. (Silvey, 1996).

One of the most popular illustration mediums in children's literature is watercolor and ink. An illustrator who fully embraced this medium was Mitsumama Anno (1926-2020). Anno's artwork stands out because of the intricate details and captivating elements that readers cannot simply glance at and move on. His pictures engage the mind. In an article for Creative Bloom, Katy Cowan (2020) wrote that "[Anno's] books show a profound understanding of the way children's minds work, presenting complex subjects in engaging, easily understandable ways"

(para. 4). Anno knew his audience well and catered his illustrations toward them elegantly and appealingly. Anno also worked with collage and woodcutting for some of his illustration. One of Anno's most significant works is his Journey Book series. These wordless picture books were created to illustrate Anno's many travels to different parts of the world. The series includes *Anno's Journey*, *Anno's Italy*, and *Anno's USA* (Maughan, 2021, para. 3). Some of Anno's other books include *Upside Downers*, *Anno's Alphabet*, and *Anno's Math Games*.

Patricia Polacco (1944-present) created her illustrations using pencil and markers, and sometimes ink, acrylic paint, or watercolor paint (Encyclopædia Britannica, inc. n.d.). Polacco's illustration style used color significance to help to draw readers into the culturally rich stories that she is telling. Often her illustrations would be black and white with pops of color or would feature muted and somber or bright and cheerful colors, all to help convey the emotions she was writing about (Encyclopædia Britannica, inc. n.d.). Polacco wrote and illustrated the beloved *Thank You, Mr. Faulkner*, *Thunder Cake*, and *Pink and Say*, all which can be found within classrooms all over the country.

One illustrator who chooses to illustrate in a less conventional children's book style is Chris Van Allsburg (1949-present). Van Allsburg's work stands out for its lack of color and use of shape, shadow, and perspective instead (Wheetley, 2016). The pictures that he creates are often done in charcoal or pencil and are made to look nearly photorealistic (Weiner Elementary, n.d.) Van Allsburg's distinct style is unlike others that draw readers in with bold colors and abstract imaginative shapes, but instead appeals to the strange sensation of seeing something completely out of the ordinary appearing in photorealistic detail. It challenges the imagination in new and different ways. Van Allsburg is the creator who brought the world classics such as *The Polar Express*, *Zathura*, and *Jumanji*.

These are just a few of many important illustrators who have impacted the field of children's book illustration. There is also a plethora of illustrators who dabble in many forms of illustration and do not specialize in just one. The important thing to remember is that illustration can be done through various forms, but it is up to the illustrator to make their art meaningful. There is no medium that should considered the best or the most appropriate. The overarching goal should be for illustrators to create pictures that enhance, enthrall, and create stories that readers can enjoy, learn from, and be inspired by.

The Psychological Value of Illustrations in Children's Literature

Children's literature has always been an important part of psychological growth and development. When considering the different elements of children's books, illustrations are one of the most essential. Because they are such a central part of children's literature, it is necessary for research to be done to understand what role illustrations have in growth and development. There are many points of view that can be examined when looking at the psychology behind illustration.

Impact of early illustrations

Orbis Pictus is considered to be the first picture book that was widely available for children to use. The article *In the Image of God: John Comenius and the First Children's Picture Book* written on The Public Domain Review by Charles McNamara (2014) gives a brief outline of what this book included. Chapter one starts out by presenting different sounds in relation to animal noises. The point was to teach children "to speak out rightly" (para. 4). In this chapter, there were small pictures of each animal whose sounds were being imitated next to the text. The following chapters then go on to discuss theology and philosophy, something clearly indicative of the ideas on childhood education at the time. Nonetheless, there were still black-and-white ink

pictures accompanying the text. Though the actual content and structure of this textbook were not on par with the research and theories of today, the illustrations did show the first signs of incorporating a visual element into literature.

Since *Orbis Pictus*, there have been many improvements in the way books are both written and illustrated. The study of the impact of illustrations has brought about some interesting findings.

Effects of specific aspects of illustration

One of the points within research on illustration is the effects on comprehension and recall. There are many factors that play into this. A research study done in 2014 by Andrea Greenhoot, Alisa Beyer, and Jennifer Curtis looked at the relationship between interactive reading and illustrations. The study was done with preschoolers and their caregivers and examined the way that illustrations facilitated discussion about a story. The hypothesis was that "illustrations could yield benefits in a story reading context in which an adult supports or 'scaffolds' attention to and understanding of the illustrations" and that "illustrations might elicit more discussion than narrative alone, which in turn might enhance children's comprehension and recall of the story" (Greenhoot et al., 2014, p. 2). The results were measured quantitatively using both parent and child behaviors while reading. The ultimate conclusion was that "children's story recall was notably better in the Illustrated condition than the Non-Illustrated condition" (Greenhoot et al., 2014, p. 5). The researchers made sure to note the importance that the reading be interactive. The illustrations acted as an aid, but the narrator had to be the one to reinforce the connections between text and picture for the child to truly benefit. Comprehension was improved most when the child was explicitly shown the direct connections of the illustrations to the story.

This study suggests that, at least for the younger ages, illustrations are most beneficial when they prompt discussion and attentive listening, which scaffolds the comprehension of the text.

A study done in 2016 by Maria Carbon published by the University of Sussex looked at the impact of illustrations on word learning. The study was set up specifically to look at the number of illustrations presented at one time. Three-and-a-half-year-old children were read one of three variations of a storybook. One variation with full size illustrations on both pages, one variation with only an illustration on one page, and one variation with only an illustration on one page but printed on significantly larger pages. The finding was that "children who were read the two page illustration versions of the storybooks learned significantly *fewer* words than those who were read the one illustration, or the large one illustration storybook versions" (para. 6). The exception to this finding, however, was that even if there were two illustrations presented, if the reader guided the child to look at the page that was being read, then they performed just as well as those who had been read the one page variation. The theory expected to be behind this was the Cognitive Load Theory, which states that "working memory has a limited capacity and that overloading it reduces the effectiveness of teaching" (Loveless, 2022, para. 1). If a child was presented with too much information, in this case too many pictures to look at with no reference as to which one was being read about, then they were unable to learn new words in the book. The children were able to learn better when only one picture was presented or when they were guided to the right picture because there was less information to sort through and they could concentrate on the right focal point. This study emphasized the importance of formatting illustrations in a way that children can make word-picture connections effectively.

This word-picture connection was also explored in a study published in 2002 by Stephen F. Austin State University. The study was conducted by Jayme Brookshire, Lauren Scharff Ph.D,

and Laurie Moses and examined how illustrations influence children's book preferences and comprehension. This article went into detail about why illustrations used to only be supplemental and the debate about whether illustrations are distracting or enhancing. The authors identified three hypotheses that argue for the benefits of including illustrations in children's literature. One hypothesis states that children are more motivated to enjoy, understand, and interact with books that have pictures. Another says that using both text and illustrations allows children to receive the information twice which leads to better comprehension and memory. The third hypothesis, which is similar to the previous, states that presenting both verbal and visual information allows children to create two different conceptual representations of the information which will enhance comprehension. The conductors of this study set up their research to look at both the impact of certain characteristics within illustrations and then the impact of words being combined with illustrations. They did this by creating a second-grade level story and varying grade or the reader (first/third), illustration style (realistic/abstract), illustration brightness (bright/somber), book content (illustration only/illustrations and text/text only), and question source (questions about illustrations only/illustrations and text/text only) in each variation. Each condition had slightly different instructions for how to read the book. The main finding overall was that "text information is more influential in comprehension…[but] the illustrations can serve as a contextual aid to help readers determine the meaning of ambiguous text or new words (Brookshire et al., 2002, p. 12). Other findings were that children preferred bright and realistic illustrations. The authors signify the importance of this preference because it plays a role in motivation and how willing children are to pay attention and understand the book. While this study had much more specific results, these were the most meaningful. It is also important to acknowledge that this article was written twenty years ago, so the findings are not brand new.

This does not mean that the research is insignificant as it can still be applied to new research and current consideration of the construction of illustration in children's literature.

Illustrations in books provide more benefits outside of improved comprehension. An article written on the Marginalian by Maria Popova reviews *Little Big Books: Illustrations for Children's Picture Books* and highlights the way illustrations stir up pictorial thinking in children. Popova (2015) includes a quote from Martin Salisbury stating that "[picture books are] often a child's first introduction to the visual arts: the picture book serves as a personal, private art gallery, held in the hand, to be revisited over and over again" (para. 5). She goes on to continue quoting Salisbury and his thoughts on how using pictures is a way to reach children when "they don't have the language to express what they are experiencing" (para.6). This can be both an exploration and an inspiration for children who are trying to learn how to experience the world around them.

Artmag.ir features an article from 2020 that talks about the creative benefits of including illustrations in children's literature. It seems that this article was written in a different language and then translated into English with some hiccups, but the overall message is still clear. Illustrations play a role in helping children to connect their abstract thinking to their concrete thinking, which in turn helps to "nurture the child's mentality and expand his understanding and change of the world" (Artmag.ir, 2020, para. 26). In other words, it gives children a tool for adaptability in processing life events. Artmag.ir points to the possibility of using illustrations to jumpstart children's creative flow so that they can begin to create their own art and express themselves through color and picture. Illustrations offer a bridge between the self and the world.

Each of these studies presents important pieces of insight into the way that illustration changes the experience of reading. Looking at the composition of illustrations and their impact

on comprehension and development only scrapes the surface of what can be studied, but it is a crucial place to start. It is not up to question whether illustration are keystones of children's literature, especially that which is meant for the younger ages. Now the importance lies in the details surrounding illustrations. Illustrators can also consider the specific role they want their illustrations to hold. Illustrations can be supplements and story tellers. They can be meant to boost comprehension yet also cater to the enjoyment of the visual arts. Illustrating is not merely drawing and hoping for the best, it requires thoughtfulness and consideration of both the author and the audience.

Through examination of the three domains of illustrations, it has become clear that research in this area is significant. There have been vast improvements made in the past few centuries, but there is and always will be room for development. New technology brings on new challenges and requires reconsideration once again in each domain. The things that have been learned in the past can be used to improve illustration as it is being created in the present. New mediums present new opportunities to reach audiences in unique and innovative ways. Widespread availability to children's literature calls for even more attention to every detail as a wider audience can now consume what is being published. It is time to raise the standard for illustrations so that they are more than mere two-dimensional images. They should become intertwined with the text, with the story, in a way that provides children a stimulating experience with literature that will stimulate their minds and help prepare them for the life that is ahead of them.

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