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Effect of COVID-19 on Elementary Students' Use of Language Online

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1 Introduction

Due to decreased in-person communication between elementary students, digital communication has become increasingly important. Young children, with greater access to technologies, are paving the way for new forms of visual language that did not exist in previous generations.

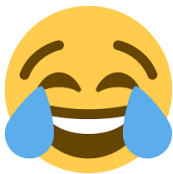
1.1 Visual Language through the Twenty-First Century

The digital technologies available today suggest a new age of communication, one which values visual images over traditional, textual discourse. Children are more likely to use visual language to remain social with one another than in any previous generation.

First, it is important to understand what “visual language” means in the context of children’s use of language online. Neil Cohn, a cognitive scientist and cartoon artist, states visual language is “the structure and cognition of drawings and visual narratives” (Cohn 2013, p. 4). While Cohn primarily studies how visual language appears in comics, his definition is applicable to any medium in which visual images may create narratives. Below are three primary visuals that children used in this study in discourse with one another.



GIFs, or Graphics Interchange Format, are brief, moving images. They usually connect a pop culture reference to the conversation.



Emoticons, or emojis, are images used in a variety of digital communication spaces. The face emojis, which parents observed their children using online, are used to convey emotions without having to outright *say* how the user is feeling.



Memojis are emojis whose features can be personalized by the user. Like an emoji, memojis visually display an emotion, but now a child can display a character who reflects their personality or physical features.

These three forms of visual language prove that children understand visual images at an early age. The New Media Consortium, in their Report of the 21st Century Literacy Summit, calls young people digital natives: "Digital natives easily grasp how visual and other multimedia components can enhance communication, even if their use of it is largely informal" (New Media Consortium 2005).

"Beyond Words: An Enquiry into Children's Home Visual Communication Practices," an article by Dylan Yamada-Rice, explores the changes in children's social dynamic due to the availability of digital technologies at home. The article is over ten years old and is about preschool students in Tokyo, but the implications are even more relevant today as children around the world are confined to their homes with greater access to digital technologies. Yamada-Rice tries to explain this shift from textual to visual communication with children:

The proximity of the visual image to the object of depiction matches a present-day need to transmit complex ideas, quickly across verbal languages. In other words, in a number of ways, it is likely that contemporary societies have advanced to the point where predominantly oral and text-based languages no longer completely meet our needs (2010, p. 342).

Visual images represent a more entertaining, increasingly meaningful communication among elementary students today than ever before. Young children play an important role in the changing roles of visual, textual, and verbal communication. James Paul Gee, a psycholinguistic researcher, argues against traditional textual modes of education because children "tend readily to forget information they have received outside of contexts of actual use, especially if they cannot imagine such contexts" (2003, p. 113). Visual images are much easier to envision and relate to, which is why children find them more appealing to use in communication. Gee, in his 2003 book, *What Video Games Have to Teach Us About Learning and Literacy*, describes 36 learning principles that encompass children's ability to learn through video games. The multimodal principle covers how children are experts of meshing information from multiple media: "Meaning and knowledge are built up through various modalities (images, words, symbols,

interactions, abstract designs, sounds, etc.), not just words” (Gee 2003, 110). GIFs, one of the two primary methods of communication I saw in my Zoom chat observation, are a great example of this principle. GIFs make a pop culture reference which kids have to connect themselves using their own knowledge of the reference and of the digital communication site.

1.2 School-Issued Technology Encourages Digital Communication

The COVID-19 pandemic has affected the way humans interact for over a year now, and some schools, including the school district where I conducted my study, are returning to in-person class schedules. With this shift back to in-person communication, there is a need for studies about the implications of the pandemic on children’s language while they took part in distance learning.

The school district where I conducted my study is in suburban Pittsburgh. According to the official statistics on the district’s website (nhsd.net), approximately 4,500 students attend the six district schools (2021). District families range from wealthy business owners to single parents relying solely on unemployment benefits. Despite differences in family income, every child in the district has access to at least one device thanks to school-issued iPads. Students also have access to their friends’ student emails through these iPads. When COVID-19 shut down schools in March of 2020, the district had situated its student body to keep in touch with peers through digital communication sites. This study will detail the specific ways parents observed their children to be staying connected, but the general implication is children—some as young as four years old—took the opportunity to explore new means of communication instead of experiencing complete isolation from their peers.

2 Methodology

COVID-19 changed the way elementary students’ use language online forever, and I set out to see how children were interacting in these online spaces. I conducted my primary research with both a survey of parents and an observation of a Zoom Rooms chat among three eight-year-olds. Both show that children are using primarily visual language to communicate with their friends during distance learning.

2.1 Elementary Student Parent Survey

First, I distributed a Qualtrics survey to family friends who had elementary-age children. The survey link was anonymous, so neither the other participants nor I, the experimenter, knew who completed the responses. The survey consisted of three multiple choice, six Likert scale (on a scale of “Strongly Agree to Strongly Disagree”), and two open-ended questions. Below are two sample Likert scale questions I used to collect my results.

With distance learning, I have been more active in setting up times for my child to meet friends.

Strongly agree

Somewhat agree

Neither agree nor disagree

Somewhat disagree

Strongly disagree

With distance learning, my child has had more **online** communication with friends.

Strongly agree

Somewhat agree

Neither agree nor disagree

Somewhat disagree

Strongly disagree

The questions ask parents to describe/rate specific aspects of their child's and their own activity in communicating with the child's friends. The two open-ended questions come at the end of the survey and ask parents to further explain how their child has used digital communication and their student email to contact friends. Sixteen parents responded, all anonymously. Their responses contributed to

understanding the extent to which children changed their communication habits since the beginning of the pandemic.

2.2 Observing Zoom Chat Room

Besides using a survey, I also observed how elementary students communicate through Zoom's chat room feature. Zoom chat rooms function independently from Zoom video calls. They work similar to texting, except children invite each other to the chat room using their email addresses. Zoom chat rooms allow children to share images (i.e., emoticons, GIFs, and personal images). I coordinated a date between three eight-year-olds from my community. One set up a chat room and invited two friends, and all three communicated for about thirty minutes before bed. After they were finished, a parent sent me screenshots of the conversation. The children's parents gave permission to share the content of the chat, and the children's names have been redacted for privacy.

3 Results

COVID-19 influenced elementary students' use of language online. First, the pandemic has given children greater access to digital sites to communicate with one another. When communicating, children are using primarily visual language.

3.1 The Effect of COVID-19 on Accessibility to Digital Sites

One of the two open-ended questions at the end of the parent survey asked, "In a few words, please share how the pandemic has impacted your child's use of digital communication with friends. How have they been staying connected despite distance learning restrictions?" The parent responses provided an interesting proof of how COVID-19 and distance learning have affected digital communication practices.

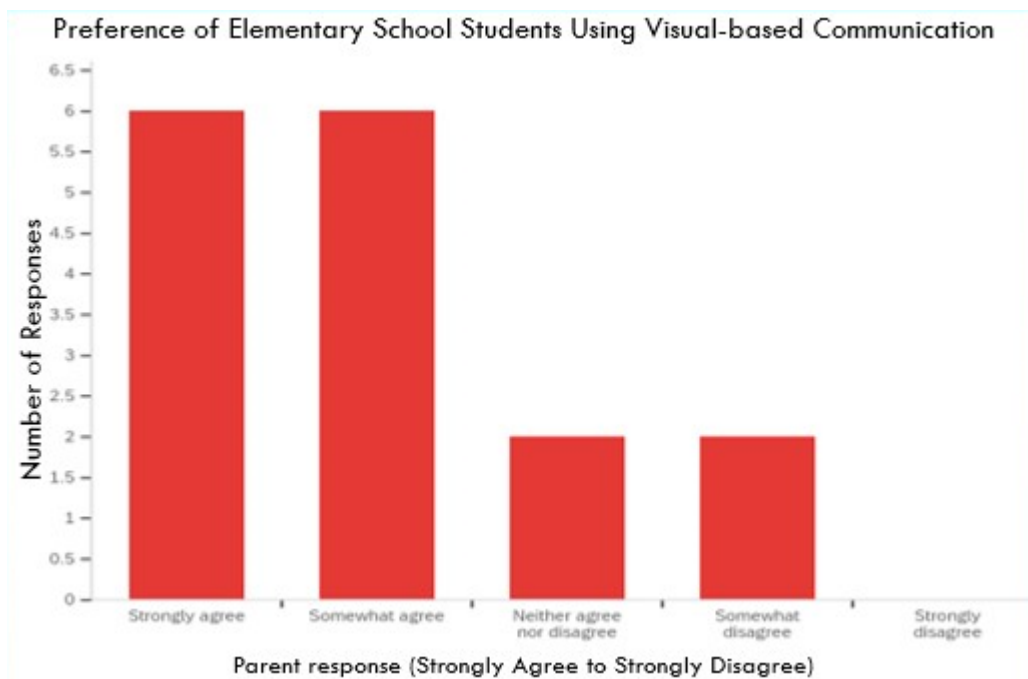
One parent mentioned how digital communication increased simply out of necessity, explaining that their child is using this type of communication more frequently because it was the "sole way to communicate with most of his friends." Other parents agreed that if the pandemic had not happened, their child's communication habits might significantly differ. A reoccurring feature of survey responses signifies the true impact of the pandemic on elementary students' communication with friends. "Daily"

was a word two of the sixteen parents used to describe their child's use of digital communication. Similar implications that children were using digital sites to connect nearly every day were evident in three additional responses, for a total of five of sixteen, or 31.25% of responses. Another responder said, "As parents, we have allowed video and text messaging platforms to keep our daughter connected with friends that were not allowed to be used prior to the start of virtual/distance learning."

3.2 Elementary Students' Primary Form of Digital Communication with Friends

I asked parents if they agreed that their child's use of digital communication has increased during the pandemic. One survey question asked parents to rate the statement, "With distance learning, my child has had more online communication with friends." Out of sixteen respondents, five said "Somewhat Agree" and eleven said "Strongly Agree." Parents unanimously acknowledged that children have been staying digitally connected with friends more than ever.

The graph below depicts the responses to the statement, "My child uses visual-based digital communication more than they use than writing-based digital communication with friends." Twelve of sixteen respondents, or 75%, agreed to some extent that their child prefers visual communication to textual communication with friends online.



3.3 Use of Digital Communication Sites for Visual Language

A significant feature of the Zoom chat room was the use of images over text. In the Zoom chat room among three eight-year-olds, of 74 messages recorded in the screenshots, only 33 messages were textual, while the other 40 were a mix of GIFs and Memojis. As stated in the introduction, the New Media Consortium asserts that children's virtual communication is still "largely informal" (2005). An anonymous parent response describes how informally their child was using visual language in their conversation with friends: "[It was] more sharing silly pictures and videos than having an actual conversation." The series of messages from the Zoom chat room appears as a similar exchange of silly images related to pop culture that the children understand. The GIFs reference well-known movies and cartoons. At the same time, the eight-year-olds used Memojis and short lines of text to express their emotion or their response to an image from one of the two other children in the Zoom chat room. Attached is an excerpt from their conversation.



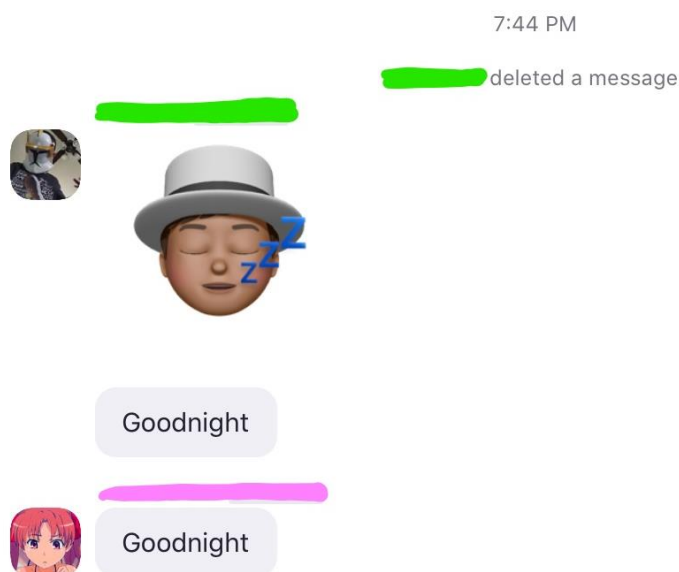
POWERED BY GIPHY



POWERED BY GIPHY



No!!!"



One of the children later described her chat experience, saying she did not always understand the meaning behind the images she received, but it is evident she was actively searching for context within the images and interacting with them. In the above chat, visual discourse is clearly valued over text. Even when a member of the chat room is not completely sure of the context of an image, they interact with it without requiring an explanation. Still, children are aware of the informal usage of language online with friends. A second child from the Zoom chat room shared how he personally operated visual language on virtual platforms: “I like using GIFs and Memojis because they’re funny and I like to text people funny things.” Parents and children alike realized that digital sites were used for friendly discourse rather than formal communication.

4 Discussion

4.1 Visual Language Post-Pandemic

It seems like “normalcy” might return sooner than later. The school district I studied returned to four-days-a-week in-person learning in April of 2021. Duquesne is hoping to start fully in-person next fall, and vaccine rollout is increasing. Will that affect students’ habits online? Does a return to normalcy mean a decrease in visual language? Prior research shows that use of virtual communication as well as visual language will both likely continue to rise. Nevertheless, post-pandemic research might prove a new pattern in children’s use of language online and is valuable for further experimentation.

Online communication makes children freer to choose the time and place of their conversations all by themselves. In my survey, one parent said, “Pre-pandemic, my child almost never used digital communication with friends. I would set up playdates with other parents. Now, Zoom, FaceTime, and Facebook Messenger for Kids are the primary daily sources for communication with friends.” Another question I might ask in later research is: “How do *parents* affect elementary students' use of language online?”

4.2 Visual Language in an Educational Setting

My results have implications in the wider world of education. How children are changing their use of language, especially with increased access to digital modes of communication, is valuable in assessing the most effective ways to present children with information. In the classroom, teachers can use visual language to encourage children to practice written language. An example activity is outlined by Lucie Renard in her blog post “10 Amazing Ways to Use Emojis in the Classroom:” students spin a virtual wheel that gives them a combination of three randomized emoji images, which function as a prompt for writing a story (Renard 2017). The possibilities of using visual language are encouraging for children's comprehension in the classroom.

5 Conclusion

In all, COVID-19 has greatly affected elementary students' use of language online. When in-person communication became impossible, technology provided a socially distanced alternative. Growing use of digital sites has dramatically increased the use of visual language among elementary students. This study surveyed parents and observed the actions of three eight-year-olds in a Zoom chat room. Both research methods proved that children are using technology more frequently to communicate online. In addition, children are in fact communicating visually more than textually, against traditional beliefs that children need to be taught textually to maximize their understanding. Elementary-age children are exemplifying a need for new methods of learning. Even before they are out of preschool, students are masters of a language made up of online images.

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