

Reading Again: How Text Dimensions Affect the Reader Experience

Nicholas Cerofeci

College of Creative Studies Research Capstone

1. Introduction

For the first time in the past three years of my college experience, I'm truly reading for myself; and when someone asks me why I'm reading my book, I can finally reply by saying, "for fun." It's a peculiar feeling going from *forcing yourself* to read for fun to *being incapable of stopping yourself* from reading for fun. While currently I'm appreciative of this new mantle, I wonder why it took me so long to get here. After all, I'm a Writing and Literature Major at the College of Creative Studies — this is the exact type of thing that I love. I believe — as the digital age rises — that the answer is partly generational; and that's why I have set out to improve the reader experience for the cohort of digital natives that we call "Generation Z."

When the 2020 Coronavirus Pandemic sent my freshman year for an unexpected twist, I was sent home from my new friends and perpetually locked down in the house I grew up in. To escape the grim reality of the current world, I found myself retreating deeply into my creative writing — most notably, I was able to begin my long anticipated novel, "Alaskar's Redemption." However, when I started to dive into the drafting process, I felt unsupported by the physical "Pages" document in which I was creating. It seemed to me that double-spaced Times New Roman 12pt font was an underwhelming masseuse for stimulating my creative muscles. It was as though I were writing a basic essay for a school assignment. That's when it occurred to me — in order to best write a novel, I needed to *feel* as though I was writing one. Instantly, I made the necessary format adjustments to my "Pages" document. I narrowed page margins, raised the font size, inserted headings and page numbers and a table of contents. By altering the space in which I was creating, I opened the door for myself to create more efficiently.

As it came time to focus on the research portion of my capstone project, I began to wonder if the format adjustments I used to enhance my writing could also be used to enhance reading. Being a lousy reader myself, I decided to look deeper into this research question. Could adjusting the format dimensions of a page improve the reader experience? In this paper, I will reveal why Generation Z has seemingly less tolerance for reading and present — through my own research experiment at the University of California, Santa Barbara — findings that suggest the importance of format for long-form reading in the digital age.

2. Decrease of Attention Spans and Reading Level in Digital Natives

There's a common ritual among kids my age to compare "Screen Times." On any modern iPhone, you can locate in the "Settings" application a section that will allow you to see how many hours you've spent on your phone. It's generally accepted that anything under four hours per day is pretty healthy; four to six hours is quite normal; and over six hours is embarrassing (yet surprisingly, not too out of the ordinary). These statistics also don't take into account computer or television time. Essentially, Generation Z — in its youth — experiences less hours in a day than all generation before due to time eaten up by screens. Not only is this downtime that other generations likely used for pleasure reading, but every hour immersed in cyberspace does something to Generation Z's perception of the world.

Generation Z is the first set of youth tasked with juggling the hybrid-realities of the physical and digital worlds; and therefore, they risk the consequence of one causing a detriment to the other in their most formative years of life. In the “Myth and Mystery of the Striking Attention Spans,” Dr. Kalpathi R. Subramanian elaborates on how these worlds bleed together: “How often do the younger generations give up the focus of personal interaction for the sake of not missing the Internet events of the day? Things are now moving so quickly that many within the younger generations do not want to miss out on anything. Consequently, their attention spans are being shortened to accommodate that next ‘BIG’ event which can only be experienced on the internet or by way of the smart phone.” In order to accommodate for Subramanian’s “BIG” event — whether that be a new movie on Netflix or a simple text from a friend — Generation Z is required to be plugged into cyberspace at all times; because for digital natives, the Internet is just as real as real life. For Generation Z, four to six hours of Screen Time per day is a necessity to function in the digital-hybrid of our world. Unfortunately, Dr. Subramanian claims that this necessary generational fiction is the cause of shortening attention spans.

Inevitably, a huge scientific question looms over Dr. Subramanian’s claim: “Is technology *actually* shrinking our attention spans?” A recent Canadian study sets out to find the connection between individuals’ sustained attention spans, Internet usage, and age. While 44% of Canadians claim that they have to concentrate really hard to stay focused on a task, this percentage is higher among early tech developers (68%), heavy social media users (67%), 18-24 year olds (67%), heavy multi-screen users (57%), and high volume media consumers (55%). Additionally, 45% of Canadians claim to get sidetracked from a task due to daydreaming or random thoughts; again, this is higher among early tech developers (66%), heavy social media users (65%), 18-24 year olds (61%), heavy multi-screen users (60%), and high volume media consumers (55%) (Gausby, 2015). The study concludes that “the ability to remain focused on a single task is most correlated with volume of media consumption, social media usage, multi-screening behavior, [and] adoption of technology” (Gausby, 2015). Although this doesn’t *prove* Dr. Subramanian’s claim, it’s evident that technology may have a serious negative effect on our attention spans. With Generation Z being the largest consumers of technology from an early age, this attention span decrease undoubtedly poses a threat to their ability for tasks that require prolonged concentration — like reading.

Around the same time I picked up the book I’m currently reading, I also decided to delete my Instagram account. These actions weren’t *deliberately* taken at the same time; but looking back on it, my social media fasting must’ve contributed to making me a now hungry reader. Not having my phone as a distraction definitely freed up some of my time for reading. As I look at my closest friends — zero of which read for fun — I’m sure that some time away from the screens would do good for their reading habits. When speaking with my roommate on this subject, he reminisced to me about elementary school — before he got an iPhone — where he was a voracious reader. He told me he would never be able to read like he used to. Collectively, Generation Z would have been better readers without the implementation of smartphones in middle school. It’s true that reading levels have experienced a perpetual decline over recent decades. According to the Nations Report Card in 2017, a higher percentage of kids performed at or above “Basic” reading level in 1992 than in 2017. Between those years, National Report Card

reading scores saw a gradual decline (Rucker, 2020). In “Why It Matters That Teens Are Reading Less,” Dr. Jean Twenge — a generational psychologist and expert on youth technology use — writes that teens are no longer reading “long-form articles that explore deep themes and require critical thinking and reflection.” Dr. Twenge adds that, “perhaps as a result, SAT reading scores in 2016 were the lowest they ever have been since record keeping began in 1972.” With these patterns emerging, it’s not too difficult to connect the dots to what’s happening with Generation Z. As technology consumes more time and shortens attention spans, the reading habits of Generation Z are swirling hurriedly down the drain.

However, I believe that there can be adjustments to better suit reading material for generations of digital natives to come. As attention spans inevitably decrease in a technologically-integrated world, the juice that Generation Z craves is *instant gratification*. Smartphones are decked out with rings, dings, and clicks. Technology holds our attention by continuously giving us something new. Binge watching television shows and playing video games captivate us by pressing play on the next episode or reaching the next level. We receive gratification with each press of a button, a continuous sense of accomplishment. With these forms of quick content on our hands, our attention spans look at a 600-page book and wince at the blocks of text. However, if we were to format those blocks of text so they exhibit features more closely aligning with instant gratification — larger font sizes, shorter page lengths, more section breaks — then maybe Generation Z will find an improvement in their reading experience. Using my resources at the University of California, Santa Barbara’s College of Creative Studies and the RAAB Fellowship, I designed and conducted an experiment to explore this hypothesis.

3. The Instant Gratification Experiment

For the instant gratification experiment, I constructed two different versions of the same short story — one version that promotes instant gratification, and one version that does not. “Version A” is broken up into thirteen chapters, with narrow margins and approximately 150-200 words per page (50 total pages). “Version B” has no section breaks with dense text and 500-600 words per page (16 total pages). With “Version A” students would be turning pages faster, finishing sections every couple pages, and engaging with features that promote instant gratification. My test group of students would be tasked with reading one of these versions and then answering a series of questions.

I first came across Richard Connell’s short story “The Most Dangerous Game” (1924) in a high school English class. The story features a hunter named Rainsford who — after falling off of a yacht in the Caribbean — is stranded on an island with General Zaroff, a sadistic hunter dedicated to matching wits with the most dangerous game of all, human beings. When Rainsford is caught in the general’s grasp, he must outhunt him and survive. It stuck with me ever since my freshman year, and it seemed to be the perfect story to utilize for the experiment. Ideally, I wanted the story to mimic the kind of reading a student would experience while reading a novel. “The Most Dangerous Game” clocks in at 8,000 words and takes approximately thirty to forty-five minutes to read — with this immense length, the story almost reads like a novel or novela. Certain parts of the story are a little confusing; the beginning section where Rainsford falls off the yacht is made vague by a flurry of words that may be difficult for some readers to decipher.

The story not being completely straightforward was something that I desired, and actually benefited the experiment in the end. After formatting both documents and printing hard copies at Staples for sixty-five dollars, the experiment was nearly ready.

After reading the story, I made it so subjects would answer a series of anonymous online survey questions. The first couple questions ask about grade level and major, followed by eleven comprehension questions, and four Likert-type items measuring how well students thought they understood the story, how engaged they were, how much they enjoyed the reading, and how difficult they found the story to read (1-10 scale). The final question is an open text box that asks them to describe their experience with the story's format and difficulty. I found that the written responses and conversations after the experiment were some of my most interesting results.

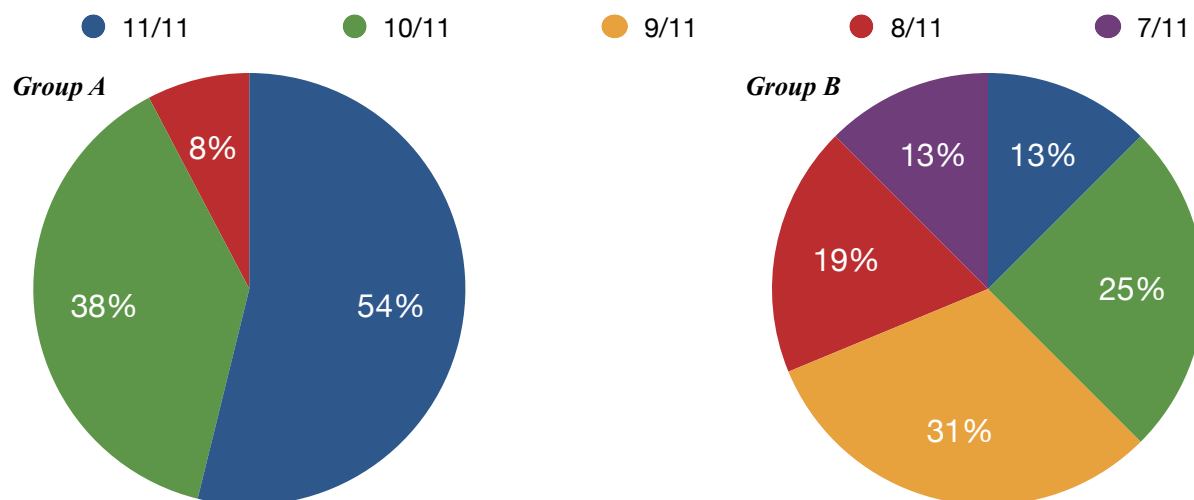
Once my experiment was green-lit with "Human Subjects Exemption," I was free to begin running my human trials, gathering subjects through social media and word of mouth. With nearly half of UCSB's 2022 Winter Quarter being online, I was presented with only a fraction of the time I thought I would have to locate subjects; however, I finished the experiment quickly in Weeks 8-10 by utilizing my RAAB Fellowship grant money as an incentive and going directly to people's houses to hold separate readings. The whole experience ended up being rewarding to me, surprisingly, as a writer. I had the opportunity to speak to so many of my peers about their reading habits and everyone was willing to talk about the story afterward. As mentioned, some of my favorite illuminations came from talking with students after reading the story. In the end, I gathered twenty-nine students as my sample size and uncovered some semblance of hope for the relationship between digital natives and long-form creative writing.

4. Research Findings

Although some of my data came to inconclusive results, my experiment *did* produce some very intriguing findings. There are three areas in particular worth citing as successful in terms of the instant gratification experiment: comprehension scores and patterns, difficulty rating, and personal accounts. After testing my final subject, I compiled all of my data into a "Google Sheets" template and the following emerged as useful results.

A. Comprehension Scores and Patterns

On the whole, most of the students that took the survey received relatively fair scores out of the eleven questions — many within the 9-11 range. Students achieving a perfect or near-perfect score was somewhat common in both categories; however, the percentage of *high scoring* surveys was drastically higher among Group A (the collection of students that read the version promoting instant gratification).



92% of the subjects in Group A scored a perfect or near-perfect score, while only 38% of Group B was able to achieve the same thing. In Group A, the average test score was 10.3846; for Group B, the average score was 9.0625. It's undeniable that Group A performed better on the comprehension section of the survey.

Throughout my process of recording these scores, I noticed a pattern emerging around Comprehension Question 1 of my survey. The question asks: "How does the story open?" Generally, the answers to this question alternated between two options: "On a yacht somewhere in the Caribbean" and "With Rainsford looking pensively out at the sea." The story opens directly with a conversation between a fellow passenger; and therefore, "With Rainsford looking pensively out at the sea" is the wrong answer. In Group A, approximately 85% of subjects answered the question correctly. In Group B, approximately 44% answered correctly. As I mentioned, the beginning of "The Most Dangerous Game" is partly a confusing frenzy of words, imagery, and jumpy dialogue. The characters of Rainsford and the fellow passenger are hard to distinguish at times and it's not always clear what's happening. One student I talked to after the experiment said she really didn't find her grip on the story until about one-fourth of the way through. This confusion lended itself to the difficulty of the survey, but also helps explain the true question we must ask about this pattern: "Why did Group A perform so much better on the question than Group B?" I believe that when students were confronted with the first dense page of Version B, it was harder for them to process what was happening right off the bat. Students in Group A, however, when presented a small piece of text, were less intimidated by the modest huddle of words and therefore immersed more directly into the story. Version A of the story let subjects focus more easily on what was right in front of them; and since the task didn't seem so monstrous from the beginning, they were able to commit their attention more toward the story — hence the power of format to affect the reader experience.

B. Difficulty Rating

The difficulty rating was the only Likert-type item that came to any tangible results. While Group A *did* claim that they understood the story better than Group B thought they understood the story, the averages were too close to be anything noteworthy. Enjoyment and engagement ratings were even more inconclusive. However, when asked "How difficult was it to read the story?," Group A's average answer (8.6923) was much higher than Group B's average (6.0625). In this case, "10" was labeled "Quite easy" and "1" was labeled "Very difficult." Group B found the story approximately 26% more difficult than Group A. It seems that the bigger text and periodic chapter breaks helped the flow of the story for Group A. Perhaps the priority of instant gratification in Version A grasped people's attentions, making it easier to focus, and ultimately led to a less difficult experience with the story.

C. Personal Accounts

In a text box at the end of the survey, I asked what students thought about the format of the text and how difficult they found it to navigate. While Group B's answers didn't have anything special to say (as their text was formatted quite typically), Group A's answers showed that I had essentially accomplished what I set out to do with Version A of the short story. The most common compliment was the size of the text which — most subjects claimed — made the story easier to read. With all of these positive answers from Group A, it became more than evident that people enjoyed reading with *big font* and *small pages* — both elements that promote

instant gratification. I had one student say that Version A read like a script, always leading your eyes down the page, keeping you engaged line by line. Even one student from *Group B* noted that the story was “easier to read because it doesn’t have large paragraphs.” Finishing chapters, pages, and paragraphs quickly is appealing to the mind. Some of the Group A students even made this direct distinction:

“At first, the large text threw me off a bit but once I got into the story I quite liked that the amount of text on each page was not that much. It gave me more of a sense of accomplishment as I read and was easier to concentrate on since I only had to be sure to keep my attention focused for the span of a page before beginning on the next page. Overall, the text was easy to read. Much easier than I think it would have been to read had I been presented with a denser clump of words.”

“It was easy to read! I liked that the actual formatting was only one sided pages as well as larger print, it definitely helped me to stay captivated in the story and not be overwhelmed by packed pages or smaller print.”

Even without knowing the context of the experiment, students recognized how the format influenced their reading experience.

Once the surveys were submitted, I was finally able to show whichever group I was testing the other formatted version of the story. The reactions were much more visceral than I had anticipated. After reading Version A, students scoffed at the dense format of Version B. One student joked that he wouldn’t have agreed to participate if I had given him the second version. When I showed students from Group B the document they could’ve had, they looked at me with envy. It was surprising to me that almost *nobody* I tested was indifferent to which version they received. All of my conversations post-survey only affirmed my hypothesis — and it left no doubt in my mind that typical story format would benefit from a change to better accommodate the fast-moving brains of Generation Z.

5. Present Conclusions and Future Implications

Many of the people I used as subjects in the instant gratification experiment asked me to reveal what the research project was about after they had completed the final survey. I had to explain my mission multiple times to multiple people; and after each rehearsal, I got better at explaining what my project was about. I realized that my experiment was truly about encouraging people to enjoy reading again. On the survey, students from both Group A and Group B recorded that they enjoyed reading the story; and talking with them after, I found this to be very true. Many of my subjects noted how long it had been since they’ve just sat down and read a story. People were excited to do my experiment and nearly everyone was eager to dissect the story with me post-survey. I was able to have literary discussions with STEM majors and self-admitted screen junkies. It gave me hope that reading isn’t totally vilified and kids my age are still intrigued by good stories — now, they just need circumstances tailored to their brains.

I am not unconscious of the possible errors I may have committed in this experiment. At some point, I had to reconcile with the fact that all of my research is more of an *exploratory*

effort than anything else. With such a small sample size and little time to orchestrate a controlled environment, finding proof was a couple shelves out of my reach. If I were to repeat my experiment, I would use a younger and larger population, find a more difficult/boring short story, and further specify some of my Likert-type questions. I find it imperative to include these revisions in this paper not only because I feel it's necessary to cover my tracks, but because I insist that this experiment be repeated again. If format truly does have this large of an impact on digital natives, then these results have potentially groundbreaking possibilities in education and literature.

As a soon-to-be college graduate, aspiring novelist, and admirer of literature, it's amazing to me that only now have I rediscovered a love for pleasure reading. After watching some of my fellow peers marvel over reading a short story for the first time since high school, the extent to which my generation has lost touch with literature has become even clearer to me; this conspicuously dangerous literary plague is rampant and scarily ubiquitous. With the inexorable reign of technology looming over our future generations, there is no use in doubling down on traditional format and dense text models that turn writing into wordsearches. Just as media and television have adapted to exploit our decreasing attention spans, print must do the same. The fate of literature rests in the hands of future generations — and if the written word doesn't change to accommodate them, tales of humanity will suffer in the imminent death of the common reader.

Works Cited

- Alyson Gausby. *Attention Spans*, Consumer Insights, Microsoft Canada, 2015, <http://pausethinkconsider.com/wp-content/uploads/2016/09/microsoft-attention-spans-research-report.pdf>. Accessed 2021.
- Rucker, Kendall M. "Reading Habits and Multimedia Preferences for Generation Z High School Students When Reading for Pleasure versus Reading for School." *Piedmont College*, ProQuest, 2020, pp. 5–6.
- Subramanian, Kalpathi R. "Myth and Mystery of Shrinking Attention Span." *International Journal of Trend in Research and Development*, vol. 5, no. 3, 2018, <http://www.ijtrd.com/papers/IJTRD16531.pdf>.
- Twenge, Jean. "Why It Matters Teens Are Reading Less." *The Conversation*, 20 Aug. 2018, <https://theconversation.com/why-it-matters-that-teens-are-reading-less-99281>.