

Literacy Tools in Composition: Typewriters to Computers, AI and Beyond

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Abstract

All writing technologies are tools of literacy—historically, these cyclical patterns of technology stem from innovation, wading through a laborious cycle of cultural resistance that eventually leads to literacy advancement and societal assimilation. Examining tools of literacy from the typewriter to computers, we can examine them as socially embedded artifacts of the 19th century. This article explores the process of navigating new technologies and how they transition in time and eventually become invisible or go through remediation and become normalized everyday practices. Examining theories from Plato, Paulo Freire, Dennis Barron, Kathleen Yancey, Paul Cook, Gunther Kress, Annette Vee, John Warner, and Douglas Eyman through investigating the role of the typewriter as the predecessor to the computer and digital composition, we will explore the cyclical pattern of technologies and Generative Artificial Intelligence (GenAI) through the lens of technologies situated in their time. The tremors and ripple effect, confronting our fears through the lens of the past, and how to combat their tumultuous effects in academia while paving a way forward, confronting a paradigm shift grounded in literacy practices, addressing the need for digital rhetoric, multimodality, fact-checking, and innovative pedagogy.

The zeitgeist of the 1800s will forever be marked by the revolutionary and iconic literary tool—the typewriter (Hubert). The acclaimed typewriter, an unsung hero in today's era, became in its prime, a trendy revolutionary technology, prized for altering literacy and writing because an inventor had the gumption to invent a tool easing the

cumbersome burden of monotonous handwriting, seeking to efficiently advance the alphabetic writing system. The now ubiquitous literacy tool and technology altered the course of literacy, forever creating a ripple effect leading to reimagining education, business, and society across the globe. Serving at the time a modern purpose, a now nostalgic machine that once acquired universal utility propelled literacy through its technological advancement, underwent several design changes as Pellegrino Turri's first copyright analog typewriter overhauled the mode of writing, competitively evolving as its purpose and function adapted with the cultural demand for innovation. From the Rasmus Malling-Hansen Writing Ball, a menagerie of writing machines eventually led to streamlined standardizations (Howard).

Today, the typewriter remains a foundational invention and is still used today as it does not require electricity to function. Serving as the precursor to the word processor, socially situating the typewriter in a bygone era of its time as a socially embedded practice, we can examine how literacies are learned and taught, as well as how literacy tools evolve and change throughout history. The typewriter underpins its predecessor, the computer, offering a historical perspective in the form of a lesson and a warning about perceived reservations as foretold through Plato's Phaedrus, as new literacy tools are introduced to society (Plato). Computers in composition is a relatively new field addressing the ambiguity of AI guiding teachers and students on a course toward improving teaching practices that remain relevant and rooted in composition, while paving an innovative way forward, leaving room for what is yet to come.

Each new technology embarks on a journey because of man's innate gravitational pull toward exploration and invention. Humanity is built on progress as new

technologies traverse the process of social and cultural acclimation. Every new literacy tool is a technology that has undergone a period of polarization, extreme scrutiny, and faced societal barriers, which are a natural part of life, from what Barron calls traditionalists to hyper progressives and everyone in the middle; resistance to the ever-changing literacy practices from the past, present, and future. Going so far as to change our language and how we speak and communicate collectively. Furthermore, from one technology to another, several other inventions are born, like whiteout, invented as an eraser for the typewriter. The fundamental question goes back to leveling the playing field and minimizing the literacy gap, each new technology has promised and failed to meet lofty educational expectations.

These paradigm shifts disrupt cultural homeostatic views, cultivating tumultuous divides. Human kind adapts to and accepts future literacy tools born from creativity in an effort to advance society toward efficaciousness. How can we alleviate this present moment societal burden? When businesses profit from commercialized production, a byproduct of a modern inconvenience, forward-thinking progressives hastily introduce literary tools to advance society. The high cost of fulfilling a supply and demand born from necessity challenges the status quo of modern normalcy. Literacy tools push the envelope, making space for what comes next, inevitably repeating the historical cyclical patterns across time, hoping to learn from our past as we move forward in our present moment. What GenAI will or will not do for literacy still remains to be seen as we explore the depths of Pandora's box. Will it lead to erudite scholarship like the modern progressives hope, or will it take away ownership and authorship, the conservatives fear? Looking back to the Phaedrus, leading to a foretold outcome where ideals of

forgetfulness may ultimately lead to our ruin, as foretold by Plato? I am asking you, what role will you choose to play as an educator?

While Kathleen Yancey conveys in “Made Not Only in Words: Composition in a New Key” that English composition faces growing pains and cyclical tremors that ebb and flow with each “new moment” that we can learn to anticipate during our present times, because they are parallel to previous shifts in technology. Society has been dumped on, Gen AI breaks the social norm and maxim of typical technological advancement due to its unknown potential and future implications on literacy globally, while Warner believes AI challenges the status quo, viewing new technology as an opportunity (Warner 153). We have the 16th Amendment to thank for AI, nobody responsibly mediated AI into society like a slow trickle; its release from the top has been thrust into the fabric of our society collectively and without guidance or direction. The topography of higher education is shifting again, causing upheaval, as the floodgates of AI unleash a metadisciplinary gateway as we are becoming a digital writing public, as we ask students to engage with AI literacy tools across the disciplines in various forms, an affordance to a liberal arts education exploring intertextuality as writing comes from thinking and thinking is active and remains the core of our expressions. Affording students to explore epistemological conventions. “The new, then, repeats what came before, while at the same time remaking that which it models (Yancey 314).” Circulation of AI is imperative in constructing meaning-making within the parameters of modern classrooms.

Artistic mediums like the typewriter orient themselves in history through the process of remediation. “[Students can] focus on remediating their own texts” (Yancey

314). The legacy of the typewriter lives on as it went through remediation, as the computer keyboard adopted the QWERTY keyboard from the 1870s, proving society is tethered to the mechanics and their constraints. Inventions oftentimes bleed into one another, blurring the lines from one technology to the next. Ultimately, literacy tools advance society and are rebelled against before the pinnacle of their time. The typewriter impacted the workforce during the onset of World War I. The typewriter became a catalyst for social change, leading to speed competitions in 1913. Margaret B. Owen won a speed competition, which led to the civil rights movement (Budden). A ripple effect of women in the workforce spurred a call to action, which propelled societal assimilation. The typewriter, a literacy tool, became an avenue for authors to write manuscripts more efficiently, Mark Twain became the first author to use a typewriter for "Life of the Mississippi" (Paine) and braved scrutiny of amongst his peers as they fought over the ethical use of the typewriter and the "purity" of authorship which was viewed as an inferior and weaker way of writing, but found it convenient. Faulkner, Hemingway, Steinbeck, London, and Virginia Wolff wrote on the typewriter, living on the cusp between old and new technologies, these authors blurred the lines, ultimately helping to acclimate a literacy tool. The typewriter became an advantageous gendered tool for women's empowerment that played a role in abolishing segregation, women's right to vote, and created space for minorities to have a voice. Furthermore, the typewriter solved a global efficiency issue from the cumbersome penmanship that slowed progress. Writing speeds went from an average of 30 words per minute up to 130 words per minute. In this regard, the pencil, although inexpensive, lacked efficiency, and the typewriter filled that void, solving a modern problem, spurring a healthy finger

competition for businesses to profit. Today, the typewriter is still in circulation and is an antiquity of high value.

Who decides what literacy tools withstand the test of time and which ones are left behind (Cook)? The answer is found in remediation and present-day cultural demands (Bolter). For example, the video phone has been assimilated and adapted to modern technologies from Zoom meetings, Google Meet, Slack huddles, and FaceTime, to name a few. Following the same pattern as the typewriter, the telephone underwent the same pattern of assimilation, facing resistance. Ultimately, leading to societal pressures to hop on the proverbial bandwagon or risk getting left behind. Thus, multimodality takes the stage as Gunther Kress, building social semiotic theory addressing modes of communication and combining them as a way to form meaning-making adapted communication from print-centric extending meaning beyond the page where images, gestures, layout, sound and semiotic resources play a role in carrying the informational load across modes spearheading ideological choice in design as educational and potentially engages deeper learning, critical thinking, and examines rhetoric and composition through scholarship in the digital age. Incorporating verbal, non-verbal, written, visual, and interpersonal multimodal communication, students learn about professional audiences and contexts for their content through various modes, creating a problem-posing method of education founded on pedagogy that emphasizes the invention and reflection processes. "Education either functions as an instrument which is used to facilitate integration of the younger generation into the logic of the present system and bring about conformity or it becomes the practice of freedom, the means by which men and women deal critically and creatively with reality and discover how to

participate in the transformation of their world (Freire).” Freire relies on educational liberation from the banking model of education, partnering with students, rejecting the banking model, breaking free from hierarchical forms of education, fostering pedagogical praxis, and providing an equitable foundation in higher education.

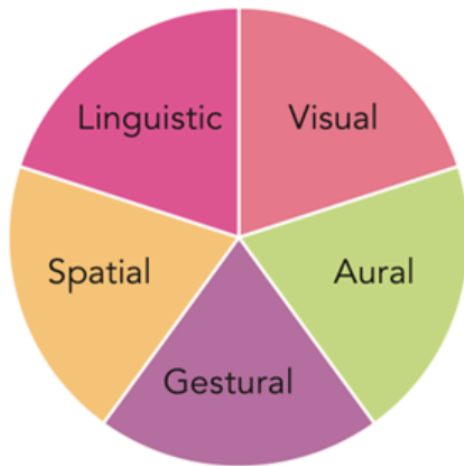


Figure 1.1: Multimodality: 5 modes of communication (Areola).

The computer eventually paved the way for AI, altering the role of agency in the rhetorical canon, no longer as a gateway to socialize with people from across the globe, but to transform literacy. As we consider the hostility behind this tool that breaks the norm of implementation as it has been thrust into everyone’s laps, consider this: the Myth of Theuth is no longer a myth but a modern-day reality as the ghost of AI lives in our “present day” reality we are living through history in the making, AI is offering an unknown future in our AI-centric world where every historical event, invention, and pattern has faced scrutiny, societal backlash while these normal storming processes are patterned after every new invention introduced within societies before the norming process takes place, AI became a backtracking tool that governments weren’t prepared to keep up with, educational systems were caught off guard, and we are left to clean up

the bottom-up rubble. In order for new literacy tools or technologies to gain acceptance, they must go through a process of social integration and assimilation(Cook). AI deviates from societal norms as big corporations are viewed as Thamus viewing algorithmic engineers as Theuth offer deified technologies so advanced that they supersede the mainstream cultural process of criticism and enter the realm of the untouchable because we haven't been given a choice (Plato).

Our modern-day public remains divided from progressives pushing AI before it's been culturally acclimated and conservatives slowing the process, asking questions, rebelling against newness, we are left to rely on tried and true patterns historically around rhetoric and civil discourse that bring open, authentic, and genuine discussions that are inquiry-based as AI levels the playing field between the disciplines.

Acknowledging the apprehension through Plato's Phaedrus is an echo from the past foreshadowing we learn that, like Theuth, an inventor is not the best judge of its own inventions, collectively we all are held responsible for a civic duty to learn, educate, and steward the tools of literacy we've been handed (Plato). The ancients feared technology and the threat of total nihilism. The threat of AI serves as a warning to our present day. Gleaning from history, we can apply a hypothetical futuristic commentary as GenAI looms over us with the ability to interpret, compare, and synthesize inhumane amounts of information within seconds. We need to grasp its reality and its potential while putting it in its place and pocketing it as a tool for learning as we trudge forward, forging a path with the tools of literacy.

On rhetoric and writing in our postdigital era, Dr. Paul Cook suggests a way forward where we can adopt AI literacy tools and maintain a sense of authorship.

Fundamentally, literacy will always remain a source of communication across the disciplines. The fast-paced AI implementation is a barometer that society faces with extreme levels of resistance and a long-winded process toward assimilation, as society remains uncertain as we move forward. The cycle will most likely repeat as we continue to explore the depths of AI and as Eyman suggests, scholars are responsible for documenting the progress as we are making history (Eyman). Digital Rhetoric Theory grounds AI in a framework we have adapted the rhetorical canon to the digital field, just as Cicero adapted Aristotle's canon (logos, ethos, pathos) to: invention, arrangement, style, memory, and delivery. We began with the original oral-based tradition, until cuneiform gave rise to a print-centric society. Then in 1945, Burke's pentad (act, scene, agent, agency, purpose) "A Grammar of Motives," which analyzes human motivation and communication.

ACT	What is being done
AGENCY	Mean by which an action occurs
AGENT	Person doing the act
SCENE	Setting/background for action
PURPOSE	Reason or rationale behind action

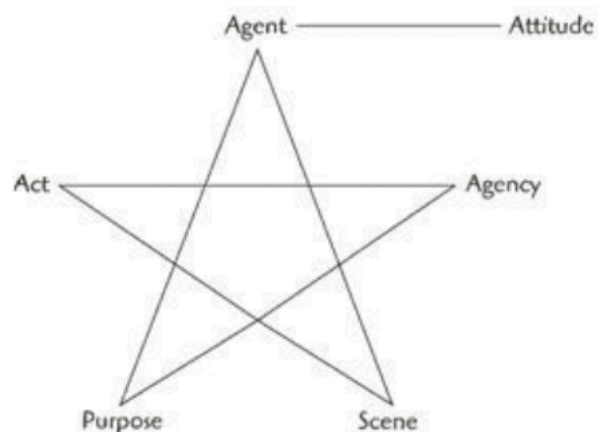


Figure 1.2: Kenneth Burke's pentad (Burke).

Douglas Eyman adapted the rhetorical canon in 2015 to modern times, addressing digitality and the adaptation of a fluid canon while keeping the framework. Eyman's practical applications brought the rhetorical canon out of hibernation into our digital age,

contributing to new exigencies through: invention, arrangement, style, delivery, and memory.

Canon	Classical Definition/Use	Digital Practice
Invention	finding available means of persuasion	searching and negotiating networks of information; using multimodal and multimedia tools
Arrangement	formalized organization	manipulating digital media as well as selecting ready-made works and reconstituting them into new works; remixing
Style	ornamentation/appropriate form	understanding elements of design (color, motion, interactivity, font choice, appropriate use of multimedia, etc.)
Delivery	oral presentation	understanding and using systems of distribution (including the technical frameworks that support varying protocols and networks)
Memory	memorization of speech	information literacy—knowing how to store, retrieve, and manipulate information (personal or project-based; blogs or databases)

Figure 1.3: Douglas Eyman’s digital rhetorical canon (Eyman).

Each rhetorical canon has served a purpose, all are relevant, and are but a shadow of our shifting ecological landscape in education as we make room for what is yet to come. Rhetoric and AI, as we begin shifting between school and the public, the AI landscape is evolving and reaching worldwide audiences that aren’t educated on the affordances and constraints, the ethical usages, the environmental costs, or how audiences are manipulating consumers of information through mis-, dis-, and malinformation. Swinging the fulcrum between cautious apprehension and ambiguous opportunities, the implications of literacies have traditionally been geared toward the

wealthy elite, and AI is now free-range, offering open access to everyone, no matter their socioeconomic status, level of education, leveling the playing field, creating tremors resulting in a wave of “fake news,” trailblazing through society, polarizing facts. This results in a need for open accessibility. AI fallacies leading to beliefs that digitality subverts the rhetorical canon; rather, the rhetorical canon adapts with new literacies calling forth digital innovation. Eyman proposes “a cultural-historical remapping of rhetorical activity” by reimagining the classical canons through the lens of cultural-historical activity (Eyman). Digital frameworks carry a stigma that the quality of writing suffers when turned into a digital artifact. Shifting blame onto students as Text Gen Ed students struggle with print-only papers stifling their generation from influential multimodal practices embedded in their K-12 education, they have been impacted by their entire lives (Vee). Print-based rhetorical canons now convolute the rhetorical situation, limiting their intended audience to a teacher. Instead, digital rhetoric broadens the framework, allowing students to reach a larger audience across a diverse socioeconomic scale through interaction and intention, and are taught mindfulness as students in composition learn to research fact-checked information. Suggesting Mike Caulfield’s SIFT method: stop, investigate the source, find better coverage, and trace claims and quotes back to the original source. The SIFT Method is one of the top methods to educate students on for research, using a vetted trajectory surrounding research and vetting information in an effort to stave off misinformation. A new understanding surrounding the rhetorical situation behind multimodal design and implementation, and take hold of their own agency through mediated activities spurring a social responsibility in our postdigital era (Cook).

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