Jacques Ellul's Work as Guiding Theory for Critical Evaluation of AI in Education

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This is the Author Accepted Manuscript (AAM) for an article accepted for publication by *Information and Learning Sciences* on 31 August 2026. The authoritative version of the article can be accepted at DOI:10.1108/ILS-02-2026-0044.

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Abstract

Purpose: My purpose in this paper is to argue that Jacques Ellul, a 20th century French technology critic, provides important theoretical perspectives for educational researchers as we critically examine AI.

Approach: In this conceptual paper, I introduce two key concepts from Ellulian thought, his definition of *technique* and his skepticism of *facts*, and illustrate their relevance through examples of how they might guide consideration of AI technologies in education. Each of these concepts is accompanied by multiple brief examples as well as an extended (if necessarily incomplete) consideration of one specific issue.

Findings: I demonstrate how Ellul's writing on *technique* invites us to consider broader and more interconnected phenomena than just a single artificial intelligence tool; likewise, I show how his skepticism of *facts* can be used to evaluate epistemological assumptions and be more critical about media.

Originality: While Ellul is not unknown in the literatures on education, AI, or the convergence of the two, many references to his work only engage with him and his ideas in passing. In contrast, I provide an extended demonstration of how sustained engagement with Ellul's thinking can inspire and shape our critical consideration of artificial intelligence (AI) technologies in education.

Keywords

Jacques Ellul, technocriticism, artificial intelligence, generative artificial intelligence

Article Classification: Article, Conceptual paper

Introduction

If educational (and other) research is "an exercise in argumentation," (Phillips, 2014, p. 10), one of the roles of theory is to establish both the general shape of an argument being made and specific elements of that argument. Even in research more focused on empirical analysis than critique, theory guides researchers' decisions in how to analyze and interpret data (Wise and Shaffer, 2015), and employing different theories can draw researchers' attention to different aspects of the same phenomenon (e.g., Gruzd *et al*., 2011; Staudt Willet *et al.*, 2017). Yet, theory is perhaps even more important when it invites or shapes critique. For example, Fuchs (2017) criticized researchers of technology (more specifically, of internet and social media phenomena) who preferred "atomized" theories that "focus on single phenomena and miss society's big picture" (p. 39). As educational researchers consider the impact of new technologies on our field(s), the arguments we make and the conclusions that we come to will necessarily be shaped by the theoretical perspectives that we bring to our work.

My purpose in this paper is to argue that the work of Jacques Ellul, a 20th century French technology critic, provides important theoretical perspectives for educational researchers as we critically examine artificial intelligence (AI). Of course, Ellul is not entirely unknown to researchers working in this area: Researchers studying education (e.g., Coppe *et al*., advance online publication; Krutka *et al*., 2022; Mihci, 2025; Pleasants *et al*., 2023; Smith *et al*., 2024; Wu and Carroll, 2026), artificial intelligence (e.g., Berkowitz, 2025; Særa, 2026; Segessenmann *et al*., 2025; Stahl and Eke, 2024), and the intersection of the two (e.g., Mishra and Heath, 2024; Nichols *et al*., 2025; Rapanta *et al*., 2025; Warr and Heath, 2025) have cited his work as a part of their arguments. However, none of examples that I have just cited engage with Ellul more deeply than describing him as a technology critic or briefly referencing one of his key contributions.

Although Beaulac (2026) and Willis (2026) provide compelling counterexamples, both are found in an Ellul Studies journal where they are less likely to reach broader disciplinary audiences.

Of course, it is not inappropriate to cite Ellul in passing, and there are other scholars equally worth considering at length on these subjects. Indeed, if Ellul remains relatively obscure, it is in part because he has been eclipsed by better known scholars his work was in conversation with. For example, Ellul (1985) repeatedly cites Marshall McLuhan when contrasting visual and oral media. Furthermore, Neil Postman's student Geri Forsberg (2014, 2021) has noted Ellul's influences on—and echoes in—her mentor's work. A 2006 special issue of the *Journal of Media and Religion* (see Stout, 2006) considers these three scholars alongside Walter Ong, who worked with similar themes. Finally, Ivan Illich is a particularly relevant example, given his critiques of both technology and education: Ellul (1980a, 1980b) spoke highly of Illich's thinking, and Illich described himself as owing a debt to Ellul (Illich, 1994; see also Hurmic, 2024).

In this paper, I wish to argue how sustained engagement with Ellul's thinking in particular can inspire and shape our critical consideration of AI technologies in education. His work includes developed theoretical frameworks that can be employed as overarching structures that draw our attention, shape our analysis, and inform our conclusions in specific, productive ways (see Tallent and Fourel, 2025 for a similar argument). I begin this paper by introducing Ellul, his work, and some important caveats to my endorsement of his ideas. In the subsequent sections, I introduce two concepts from Ellul's writing that I believe to be particularly germane to education researchers' critical evaluation of AI. For each concept, I provide a summary of his writing on that concept across his work, identify potential ways that that concept could inform critical evaluations of AI, and then provide an extended (if still incomplete) example of one such evaluation.

Introducing Ellul

Jacques Ellul lived a varied personal and professional life that makes somewhat him difficult to classify (see Tallent and Fourrel, 2025; Van Vleet & Marques Rollison, 2020). His career as a professor of law was interrupted by the Second World War, during which he participated in the French Resistance. It then continued at the University of Bordeaux, where he specialized in courses on Marxism. In terms of scholarship, he is best known for a trilogy of technocritical books: 1954's *La technique ou l'enjeu du siècle*, (creatively) translated in 1964 as *The Technological Society*; 1977's *Le système technicien*, translated in 1980 as *The Technological System*; and 1988's *Le bluff technologique*, translated in 1990 as *The Technological Bluff*. Because this article is written in English, I prioritize citing Ellul in translation; however, I also cite Francophone reception of his work and once cite his work in the original French because I do not have ready access to the translation. As I will later describe, the critiques advanced in these books are broader than "technology" as it is typically understood, which has enlarged the scope of his legacy. Indeed, his criticism of technological development touched on ideas of zero—or limited—economic growth (e.g., Ellul, 2024), and he was well known in Southwestern France for his ecological activism (Chastenet, 2025). In short, Ellul was a prolific writer interested in a number of subjects and not limited to a single scholarly approach: Tallent and Fourrel (2025) note that he has been described variously as a philosopher, a sociologist, or a theologian.

This last description must be acknowledged and addressed in the context of my argument in this paper. Ellul, with his anarchist influences and critiques of organized religion (see, e.g., Ellul, 2018), was perhaps not the kind of figure we would first associate with the term "theologian." However, he did believe that his technocritical writing complemented his

theological writing and that neither was complete without the other (see Rognon, 2024); furthermore, some of his work (e.g., Ellul, 1985, 2024) actively blended both areas of emphasis. In the interest of transparency and positionality, I acknowledge a personal interest in Ellul's theological writing. Nonetheless, I write this article as a secular social scientist who believes that Ellul's religious views are at best irrelevant and sometimes even detrimental to the value of his work in this context, including in the case of certain Islamophobic writings. Thus, despite Ellul's insistence that these two aspects of his work be considered together, I join other authors in setting aside his theological thinking and focusing on other contributions (e.g., Tallent and Fourel, 2025). However, because of the interweaving of these themes in Ellul's work, I cite here technocritical observations he makes in religiously themed works.

More broadly, I believe that for my present purposes, the value of Ellul's work is more *rhetorical* than it is *ontological*. That is, I am less concerned with whether all of his arguments are *correct* than with whether some are *useful*. For example, the French mathematician and (former) politician Cédric Villani (2025) has argued that in factual terms, Ellul not only misunderstood the AI technologies available in his day but also clearly failed in his predictions of their future development. Yet, Villani suggests, these obvious errors do not make the broader frameworks of Ellul's writing any less useful for understanding—and critiquing—the phenomenon of AI as it currently exists (see also Willis, 2026). To repeat the argument I advanced in the introduction to this paper, the theories that researchers adopt draw their attention to certain elements of a phenomenon and invite certain kinds of questions. Like any scholar, some of Ellul's specific claims—to take two examples from *The Technological Society*, his seeming skepticism of vaccination and his handwringing about women in the workplace—merit a critical response. Nonetheless, my goal in this essay is to suggest that the recurring themes of

his scholarship may still serve as productive guides as we critically consider artificial intelligence in education.

Ellul's *Technique*

Although Ellul is often described in Anglophone writing (including by me in this manuscript) as a "technology critic," he was more precisely concerned with *technique*. His references to *technique* have often been translated into English as *technology* (or conflated with the French term *technologie*), but this was often to his frustration (e.g., Ellul, 1964, 1980c, 2024). Many of Ellul's observations can be invoked or applied without getting into the details of this distinction, but Krutka and colleagues (2019) highlight the value of understanding what we mean by *technology* in the context of education. Thus, when using Ellul as a guiding framework for critical inquiry, it is worth understanding what he specifically meant by *technique*. First, it is important to clarify that Ellul's use of the term is not entirely idiosyncratic but rather reflective of distinctions and connotations that exist in Continental European languages but not in English (see Salomon, 1984). Thus, Ellul (1980c) understands *technology* as the scientific discipline that is concerned with individual *techniques*: "tools and instruments; machines; apparatuses" (p. 24). However, the Continental term *technique* also encompasses phenomena that resemble the English meaning of that term: "a certain manner of doing something, a process or ensemble of processes" (Ellul, 1980c, p. 24; see also Krutka et al., 2019; Salomon, 1984).

Yet, Ellul also used the term *technique* in a distinctive way that more general cultural and linguistic differences cannot account for. Early in *The Technological Society*, Ellul (1964) distinguishes between *technical operations*—any "operation carried out in accordance with a certain method in order to attain a particular end" (p. 19)—and a society-wide *technical phenomenon* where "in every field [people] seek to find the most efficient method" (p. 21). When

Ellul uses the term *technique* on its own, he most often has this latter meaning in mind. In fact, in a note to the reader that may anticipate Anglophone readers' need for additional context (as it does not appear in the original French edition), Ellul explains that *"technique* is the *totality of methods rationally arrived at and having absolute efficiency (for a given stage of development)* in *every* field of human activity" (p. xxv; emphasis in original). In both *The Technological Society* and *The Technological System* (Ellul, 1980c), he elaborated on this core idea by describing characteristics of the technical phenomenon and of technical progress; while these ideas may further guide education researchers' evaluation of AI, I do not address them here.

Ellul's emphasis on efficiency as a defining characteristic of *technique* is one of the ways that this term differs from a more general focus on technology. In his writing, he is often less concerned about the particulars of tools or processes than he is about an unyielding emphasis on efficiency and efficacy. In his *Presence in the Modern World*, first published in 1948, he argues that humans have left behind an attitude of the ends justifying the means for the opposite—that the means justify the ends:

> Whatever is effective, whatever possesses in itself an "efficiency" [Ellul uses the English word even in the original French] is justified. By applying means, a result is produced. This result is judged by these simplistic criteria of "more": larger, faster, more precise, and so on. Simply by applying this criterion, the means is declared good. (Ellul, 2016, p. 45).

One of Ellul's repeated concerns in this context is that this societal emphasis on efficiency results in a loss of choice: Humans are expected to adopt the most efficient means of accomplishing a task regardless of other considerations. As Cassan (2025) emphasizes, Ellulian technique is not limited to machines but also includes organizational methods perceived to improve efficiency,

such as bureaucratic processes and scientific management. Indeed, in *The Technological Society*, Ellul (1964) warns against undesirable systematization and against the lifting up of specialists who functionally make (and enforce) decisions for others.

Another important characteristic of Ellul's definition of *technique* is its scope. Throughout his work, he acknowledges—and uses as examples—diverse individual tools and processes. However, as his phrase "*totality of methods*" (Ellul, 1964, p. xxv; emphasis in original) suggests, he prefers to treat technique as a single, all-encompassing phenomenon (see also Ellul, 1980c). This holistic treatment of technique is reflected in his arguments about technological ethics. Ellul argues that technique has "become a value" (1980a, p. 205) or "a virtue" (1980b, p. 244); that is, it has an ethic unto itself, one where "everything is subordinated to efficiency" (1980b, p. 244; see also Ellul, 2024). In the face of a single phenomenon with a consistent ethic, he rejects the relevance of learning to use any individual tool or process ethically and emphasizes the need to find an ethical response to the whole (Ellul, 2024).

Ways Technique *Can Guide Our Inquiry*

Understanding artificial intelligence as *technique* in the Ellulian sense has consequences for how we critically evaluate its use in the context of education. Indeed, to fully adopt an Ellulian understanding of technique would require us to go beyond the ethics of any particular artificial intelligence tool in order to examine the entire system that it is being introduced to. As I have previously argued (Greenhalgh, 2023), ethical conclusions in the context of educational technology may be shaped by underlying assumptions that themselves go unexamined. Ellul's technique provides the motivation and means for examining the entire phenomenon, not simply a single tool.

Even a question such as "what is the purpose of education?" is not too broad; indeed, it will have specific implications for how we consider artificial intelligence. Ellul (1964) expresses concern that "education no longer has a humanist end or any value in itself; it has only one goal, to create technicians" (p. 348). However, if education has broader purposes than preparing students for the technological society, perhaps it is not as urgent as some claim to teach students how to effectively use artificial intelligence tools. It may be even more pressing to determine whether the purpose of education is to prepare students to become customers and consumers: Robison (2025), writing for *The Verge*, has argued that "[t]he race to embed AI tools in academia is a competition to shape how the next generation works with AI — and crucially, to become their default AI tool" (para. 8).

In broadening our view in this way, Ellul might also invite us to consider what we mean by the phrase "educational technology." Watters (2018) observed that her critiques of certain technologies (including software that simulates school shootings) were often dismissed on the grounds that these tools do not qualify as educational technologies because they do not directly influence learning and teaching. Watters invites those in education to adopt a broader view of educational technology. This invitation is bolstered by Ellul's insistence that we must consider the entire technological phenomenon, not just individual tools. Once again, even this quite general question has specific implications for artificial intelligence in education. Tools boasting artificial intelligence capabilities, such as security scanners (e.g., Gordon and Rose, 2022) and student monitoring tools (e.g., Soebreto, 2026), raise important questions about false alarms, student privacy, and other important ethical concerns. It should also be noted that these examples invite us to think more broadly than *generative* artificial intelligence when considering the applications and consequences of artificial intelligence in educational settings.

Even a narrow focus on artificial intelligence in the context of learning and teaching would benefit from an Ellulian perspective. Ellul's understanding of technique as inseparable from efficiency is particularly useful, given that efficiency and efficacy are sometimes described as key objectives of fields such as educational technology or the learning sciences (e.g., Molenda, 2008, Kolodner, 1991). In this context, it is unsurprising that much of the discussion around artificial intelligence technologies in education focuses on the extent to which they are (more) successful (than other approaches) in helping students learn. Yet, Ellul's writing on technique invites us to consider how this kind of emphasis on means obscures a consideration of the ends. Even if we were to accept that artificial intelligence technologies are efficient and efficacious means for learning, Ellul would have us go further in interrogating the ends of such an approach. For example, the second Trump administration in the United States has generally been pro-artificial intelligence, a perspective that seems to extend to its use in education. However, the same administration has also sought to limit the scope of what is taught in educational institutions in particular ways. Surely any efficiency gained by the use of artificial intelligence would not outweigh what is not learned because of restrictive government policy.

An Extended Example: Generative AI and Non-Consensual Intimate Imagery (NCII)

In this extended example, I use Jacques Ellul's *technique* to consider together two uses of generative AI technologies that we might otherwise be inclined to treat as separate issues. The question of whether and how to allow students in secondary schools to use generative AI technologies is much discussed and controversial on its own. However, it is also important to recognize that some of these students are independently using these technologies to "pervert real, identifiable photos of their clothed female classmates... into graphic, convincing-looking images of the girls with exposed A.I.-generated breasts and genitalia" (Singer, 2024, para. 8). The

generation of non-consensual intimate imagery (NCII) may not be directly tied to teaching and learning, but as I have already indicated, an Ellulian perspective requires us to think in larger terms. Indeed, I argue that education researchers' critical consideration of artificial intelligence will not be complete until it takes into account how these technologies may affect students through means like NCII. To begin this argument, let us expand our scope.

In late 2025 and early 2026, the Grok chatbot attracted attention and controversy as users of the social media platform X (formerly known as Twitter) realized that it could be used to easily sexualize pictures that had been posted to the platform (see, e.g., Koebler, 2026). As the controversy continued to attract attention, the New York Times estimated that over the course of nine days, Grok had posted 1.8 million images to X containing "sexualized imagery of women," over 40% of the images that it had generated during that time (Conger *et al*., 2026, para. 3). Reporting on the issue described the chatbot as "complying with requests to put real women in lingerie and make them spread their legs, and to put small children in bikinis" (Field, 2026, para. 2). The possibility of using Grok to sexualize images of minors (rightly) drew particular attention; Belanger (2026) noted that while Grok's publicly posted safety guidelines explicitly prohibited the chatbot from generating child sexual abuse material (CSAM), they also "direct Grok to 'assume good intent' and 'don't make worst-case assumptions without evidence' when users request images of young women" (para. 5).

This example demonstrates the importance of Ellul's holistic view of *technique* when critically evaluating artificial intelligence. One of the key factors behind this explosion of Grok-generated NCII was the integration of (a version of) the Grok chatbot with the X platform—Grok was developed by Elon Musk's xAI (now SpaceXAI), which also owns X Corp. Thus, in a very literal sense, it is impossible in this context to disentangle one technology from another. Indeed,

it was the technical ensemble of the kind that Ellul emphasizes that allowed users of a social media platform—one that was once highly valued by educators, no less (e.g., Staudt Willet *et al*., 2026)—to sexualize pictures posted to that platform simply by asking an integrated chatbot to do so. Of course, this does not mean that distinctions between technologies are never worth making. For example, Burgess and Varner (2026) noted that at the same time that the controversy on X was taking place, the standalone version of Grok was hosting "extremely graphic, sometimes violent, sexual imagery of adults that is vastly more explicit than images created by Grok on X" and "may also have been used to create sexualized videos of apparent minors" (para. 1). Even then, however, an Ellulian perspective asks us to consider how "separate" technologies form part of an overarching phenomenon.

Indeed, while it is easy to point to the particular dangers of the Grok chatbot, this problem is broader than a single set of technologies owned by a single billionaire with laissez-faire ideas about content moderation. Burgess (2026) describes the existence of "a deepfake ecosystem, comprising dozens of websites, bots, and apps... making it easier than ever before to automate image-based sexual abuse, including the creation of child sexual abuse material" (para. 4). The breadth of this ecosystem is perhaps alluded to by the fact that reporting on AI-generated NCII in schools typically does not identify the specific tools that students have used to make explicit deepfakes of each other (e.g., Belanger, 2024; Maiberg, 2025b; Mithani, 2025; Tenbarge, 2024). Of course, there are compelling ethical reasons for journalists to not draw attention to the tools being used in this way. Nonetheless, we might also reasonably assume that different tools are being used in different cases—and that there are obscure tools whose names we would not recognize that are just as capable as Grok (if not more) at creating this kind of NCII. In this case, even a limited application of the breadth of Ellul's *technique* would invite us to ask ourselves the

extent to which NCII creation is less a specific feature of one or another platform or app but more an inherent capability of the entire project of image-generating AI (see also Wagner and Cetinic, 2025).

This, then, has obvious consequences for how we critically evaluate generative AI technologies in educational contexts. Once again, Grok provides a clear example: xAI recently announced a partnership with the government of El Salvador to "'deploy' the chatbot to more than 5,000 public schools" (Kerr, 2025, para. 1). Even if the version of Grok employed in these schools is not the same as the one used on X, or as a standalone platform, it is important to consider the extent to which the fundamental ability for students to produce NCII of each other could truly be removed from such a version. Of course, a broader perspective invites other important questions. In the summer of 2025, the American Federation of Teachers (one of the largest teachers' unions in the U.S.) announced a partnership with Microsoft and OpenAI for integrating AI into classrooms (Dave, 2025). About six months later, the AFT announced it was leaving X due to concerns about Grok's ability to sexualize images of children (Satter, 2026). While it is true that these different companies offer different AI models that function in different ways, an Ellulian perspective still invites us to consider whether the AFT's approach is consistent. Is it possible to distinguish between different generative AI tools for the purposes of ethical evaluation? Or must the purported educational advantages of generative AI as an overarching phenomenon be considered alongside the harm it is doing to students in the form of NCII?

Ellul's Skepticism of *Facts*

Although *technique* is the best known of Ellul's concepts, there are other recurring themes in his work that can also be helpful for education researchers' critical evaluation of

artificial intelligence. In this section, I consider Ellul's recurring skepticism of *facts*. Writing in an era of "alternative facts," I hasten to clarify that he was not advocating for any kind of post-truth politics or perspectives. Rather, this theme reflects certain anarchist influences in Ellul's thinking: it is a rejection of the idea that things must be the way that they are and an invitation to conceive of alternative presents and futures (see Graeber and Wengrow, 2021 for a similar scholarly application of these ideas). Thus, in one of his first books, Ellul (2016) warns that "from the moment that technique, the state, or production are accepted as facts, it seems right to worship them as facts and try to accommodate ourselves to them" (p. 22).

Ellul's thoughts on the state and production are outside of the scope of this essay, but it is helpful here to demonstrate how this skepticism applies to his ideas of technique. In keeping with his preference for a holistic consideration of technique, Ellul (1980c) warned against the attitude that "[t]echnology is a fact, we have to accept it as such, we cannot go against it" and rejects arguments that everything within "the technological system" must necessarily be accepted as legitimate (p. 148). Furthermore, throughout his writing, he also provides examples of specific techniques that are treated as facts and therefore, according to some, *must* be adopted and employed. Writing in the late 1940s, Ellul (2016) argues that the question of not using the atomic bomb "was not even posed. We found ourselves before a fact; thus we had to accept it" (p. 23). In later writings—unpublished during his lifetime—he warned against a similar attitude toward genetic engineering (Ellul, 2024).

In his concerns about these specific technologies, Ellul contrasts the *facts* of their existence (which would seem to obligate their use) with *truth*. Before discussing the atomic bomb, he bemoans that "[f]act and truth seem to everyone as one and the same" (Ellul, 2016, p. 22); similarly, he is concerned that in the case of genetic engineering, "[i]t is never a matter of

questioning the fact from the standpoint of truth" (Ellul, 2024, p. 57). Although it is clear from context that Ellul is making some kind of reference to ethical values, he does not elaborate on what he means by *truth* in either of these passages. Ellul's (1985) *The Humiliation of the Word* has as one of its main themes a recurring contrast between *truth* and *reality*, the latter of which he frames in similar terms to the *facts* he references in other works. Even in this volume, Ellul declines to provide a specific definition for *truth*. Nonetheless, his recurring references to the term confirm that he means to invoke considerations and criteria that are not objectively captured in concrete reality but that remain an important factor in human deliberation. In *Humiliation of the Word*, Ellul actively blurs the boundaries of his sociological and theological work, and it is clear that he includes certain religious beliefs within the scope of *truth*; as I have argued above, this distinction will only be valuable in the present context if we divorce it from any religious dimension Ellul assigned to it and understand *truth* to refer to ethical values that cannot be concretely observed.

Despite the obstacles posed by its scattered scope, *Humiliation of the Word* is also valuable for the way that it considers the relationship between the reality/truth distinction and particular kinds of media. As hinted at in its title, this book also considers a second distinction, that between *image* and *word*. This distinction is made to support a thesis about media technologies—that visual media such as photography and television are overvalued and that there is something distinct about oral communication and interaction that humanity is overlooking. Ellul (1985) acknowledges that the contrast he draws between the image and the word is an "oversimplified distinction" (p. 1). While he remains committed to the distinction, he also works to counter the oversimplification by treating it as something of a spectrum. While media such as "writing" and "tape recording" (p. 14) have an obvious connection to the *word*, he

does not grant them that status, instead placing them at some midpoint between the orality that he is defending and the visual media that he is critiquing. Even here, though, Ellul (1985) insists that he never "intended to claim that the hearing and the word are superior to sight and image" (p. 230). His objective is instead to rescue the word from "humiliation" and bring it back into balance with the image.

Here, it is useful to bring these two distinctions back into conversation with each other. Ellul (1985) explicitly maps the *image* onto reality (or facts) and the *word* onto truth; understanding these two frameworks together reveals an epistemological foundation to his critiques of media. That is, Ellul's skepticism of the image is not necessarily because of some problem inherent to visual media—indeed, the translator's preface notes that "Ellul led public discussions of significant films" (Ellul, 1985 p. xvii). Rather, Ellul describes the problem with visual media as the seeming (but ultimately fragile) self-evidence that he also ascribes to reality. Photography and television *seem* to be more compelling demonstrations of fact than earlier generations of media technologies. However, they are ultimately as susceptible to falsehoods and human interference: an image "expresses a reality, but of necessity it presents us with an artifice" (p. 32). In contrast, while Ellul (1985) concedes that the *word* is "never precisely received, never precisely understood" (p. 17), he also suggests that the most important truths can only be established through collective discussion—that only "through the use of language can one learn to make ethical decisions" (p. 35). Perhaps more important than any specific critique of any specific medium is Ellul's implicit endorsement of the idea that (at least some) knowledge is socially constructed rather than readily apparent. Throughout the rest of the paper, I will often refer to *truth* to invoke this epistemological understanding rather than the domain of knowledge (i.e., ethics and deeper philosophical truths) that he associated with the term.

Ways Factual Skepticism Can Guide Our Inquiry

Ellul's skepticism of *facts* (and lifting up of *truth*) is not always an intuitive framework, but it has helpful implications for a critical evaluation of artificial intelligence in the field of education. Indeed, as with my previous consideration of *technique*, this framework invites us to think more broadly than just about AI—or even than just about educational technology. In describing "three general views of knowing and learning in European and North American thought," Greeno and colleagues (1996, p. 15)), drawing on previous authors, use the terms *empiricist*, *rationalist*, and *pragmatist-sociohistoric*. Given their respective emphasis on "consistency" and "conceptual coherence" (p. 16), I do not believe it would not be too much of an oversimplification to map *empiricist* and *rationalist* views of learning onto the *reality* and *facts* that Ellul discusses. Indeed, Ellul's (1980a, 1980b) criticism of Skinner (whom Greeno *et al*. describe as an *empiricist*) would further support such an association. Conversely, the *pragmatic-sociohistoric* focus on learners' interaction "with each other and their material environments" (p. 16) echoes the discussion and orality that Ellul assigns to the *truth*. It is therefore possible to understand the foundational phenomena of learning and teaching from different perspectives within Ellul's framework and, of course, one's understanding of those concepts will necessarily overlap with one's approach to any educational technology (e.g., Molenda, 2008; Watters, 2021), including artificial intelligence.

Given how frequently Ellul used this framework to push back against uncritical acceptance of the technologies of his time, perhaps the most obvious application of his factual skepticism in this context is to ask whether artificial intelligence technologies are as inevitable as their promoters claim. As the translator of *The Humiliation of the Word* notes in her preface to the book, Ellulian *reality* "forces us to conform" whereas truth "is infinitely open-ended and

invites reflection, response, relationship, and dialogue" (Ellul, 1985, p. xvi). Much of the discourse around artificial intelligence in education takes for granted that these technologies exist and that educational institutions must therefore adopt them. Perhaps the most radical adoption of Ellul's thinking is therefore to insist that deliberation is not only still possible but also necessary before widespread adoption of these tools. Heath and colleagues (2024) describe various approaches to (and provide one example of) the process of technology audits as a scholarly means of asking whether a technology ought to be employed in education (see also Krutka et al., 2019). Furthermore, the *Civics of Technology* organization, which Heath and Krutka are both involved with, provides guidelines for conducting these audits with students (https://www.civicsoftechnology.org/edtechaudit).

The emergence of increasingly powerful generative AI tools may also invite educators to begin teaching an Ellulian skepticism of media. Ellul (1985) invoked "the ambiguity behind the apparent objectivity of the image" (p. 32) to call into question the underlying value of *fact* and *reality*. Forty years later, generative AI technologies are drawing attention to this ambiguity in a way that Ellul could not have anticipated. For example, in September 2025, OpenAI released the second generation of Sora, a text-to-video AI model. In another demonstration of the intertwined nature of "individual" technologies, it also released a TikTok-like social media platform of the same name (which has since been discontinued) that encouraged the creation and distribution of short-form videos ranging from the (imperfectly) photorealistic to faithful recreations of specific pop culture art styles. About a week and a half later, Chen (2025) wrote that this kind of technology "could represent the end of visual fact — the idea that video could serve as an objective record of reality — as we know it" (para. 4). Even if, as Ellul suggests, "visual fact" was always more precarious than it seemed, it is better to teach this kind of skepticism late than

to never teach it at all. Although they draw on another media theorist (Jean Baudrillard), van Kessel and colleagues (2025) demonstrate how scholars can use a particular thinker's work to (re)frame conceptions and applications of media education.

Yet, Ellul's (1985) skepticism does not stop with visual media. Indeed, he goes so far as to describe the written word as "uncertain or ambiguous" (p. 44), arguing that it only retains the power he ascribes to the *word* when it is brought back into the realm of orality, once again subjected to discussion, dialogue, and debate. While even a sympathetic reader might have found this skepticism of text hyperbolic prior to the emergence of ChatGPT, many educators are now experiencing the ambiguity Ellul describes firsthand. Indeed, I have heard numerous anecdotal accounts (and seen some scholarly discussion; see Mariano *et al*., 2024) of instructors adopting in-class written assignments and oral exams to prevent students' use of generative AI tools. Ellul's ideas may also be helpful in the context of practicing and teaching a productive data skepticism; indeed, D'Ignazio and Klein (2020) note that etymologically, the word *data* serves a rhetorical purpose of converting "otherwise debatable information into the solid basis for subsequent claims" (p. 10), echoing the self-evidence Ellul attributes to *facts*. Similarly, Ellul's (1964) apprehension about 20th century efforts to bring "into the statistical realm measures of things hitherto unmeasurable" (p. 168) prefigures 21st century concerns about "the widespread belief that large data sets offer a higher form of intelligence and knowledge that can generate insights that were previously impossible" (boyd and Crawford, 2012, p. 663).

An Extended Example: Comparing Wikipedia and AI Chatbots

In this extended example, I use Ellul's framework of *facts* vs. *truth* to critically compare two technologies used in education: AI chatbots and Wikipedia. This example is inspired by a defense of AI chatbots that I once heard. A colleague conceded that these tools were known to

produce factually incorrect information but argued that Wikipedia had once been distrusted for similar reasons. Just as skepticism of Wikipedia has diminished (if never disappeared) with the platform's evolution and with changing social acceptance, my colleague argued that early skepticism about AI chatbots would also diminish (if never disappear), and more instructors would become comfortable with them as carefully employed educational tools. Despite my great respect for this colleague, this argument has never sat well with me. For example, van Dijck notes that "Wikipedia is the only nonprofit, nonmarket platform in the top ten of ranked Internet sites" (van Dijck, 2013, p. 143), a list that still includes Wikipedia but has since added the privately-owned ChatGPT (McCurdy, 2025). When we consider educational technologies beyond a limited focus on technical affordances (see van Dijck and Poell, 2018), questions of ownership and governance matter. Furthermore, Ellul's epistemological distinction between *reality* and *truth* draws attention to additional differences between Wikipedia and AI chatbots that are particularly important in the context of teaching and learning. Let us again consider an example from Elon Musk.

In October 2025, Musk announced the launch of "Grokipedia," which he described as "a massive improvement over Wikipedia" (Rogers, 2025) with a goal of "[t]he truth, the whole truth and nothing but the truth" (Hart and Welle, 2025, para. 1). As of August 2026, it is unclear whether the project is still active and functional (see DiResta & Robertson, 2026), but this only makes Grokipedia a more compelling example of these ideas. While Musk's replacement of "Wiki" with "Grok" for his alternative platform is undoubtedly a question of branding, it also highlights one of the major differences between the two platforms. Although it is now overwhelmingly associated with Wikipedia, the term "wiki" is more general, referring to a document or collection of documents that can be collectively composed and edited. In contrast,

besides the portions that were obviously copied from Wikipedia, it was not entirely clear on launch where Grokipedia content came from, though each "article also claims to have been fact-checked by Grok, xAI's AI chatbot" (Hart and Welle, 2025, para. 2). While not initially present, Grokipedia eventually launched a function allowing readers to propose edits (Hart, 2025; however, see also DiResta & Robertson, 2026). Unlike a Wikipedia user, who can typically make direct edits to any article on that platform (which may then be reviewed and debated by other human editors), a Grokipedia user can only propose changes, and it is the Grok chatbot that evaluates and acts on those proposals.

Although Musk has sometimes described the Grok project as "maximally truth-seeking" (see Orland, 2025, para. 4), in Ellulian terms, Grok and Grokipedia both appear to care more about *facts* than *truth*. By way of reminder, Ellul associated *facts* and *reality* with what is (purportedly) self-evident to the extent that it creates an obligation to conform; in contrast, because *truth* is harder to pin down, it requires extended discussion and debate. While Wikipedia's discussion- and debate-driven editing procedures are not without internal or external criticism (see van Dijck, 2013), they reflect an Ellulian epistemology—and even Ellul's defense of *truth* acknowledged difficulties that would not be unfamiliar to Wikipedia editors. In contrast, Grokipedia's careful management of edits to that platform reflects Musk's interests in portraying his views as self-evident and obliging others to conform to them. Early observers noted that Grokipedia often promoted far-right perspectives and that its content was complimentary of its billionaire owner (Hart and Welle, 2025; Rogers, 2025). Similar patterns have characterized the Grok chatbot, which has been observed at various times to discuss alleged "white genocide" in South Africa when asked about other topics (Orland, 2025); make antisemitic observations

(Belanger, 2025b); and seemingly praise Elon Musk's superiority at any task, bizarrely including "drink[ing] piss" (Koebler, 2025, para. 1).

As with the previous extended example, Grok may be an exaggerated case, but it illustrates a broader pattern with generative AI technologies that education researchers must take into consideration. The utility of an AI chatbot is often understood in terms of its ability to provide Ellulian *facts*—purportedly self-evident information that does not seem to require epistemological engagement. While there are also people who use AI chatbots for discussion and debate, this poses its own dangers that we must consider (see, e.g., Belanger, 2025a). However, beyond any inherent-to-a-medium gap between purported self-evidence and actual fallibility, Grok demonstrates how companies developing AI chatbots may have incentives to push self-evidence in a particular direction. For example, Maiberg (2025) has documented how Anthropic has faced pressure to demonstrate that its AI models are not politically incompatible with the Trump administration's priorities, and OpenAI's insistence that its new ads "do not influence the answers ChatGPT gives you" (Bonifield, 2026, para. 1) reflect a recognition that an advertising scheme *could* very much influence a chatbot's behavior. While *open weights* AI models give users more control over the outputs they receive, thereby reducing any corporate influence, this control comes with dangers of its own; indeed, many of the *nudifier* apps and platforms previously discussed in this paper rely on open-weighted models (Wagner and Cetinic, 2025).

When examined through an Ellulian lens, Wikipedia is quite different than AI chatbots in terms of its educational potential. Both may be go-to sources for quickly looking up information, and both may deliver information that is factually incorrect, but considering Ellul's distinction between *facts* and *truth* helps us make a more thorough comparison between the two. When faced with an error on Wikipedia, a user typically has the possibility to correct that error, and the

Wikipedia community has developed epistemological values and editing processes that encourage (or require) careful consideration of outside sources as well as debate and discussion among human users. While it is likely that many learners do not understand this and outright unlikely that many of them participate in Wikipedia practices, the mere availability of these possibilities makes this platform much more *truth*-oriented than an AI chatbot, which may embed "potential biases within model behavior rather than exposing them to scrutiny" (Mohammadi & Yasseri, 2026, p. 3)

Conclusion

Theoretical frameworks are useful for education researchers for the way that they guide our attention to certain questions and phenomena. As researchers and others consider artificial intelligence in education, the frameworks that we use will necessarily shape those considerations; different frameworks will frame our questions and influence our answers in different ways. While there are many frameworks that may be helpful for critically evaluating AI tools in education, I have used this paper to argue that the work of Jacques Ellul can be useful for the specific ways that it shapes the direction of our inquiry. In particular, I have demonstrated how Ellul's writing on *technique* invites us to consider broader and more interconnected phenomena than just a single artificial intelligence tool at a time; likewise, I have shown how his skepticism of *facts* can be used to evaluate epistemological assumptions and be more critical about media.

Of course, these are not the only subjects that Ellul wrote on, and other aspects of his work may also be helpful for guiding our scholarly inquiry in other ways. For example, Ellul (e.g., 1965, 1980c) frequently refers to the autonomous and self-directed nature of *technique*. This aspect of his work could help us draw attention to the question of agency in the adoption of

artificial intelligence: What factors have allowed (or, perhaps, constrained) the imposition of AI technologies on learners, teachers, and other stakeholders within education? Conversely, Ellul did not believe in full technological determinism and maintained that individuals, organizations, and societies were not irreversibly destined to develop or employ any given technology. To what extent, then, is his *ethic of non-power* (Ellul, 1980a, 1980b, 2024) relevant in this context?

Of course, this paper is primarily an invitation for more work to be done in this area. Future scholarship can elaborate on the many examples that I have only briefly entertained here, using an Ellulian lens to critically evaluate some of the many important questions related to artificial intelligence and education. Likewise, other papers can introduce some of the other elements of Ellul's thinking that I have not been able to introduce here. While many frameworks will be helpful as we answer critical questions about the intersection of technology and education, Ellul's lengthy and varied career provides several starting points around which to organize our investigations.

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