# Reframing Ethics as Design and Decision Making: Introduction and Overview of Applied Ethics for IDT

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Although ethics featured prominently in early literature in the instructional design and technology (IDT) field, as represented by classics curated by Ely & Plomp, it has been a long-neglected area of scholarship. More recently, however, we are witnessing a great expansion of work in this area, as scholars raise attention to issues such as data rights and privacy, accessibility, and even societal impacts of educational technologies such as systemic inequities, erosion of personal rights, and environmental impacts both from energy consumption and from over-sold hardware with toxic components ending up in landfills. In this collection, we seek to center the work of many scholars exploring various aspects of this multi-faceted topic as essential to the work we do as professionals – both as professional scholars and as professional practitioners. We also seek to encourage broader future scholarship and support the integration of ethics into IDT curricula and training through an open collection. Finally, we also seek to encourage an approach to ethics that is not an over-simplified dichotomy of “right” and “wrong” but rather as dimensions of the IDT design process and inherent in the problems and projects we work on, requiring quintessential IDT skills of analysis and synthesis to devise solutions that account for a range of impacts of professional practice. To that end, we have invited authors whose work extends scholarship on IDT ethics and focuses on the ethical considerations, including the social impacts, of our work.

## Ethics for IDT: A Long-Neglected Gap

Definitions of the instructional design and technology (IDT) field have long included ethics, such as the 1977 definition that emphasized educational technology as situated in the larger context of society, advocating for being a “concerned profession” about the uses and applications of technology in learning contexts (Ely & Plomp, 1996). That definition had 16 parts, two of which focused on ethics – parts 9 and 11. Part 9 focused on the need for a professional association to “develop and implement the standards and ethics, leadership, and training and certification characteristics of the profession” (Ely & Plomp, 1996, p. 13). Part 11 stated that “Educational technology operates within the larger context of society” and further advocated that the profession is one “concerned about the uses to which its techniques and applications are being put,” articulating positions against stereotyping in materials and in support of intellectual freedom, affirmative action, and using technology in support of “humane and life-fulfilling ends” (Ely & Plomp, 1996, p. 13). The 2004 definition established ethics as a co-equal companion to research and technique, defining educational technology as “the study and ethical practice of facilitating learning and improving performance by creating, using, and managing appropriate technological processes and resources” (AECT, 2004, p. 3).

In the curated readings in Ely & Plomp’s Classic Writings in Instructional Technology that captured early conversations on the formation of the IDT profession, several authors raised ethical and social issues and professional responsibility as essential considerations and features that distinguished a profession. Davies, for example, argued that:

“Technology, contrary to popular belief, is not necessarily confined to the means (sic) by which educators realize their ends. Technology also raises anew questions about the nature of the ends themselves. It forces us to reflect on the morality of what we are about, by its very insistence on defensible choices. By opening up the range of possibilities, technology in and of education has caused us to reflect upon, and sometimes to reconsider, the manner in which selections are made, as well as the purposes for which they are being considered. In other words, the very richness of alternatives now available to us, together with potential for increased effectiveness, forces us to reflect on the ethical nature of what we have in mind. Unfortunately, the deep satisfaction, sense of creativity, and feelings of accomplishment that can be expressed in the doing of educational technology are too often preferred to the related, but very different, pleasures of contemplating educational technology. Yet contemplation and responsibility go hand in hand, one without the other is meaningless.” (Davies, 1996, p. 15-16, emphasis in original)

Davies further argued that the field should not only develop techniques but also engage in continual contemplation and reflection on the nature of technology and the work of the professional in learning and educational contexts. He asserted, “What is ‘best’ is not only a technological question but also an ethical one. A defensible choice, at the very least, involves addressing both of these issues” (1996, p. 16), concluding that the ability to make choices involving a range of technological alternatives was of increasing importance to both the theory and practice of education. In that same collection, Finn (1996a, reprinted from 1962) similarly argued that philosophical inquiry about the nature of ends and means was central to IDT’s status as a profession, as technology demands we be able to answer questions such as what is desirable and why, and what makes the pursuit of technology in education worthwhile (Finn (1996b, reprinted from 1953) also laid out six criteria to define educational technology as a profession, the fifth of which was a series of standards and a statement of ethics which is enforced.

The same concern over the worthwhileness and professionalization of the field also motivated the work of Kaufman, who argued that:

“We are not in a vacuum, and our results are seen and judged by those outside of the schools – those who are external to it. … This external referent should be the starting place for functional and useful educational planning, design, implementation, and evaluations – if education does not allow learners to live better and contribute better, it probably is not worth doing” (1996, p. 112)

Kaufman evolved his work over the years into a planning model, starting with societal impact and aligning desired societal impact into operational and tactical planning and evaluation (2000).

## The “Ethics Boom” That Wasn’t for IDT

Despite the centrality of ethics in the definitions and conceptualization of our work as a profession, for many decades, ethics was a dramatically under-developed topic in the literature (Moore & Ellsworth, 2014) and has been absent in instructional design and technology models (Moore, 2021). In the Seels and Richey definition published in 1994, only a page and a half were dedicated to ethics in the profession, despite its persistent presence in the field’s historical definitions. Their discussion was mainly devoted to copyright and fair use, which are more accurately considered legal considerations emphasizing compliance with rules. The 2004 revision to the definition resulted only in some updates to the code of ethics maintained by the Association for Educational Communications and Technology (AECT). The primary work of ethics in IDT centered around the creation and maintenance of a code of ethics, which originally focused primarily on individual behavior and became increasingly situated in the context of the AECT organization rather than integrating ethics into central methods and techniques or supporting practitioners in contemplative practice, regardless of their organizational membership.

During this same timeframe, other fields experienced what Davis (1999) described as an “ethics boom” as they confronted national scandals, technological advances, and public issues with professional conduct. Medicine started integrating ethics into their curricula as physicians increasingly faced ethical dilemmas, such as whether to invest in a new, expensive technology that could save the most critically ill patients or spend that same money instead on a clinic that could serve more people. The Watergate scandal in the United States, where lawyers advised a president on and aided in the cover-up of a break-in, forced the legal profession to re-examine their professional standards, leading to the American Bar Association mandating ethics courses in law programs. Engineering soon followed suit as bribery scandals involving civil engineers and falsified testing records for airbrakes supplied by B.F. Goodrich to the Air Force led to calls for changes to the preparation of professional engineers. Other professions have also considered ethics an essential part of the professional curriculum for practitioners for over three decades (Davis, 1999). In 2005, Moore documented that similar integration of ethics into IDT programs in the US and Canada had not taken place yet, situating IDT as lagging behind the developments in other disciplines.

These drivers led not only to curricular changes in other disciplines but also changes in how these other fields approached ethics. Instead of emphasizing ethics as purely a philosophical pursuit or a matter of compliance with rules, each of these fields sought to define what constituted “practical ethics” or “applied ethics” for their field. This approach differs greatly from requiring students to learn different philosophies or limiting emphasis to a code of ethics. In engineering, for example, Whitbeck (1996) coined the term “ethics as design” and argued that treating ethics as a form of evaluation or judgment misses the myriad of ways ethical problems are similar to design problems and are an embedded feature of engineering design. Engineering also has developed frameworks for embedding ethics in the work of professionals. For example, the IEEE publication Ethically Aligned Designed does not focus on a code of ethics but instead contemplates the ethical and social dimensions of intelligent and autonomous systems and aims to support engineers in embedding ethical considerations (such as personal data rights, individual control, and well-being) as parameters and constraints that shape the development of such systems.

In IDT, Yeaman et al. (1994) sought to expand AECT’s code of ethics beyond individual behavior to incorporate social responsibility of the profession. They observed at the time that the field lacked any incorporation of ethics into research and practice, stating, “there is definitely nothing wrong with liking and advocating educational technology. It is good to find better ways of doing things. Nevertheless, it is important that better should include the qualities of being ethical and more humanizing” (1994, p. 12). However, any resulting work on ethics remained confined to edits of the AECT code of ethics.

Moore (2021) documented how that code of ethics has failed to translate into any models representing IDT practice and techniques, revealing a significant gap between the code of ethics and what is taught and modeled as professional practice. This is not surprising, as research on codes of ethics routinely demonstrates their failure to translate into practice (Boatright, 2013; McNamara et al., 2018). Guersensvaig (2021) observed that codes reflect a normative approach to ethics and can fail to account for multiple perspectives and contextual factors that influence their application in practice. He argued that professional ethics are “a larger endeavor” than codes and are “open to substantiated disagreements emanating from the multiple perspectives that may participate in the discipline” (2021, p. 51). That “larger endeavor” can be seen in recent trends in professional ethics – especially in technology- and design-oriented disciplines, such as the engineering examples cited above – that focus less on codes, philosophy, or individual moral development and more on the applied and practical nature of ethics as embedded in professional practice. Ethics have been reframed as a form of design where synthesis is essential in addressing broader social problems and ethical issues in practice (Whitbeck, 1996) and as a form of reflective practice where interrogation and analysis inform solutions that professionals creatively devise (Moore & Tillberg-Webb, 2023; Lachheb et al., 2023; Moore et al., 2024).

## An Emergent Ethics Boom in IDT

Despite multiple attempts to reinvigorate the ethics discussion in IDT (Yeaman et al., 1994; Yeaman, 2006, 2013, 2015), the recent proliferation of advanced technologies has triggered active discourse around ethical considerations. While the issues are not new, affordances from and access to technologies such as learning analytics, proctoring solutions, and artificial intelligence for education (AIed) add a new dimensionality to previous conversations. Prinsloo and Slade (2013; also Slade and Prinsloo, 2013) and Pardo and Siemens (2014) initiated conversations on ethics and privacy issues as learning analytics prompted concerns about data rights, security, dignity, and integrity. Similarly, the 2016 special issue of Educational Technology Research & Development dedicated to the ethics and privacy in learning analytics (Ifenthaler & Tracey, 2016; Willis et al., 2016; Scholes, 2016; West et al., 2016; Lawson et al., 2016) was among the first special issues in a journal to host a focused conversation on ethical issues. Work on various aspects of privacy and learning analytics continues today as evidenced by the work of Blackmon and Moore (2020), Jones (2019) Marshall and colleagues (2022), and Lachheb and colleagues (2023). Underlying these technological enhancements, societal and cultural shifts also contribute to the renewed interest in ethical concerns with social, political and cultural ramifications.

While inequalities at all education levels existed before the pandemic, the mass shift to emergency remote teaching (Hodges et al., 2020) catalyzed attention regarding other types of ethical issues in IDT. Largely driven by the increased use of online learning platforms that often exacerbated existing inequalities, a Pew Research Center survey in the United States found that 36% of teenagers from lower-income households did not have access to a computer at home and were unable to complete schoolwork (Vogels et al., 2020). If not for cell phones or public wifi, an even more of the lower income students would not have been able to complete their school work. A closer examination of the racial disparities reveals that black and Hispanic families were more likely to experience dilemmas, being less likely to be able to work while children were required to engage in at-home, online learning (Gould & Shierholz, 2020). Unfortunately, schools and universities suspended or significantly reduced accessibility accommodations and considerations during emergency remote teaching (Becker et al., 2020; Custodio, 2020).

The confluence of rapid technological advancements and the height of critical pandemic reflection has produced more publications and discourse on diversity, equity, and inclusion. Recognizing the immediate and broader implications, the Journal of Applied Instructional Design published three special issues on diversity and inclusion (2021), accessibility and UDL (2022), and social justice and change (2023). Several manuscripts promote adapted ADDIE processes that integrate diversity, equity, and inclusion (DEI) or refocus instructional design on inclusivity (e.g., Collier, 2020; Gamrat et al., 2022). Additionally, several teaching and learning centers launched repositories, resources, and workshops or institutes on integrating diversity and inclusion considerations into technology selection and use, pedagogy, and assessment. For example, the University of Rhode Island’s Office for the Advancement of Teaching and Learning (n.d.) provides resources for designing assignments, peer observation, teaching online, and how to approach technology, teaching, and AIEd. Similarly, San Francisco State University’s Center for Equity and Excellence in Teaching and Learning (n.d.) engages faculty participants in a self-paced online course about teaching writing based on pedagogies for inclusive excellence.

The field of IDT has reached a tipping point regarding ethics in practice. Moore and Tillberg-Webb (2023) published the first textbook on ethics and educational technology, advancing an ethical framework focused on reflection, interrogation, and design. Their framework also takes a socio-technical approach to educational technology, acknowledging the social, cultural, and other value influences on technologies. In other words, technologies are both developed and applied in social, cultural, and political contexts that influence decisions on design, selection, implementation, and evaluation. Moore and Tillberg-Webb distilled their book down into a chapter in the most recent Trends & Issues book (Rieser & Carr-Chelman, 2024) along with specific strategies for how designers can embed ethics in practice. This chapter marks a shift in the discourse, as it replaced a previous chapter approaching ethics as compliance with rules. Their framework components emphasize how designers engage in different types of reflection, such as reflection-in-action and reflection-after-action (Schön, 1983). Additionally, the framework invites users to engage in a critical analysis of technologies to better identify harms that inform design, selection, implementation, and evaluation decisions and outcomes. The works by Moore and Tillberg-Webb turn attention away from ethics as compliance with codes and regulations toward a broader concept of professional ethics as a form of design and a function of practice with pragmatic implications.

## Ethics as Professional Practice

A community of scholars and body of scholarship on applied ethics in IDT is clearly emerging. These emergent bodies of scholarship do not emphasize maintaining and adhering to codes but rather take a design-oriented approach to addressing ethical issues. Reframed this way, ethics function as design considerations and constraints that influence decisions and artifacts, whereby designers do “ethics by other means” (Verbeek, 2006). Whitbeck argued that ethics are too often confined to the role of judgment or evaluation when, in fact, ethics require synthesis. She explained that both ethical problems and design problems are very similar: for both, there is rarely one unique or perfect solution, and instead, there is a range of possible solutions. Those possible solutions balance trade-offs differently, and individual designers will vary in how they balance and frame these issues, thus deriving different solutions (Svihla, 2020).

The range of possibilities and the variation between individuals based on their values, priorities, ethical perspectives, processes, and so on reflect the very sort of intellectual and ethical diversity described by Guersensvaig (2021). Rather than “the judge’s perspective” where blame is assigned for failures and solutions are characterized in absolute “right” or “wrong” terms, ethics reframed through the lens of design focuses instead on how practitioners creatively devise solutions to complex learning problems that include ethical and moral dimensions and to complex moral and ethical problems that include learning dimensions (Whitbeck, 1996). Furthermore, this approach recognizes that ethical considerations can be in conflict or tension with one another, requiring designers and practitioners to devise possible options the same way they navigate other design constraints and parameters.

## In This Book

We are very excited about the contributions to this book. As we read each submission and saw the book come together as a cohesive set of works, we were increasingly excited about the discourse, frameworks, and insights represented in this volume. The conversation begins in the first section with a focus on integrating ethics into design and decision-making processes and practices. These authors support an applied approach for IDT across different contexts. Gray lays a rich foundation for the entire book, starting with the idea of instructional designers as ethical mediators. They state, “design is an ethical act” and help us see design anew as a method we use to change current realities into desired realities. They explore how designers incorporate values into design processes, artifacts, and outcomes and how being an “ethically aware” designer can better support one’s ability to confront the ethical dimensions inherent in professionals’ work with technology. Warren et al. then present a decision-making support tool – the Ethical Choices with Educational Technology (ECET) framework – specifically developed to support teachers in K-12 contexts. They developed their tool by working directly with teachers as key stakeholders to derive a teacher-friendly approach to incorporating ethical considerations into technology selection and classroom use. Stefaniak then tackles the documented shortcomings of instructional design models and their persistent prior failures to incorporate systemic impacts. She proposes an overlay for instructional design models to support ethical decision-making that also embodies the non-linear and iterative nature of design, providing very practical insights into how instructional designs can embed ethics into practice. Finally, Moore and Tillberg-Webb draw upon their framework of reflection, interrogation, and design to identify specific design practices designers can use to integrate ethics into everyday design. They explore ethics as a form of reflection-in-action, problem framing, ethical analysis, design philosophies, and stakeholder involvement as an “ethics-in-design toolkit” with specific examples and tips for designers. These chapters could each be easily incorporated into instructional design courses, workshops, and team projects to “overlay,” as Stefaniak envisions, ethics onto design methods and activities.

In the book's second section, we delve into specific ethical issues such as environmental impacts, racial and cultural considerations in design, justice, and rights for data use and analytics, and navigating ethical considerations of learner autonomy in online learning. Warren and colleagues offer much-needed discussion on the environmental impacts of educational technology. Their paper prompts professionals to consider climate change and educational technologies' ecological impacts, which “hides behind product ordering interfaces with simple pricing.” We hope this piece spawns a greatly expanded conversation and body of scholarship with implications for practice and decision-making. Amy Lomellini and colleagues tackle a topic that has long been discussed, but mainly approached through legalistic and compliance orientations. They discuss how this is a limited and limiting approach, inviting instructional designers to approach accessibility through more of a design mindset which embraces the iterative nature of devising solutions.

Edouard’s chapter embodies the spirit of creativity and imagination that ethical considerations can evoke as he explores a makerspace designed to foster the creativity and world-building of racially minoritized learners, especially Black children. His chapter provides a specific example of how ethical considerations – namely of race and equity – directly informed the design, development, and implementation of a makerspace for university and school-aged residents in West Philadelphia in the United States. Greenhalgh then challenges us to move beyond “superficial nod[s] to questions of justice, harm, and power” to explore deeper assumptions about data ethics. He uses four broad questions about purpose (of education and of educational technology), quality, and voice to illuminate ways in which designers can move beyond surface-level treatments of data rights and privacy. Greenhalgh’s piece echoes Davies’ concerns and answers Davies’ call with an example of how we understand the relationship between technology and education and how we can better question how technology shapes education’s purpose and outcomes.

Finally, Scholes exemplifies an ethics-as-design approach as she identifies how strategies that better support adult online learners can also carry risks for learners. She models how designers can identify ethical issues that create tensions - or conflicts between different design parameters – and provides ideas for how designers may navigate the need to make trade-offs through various design possibilities. Although her piece may focus on a particular context and set of design considerations, Scholes’ piece serves as an excellent example of how designers can identify ethical issues in any context and then use design methods and ideas to generate possible solutions. The last chapter in our collection, by Sankaranarayanan and Park, addresses recent concerns and practical approaches to the role of generative artificial intelligence (AI) technologies in instructional design practices. Moving beyond simply naming and identifying concerns, this chapter offers a rich array of practical strategies that designers can employ during different design tasks related to AI, both as a tool supporting instructional design and as a set of decisions on whether and how to use AI in educational contexts.

## Reaching Further

In his poem Andrea del Sarto, Robert Browning writes, “A man’s reach must exceed his grasp / Or what’s a Heaven for?” We wish to close by emphasizing that ethics are not about attaining perfection or not failing to live up to some standard. Instead, it is about our attempts to strive for more and better – they are aspirational. We will certainly fall short of ideals as we endeavor to do better. But we will get much further than if we don’t try to reach for a better vision of human flourishing as it may be enabled by educational technologies. And so, in that spirit, we thank the authors of this volume for helping us as a field and as individual practitioners to reach further and do better. And we invite you, the reader, to join us on this iterative journey of continually endeavoring to do better and reach further. Let’s go!

## References

Association for Educational Communications and Technology (AECT). (2020). The Code of Professional Ethics. Association for Educational Communications and Technology.<https://members.aect.org/Intranet/Publications/ethics/>

Becker, S. P., Breaux, R., Cusick, C. N., Dvorsky, M. R., Marsh, N. P., Sciberras, E., & Langberg, J. M. (2020). Remote learning during COVID-19: Examining school practices, service continuation, and difficulties for adolescents with and ADHD. The Journal of Adolescent Health, 67(6), 769–777.<https://doi.org/10.1016/j.jadohealth.2020.09.002>

Blackmon, S. & Moore, R. (2020). A framework to support interdisciplinary engagement with learning analytics. In D. Ifenthaler and D. Gibson (Eds.), Adoption of data analytics in higher education learning and teaching (pp. 39-52). Springer.[https://doi.org/https://doi.org/10.1007/978-3-030-47392-1\_3](https://doi.org/https:/doi.org/10.1007/978-3-030-47392-1_3)

Boatright, J. (2013). Swearing to be virtuous: The prospects of a banker’s oath. Review of Social Economy, 71(2), 140-165.<https://doi.org/10.1080/00346764.2013.800305>

Collier, A. (2020, Oct. 26). Inclusive design and design justice: Strategies to shape our classes and communities. EDUCAUSE Review,<https://er.educause.edu/articles/2020/10/inclusive-design-and-design-justice-strategies-to-shape-our-classes-and-communities>

Custodio, J. (2020, April 7). Disabled students already faced learning barriers. Then coronavirus forced and abrupt shift to online classes. The Chronicle of Higher Education. Retrieved from<https://www.chronicle.com/article/disabled-students-already-faced-learning-barriers-then-coronavirus-forced-an-abrupt-shift-to-online-classes/>

Davies, I. K. (1978). Educational technology: archetypes, paradigms and models. In J. Hartley and I. K. Davies (Eds.), Contributions to an educational technology, Volume 2. Kogan Page.

Davis, M. (1999). Ethics and the university. Routledge.

Ely, D., & Plomp, T. (1996). Classic writings on instructional technology. Libraries Unlimited.

Finn, J. D. (1953). Professionalizing the audio-visual field. Audio Visual Communication Review, 1(1), 6-17.

Finn, J. D. (1962). A walk on the altered side. The Phi Delta Kappan, 44(1), 29-34.

Gamrat, C, Tiwari, S., and Bekiroglu, S. O. (2022, March 10). INCLUSIVE ADDIE: Initial considerations for DEI pedagogy. EDUCAUSE Review,<https://er.educause.edu/articles/2022/3/inclusive-addie-initial-considerations-for-dei-pedagogy>

Gould, E., & Shierholz, H. (2020, March 19). Not everybody can work from home. Economic Policy Institute. Retrieved from<https://www.epi.org/blog/black-and-hispanic-workers-are-much-less-likely-to-be-able-to-work-from-home/>.

Guersenzvaig, A. (2021). The goods of design: Professional ethics for designers. Rowman & Littlefield.

Hodges, C., Moore, S., Lockee, B., Trust, T., and Bond., A. (2020, March 27). The Difference Between Emergency Remote Teaching and Online Learning. EDUCAUSE Review.<https://er.educause.edu/articles/2020/3/the-difference-between-emergency-remote-teaching-and-online-learning>

Ifenthaler, D. and Tracey, M. (2016). Exploring the relationship of ethics and privacy in learning analytics and design: Implication for the field of educational technology. Educational Technology Research & Development, 64(5), 877-880.

Kaufman, R. (1996). Needs assessment: Internal and external. In D. Ely & T. Plomp (Eds.), Classic writings on instructional technology (pp. 111-118). Libraries Unlimited, Inc.

Kaufman, R. (2000). Mega planning: Practical tools for organizational success. Sage Publications.

Lachheb, A., Abramenka-Lachheb, V., Moore, S., & Gray, C. (2023). The role of design ethics in maintaining study privacy: A call to action to learning designers in higher education. British Journal of Educational Technology.<https://bera-journals.onlinelibrary.wiley.com/doi/10.1111/bjet.13382>

Lawson, C., Beer, C., Rossi, D., Moore, T., and Fleming, J. (2016). Identification of “at risk” students using learning analytics: The ethical dilemmas of intervention strategies in a higher education institution. Educational Technology Research & Development, 64(5), 957-968.

McNamara, A., Smith, J., & Murphy-Hill, E. (2018, October). Does ACM’s code of ethics change ethical decision making in software development? In Proceedings of the 2018 26th ACM joint meeting on European software engineering conference and symposium on the foundations of software engineering (pp. 729-733).<https://doi.org/10.1145/3236024.3264833>

Moore, S. (2021). The design models we have are not the design models we need. The Journal of Applied Instructional Design, 10(4).<https://dx.doi.org/10.51869/104/smo>

Moore, S. L., & Ellsworth, J. B. (2014). Ethics of educational technology. In J. M. Spector, M. D. Merrill, J. Elen, & M. J. Bishop (Eds.), Handbook of research on educational communications and technology (pp. 113–127). Springer.

Moore, S., Hedayati-Mehdiabadi, A., & Law, V. (2024). The change we work: Professional agency and ethics for emerging AI technologies. TechTrends, 68, 27–36.<https://doi.org/10.1007/s11528-023-00895-1>

Moore, S. L. & Tillberg-Webb, H. (2023). Ethics in educational technology: Reflection, interrogation, and design as a framework for practice. Routledge / Taylor & Francis.

Moore, S. & Tillberg-Webb, H. (2024). Professional ethics: Design practices for an embedded approach. In R. Rieser and A. Carr-Chelman (Eds.), Trends and Issues in Instructional Design and Technology, 5th ed.

Pardo, A. and Siemens, G. (2014). Ethical and privacy principles for learning analytics. British Journal of Educational Technology, 45(3), 438-450.<https://doi.org/10.1111/bjet.12152>

Prinsloo, P. and Slade, S. (2013). An evaluation of policy frameworks for addressing ethical considerations in learning analytics. Proceedings of the Third International Conference on Learning Analytics and Knowledge, 240-244.<https://doi.org/10.1145/2460296.2460344>

Rieser, R., Carr-Chelman, A., and Dempsey, J. (2024). Trends and issues in instructional design and technology, 5th ed. Routledge.

San Francisco State University Center for Equity and Excellent in Teaching and Learning. (n.d.). Justice, equity, diversity and including writing PIE.<https://ceetl.sfsu.edu/justice-equity-diversity-and-inclusion-writing-pie>

Scholes, V. (2016). The ethics of using learning analytics to categorize students on risk. Educational Technology Research & Development, 64(5), 939-955.

Schön, D.A. (1983). The reflective practitioner: How professionals think in action. Basic Books.

Slade, S. and Prinsloo, P. (2013). Learning analytics: ethical issues and dilemmas. American Behavioral Scientist, 57(10), 1510-1529.<https://doi.org/10.1177%2F0002764213479366>

Svihla, V. (2020). Problem framing. In J. K. McDonald & R. E. West (Eds.), Design for learning: Principles, processes, and praxis. Retrieved from EdTech Books.<https://edtechbooks.org/id/problem_framing>

University of Rhode Island Office for the Advancement of Teaching and Learning. (n.d.). Teaching with justice, equity, diversity, and inclusion.<https://web.uri.edu/atl/teaching/deij/>

Verbeek, P.-P. (2006). Materializing Morality: Design Ethics and Technological Mediation. In Science, Technology & Human Values (Vol. 31, pp. 361–380).<https://doi.org/10.1177/0162243905285847>

Vogels, E., Perrin, A., Rainie, L., & Anderson, M. (2020, April 30). 53% of Americans say the internet has been essential during the COVID-19 outbreak. Pew Research Center. Retrieved from<https://www.pewresearch.org/internet/2020/04/30/53-of-americans-say-the-internet-has-been-essential-during-the-covid-19-outbreak/>

West, D. Huijser, H., and Heath, D. (2016). Putting an ethical lens on learning analytics. Educational Technology Research & Development, 64(5), 903-922.

Whitbeck, C. (1996). Ethics as design: Doing justice to moral problems. The Hastings Center Report, 26(3), 9-16.

Willis, J.E., Slade, S., and Prinsloo, P. (2016). Ethical oversight of student data in learning analytics: A typology derived from a cross-continental, cross-institutional perspective. Educational Technology Research & Development, 64(5), 881-901.

Yeaman, A. R. J. (2006). Scenarios and principles. TechTrends, 50(2), 10-11.

Yeaman, A. R. J. (2013). Annotated scenarios. TechTrends, 57(4), 14-16.

Yeaman, A. R. J. (2015). Scenarios for learning about AECT’s Professional Ethics.<https://www.aect.org/docs/Scenario_Annotations_2015.pdf>

Yeaman, A., Koetting, R., & Nichols, R. (1994). Critical theory, cultural analysis, and the ethics of educational technology as social responsibility. Educational Technology, 34(2), 5-13.

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