# Professional Ethics for LIDT as Reflection, Interrogation, and Design

Moore, S. L., Tillberg-Webb, H. K., Lachheb, A.

Professional ethics are reflected in the design decisions we make. They arise in our considerations of how decisions will impact individuals and the environment, as well as organizations we serve with our learning and instructional design work. In this chapter, we argue the importance of ethics in the learning and instructional design and technology (LIDT) field, for newcomers and current practitioners alike. Cognizant of how ethics are often discussed in terms of codes of conduct, we first problematize a disconnect and some limitations of the codes-based approaches. We then offer a different way to think about professional ethics in LIDT by advancing an approach that reframes professional ethics as three central practices: reflection, interrogation, and design. We offer practical designerly tools for ethics that LIDT practitioners can use to support the integration of ethics into design work and technology decision making. These three practices—reflection, interrogation, and design—offer fresh ways to think about professional ethics and professional practice. By reframing ethics, we can turn them into parameters and specifications that can then be folded into learning technology designs, artifacts, projects and decision making.

While professional ethics are often discussed in terms of codes of conduct, we want to offer a different way to think about professional ethics in learning and instructional design and technology (LIDT). In *The Goods of Design*, Guersenzvaig (2021) questioned whether professional codes of ethics or codes of conduct are really the best way to frame or integrate ethics into practice. He stated, “Codes of ethics and codes of conduct are documents that lay down guidelines for recommended, required, or forbidden behavior, but they are not the same as professional ethics” (2021, p. 54). He argued instead that professional ethics are “a larger endeavor that is open to substantiated disagreements emanating from the multiple perspectives that may participate in the discipline” (2021, p. 51).

Other moral philosophers, such as Ladd, go even further, calling codes of ethics an “intellectual and moral absurdity” (1998, p. 211) because codes of conduct use ethics as a normative tool that emphasizes a compliance orientation. Ladd argued that this robs individuals of their moral agency. Guersenzvaig countered that even when a code of ethics is available—as we have in LIDT (see resource at the end of this article)—professionals still must exercise a great deal of agency both in interpreting any such codes and in applying these ideas to complex and open-ended ethical considerations. In authentic practice, professional designers and technologists still need to be able to identify ethical dimensions of a given project, situation, or context, then decide how they apply their ethical perspectives to their work. Several studies also indicate that codes of ethics do not impact actual practice (c.f. Boatright, 2013; McNamara et al., 2018), and in the field of LIDT, Moore (2021) observed a disconnect between codes of ethics in LIDT and design models that represent practice.

To address this disconnect and some of the limitations of a codes-based approach, we advance an approach that reframes professional ethics in LIDT as three central practices: **reflection, interrogation, and design** (Moore & Tillberg-Webb, 2023; see Figure 1). These core practices better situate professional ethics in a context of application and offer fresh ways we can think about both professional ethics and professional practice.



In LIDT, several historical articles that aimed to define the field, curated in Ely and Plomp (1996), emphasized the importance of ethics and ethical considerations in addition to the importance of developing professional methods. These authors argued for having a professional code of ethics but also urged continual reflection on the ethical implications of educational technology as a form of professional responsibility. Their ideas on professionalization of the field can serve as a foundation for framing ethical practice as reflection, questioning, and design. In the following sections, we will revive the arguments from these foundational authors. Key ideas from these writings help to lay the groundwork for reflection, interrogation, and design as a framework for professional ethics in instructional design and technology.

## Professional Ethics as Reflection

The philosopher Pauline Shanks Kaurin defined ethics as the process of “reflection, critical questioning, justification, argumentation, and application of moral beliefs, ideas, and systems” (2018, para. 4). This emphasis on ethics as a process rather than as a statement or set of beliefs/standards is helpful. Rather than thinking about ethics as a set of philosophies one must study or codes to which one must adhere, a more useful approach—especially for a design- and technology-oriented discipline—is to think of ethics as a process for reflection, questioning, and application.

As early educational technology researchers encountered the range of possibilities introduced by new media, they also cautioned about the careful analysis, planning, and reflection that should inherently be part of the incorporation of new technologies into instruction. Davies wrote, “while technology expands the range of creative possibilities and choices, it also makes it more difficult to foresee the full consequences of the choices made and the actions taken” (1996, p. 15; originally published in 1978). He argued that the options presented by technology require contemplation and reflection, particularly in relation to how that technology is being used to solve a specific, well-defined problem. He noted that this often contradicts the enjoyment that many practitioners find in the “doing” of design and educational technology.

If you are new to the field of instructional design, you may have enrolled in a course on instructional design, expecting to immediately delve into design and development phases of a project. It can be disorienting to instead spend a significant amount of time engaging in needs analysis phases and to conduct learner, contextual, and task analyses. However, careful considerations of the instructional problem, the needs of the learner, the parameters of the context, and the specifics of the performance task ensure appropriate contemplation of the problem. As part of that process, designers also need to consider potential harms and benefits, both for individuals as well as more systemic impacts, and devise solutions that aim to maximize benefits and minimize harms. These professional methods and the embedding of ethical reflection into those methods are hallmarks of professional practice.

### The Reflective Practitioner

Thinking of ethics as a reflective process meshes well with Schön’s (1983) idea of the reflective practitioner. A reflective practitioner is a professional who continuously incorporates lessons learned from past decisions and experiences to inform present decisions to improve future outcomes. Schön’s concept of the reflective practitioner, described in his book by the same name, emphasized reflection as a cornerstone of professional design practice. Schön argued that reflection can occur mid-action and not just after an action has occurred. In fact, when Schön described reflection, he was primarily concerned with reflection-*in*-action, not just reflection-*after*-action. During the process of confronting a problematic situation, including problem setting and the various phases of the design process, designers typically engage in an iterative conversation with the situation or problem, throughout the design process. Tracey and Baaki (2014) described what reflection-in-action looks like for designers:

“When a designer is presented with a complex problem or situation, the designer shows a series of questioning, making a decision, reflecting on the consequences of the decision, then making another move” (p. 4).

This iterative reflection-in-action is central to professional ethics in LIDT. Understood this way, ethics become a specific form of reflection-in-action in which we ask particular types of questions and reflect on decisions during different design phases and tasks (which of these you engage in may vary depending on your job or role). Moore and Griffin (2022) suggested that by merging Kaurin’s definition of ethics as a reflective process with Schön’s idea of the reflective designer, we can begin to see how ethics can become embedded in the design process. *Embedded ethics* thus become a form of reflection-in-action, affording many opportunities for ethical reflections to be integrated into every phase of the design process.

For example, at the beginning of a design effort, designers can reflect on the nature of the problem they are working on, something Schön (1983) called “problem setting” and Svihla (2020) called “problem framing.” Svihla defined problem framing as when a designer acts “to take ownership of and iteratively define what the problem really is, decide what should be included and excluded, and decide how to proceed in solving it” (2020 para. 2) This means that every designer can frame a problem differently. They often do so even if they have not probed their underlying assumptions, perspectives, beliefs and so on to understand how those are informing their problem framing. Because individual designers frame problems differently, they produce different solutions and end up solving different problems. Where one designer may see a technological problem, another designer may see a social justice, equity, or accessibility problem and thus develop different solutions.

### Think About It!

*Embedded ethics: Reflection-in-action*(from Moore & Tillberg-Webb, 2023)

Applying ideas from this chapter:

**Framing** – What can you do as part of a framing exercise for any role, context, or project to incorporate various principles or ethical considerations or standards into the project?

**Questions/Prompts** – What are some key questions you can keep in front of you for any role, context, or project to remind me to consider important ethical dimensions of the project or problem?

**Reflective practice** – What are some reflective practices (reflective writing, critiquing designs, after-action reviews) you can adopt?

**Variations** – What are some practices you might use in one situation but not for another? For example, how might you adapt stakeholder involvement from one project or context to the next?

### LIDT in the World: Using Ethics to Inform Technology Selection and Reflective Practices

Consider one everyday example: selecting tools for learning assessment. One designer or educator may focus on the learning outcomes to be assessed and select a tool based on that framing. Another designer or educator may focus both on learning outcomes and incorporate considerations of equity and privacy; based on that, they may select a different tool because they have framed the problem differently. Ethics as reflection means intentionally reflecting on possible ethical dimensions of the problem space. Doing so is essential to incorporate ethical dimensions into how the problem is framed. Therefore, ethics impact instructional designs and technology selections or implementations.

A nice example of this is Rice’s (2022) study on the use of technologies for special education during COVID-19. The teachers in Rice’s study evidenced reflective practice as they rethought their initial technology selections and uses. One teacher rethought her use of muting features in Zoom and changed it to give students more voice and power. Another had originally turned off chat features but then realized that introduced barriers to asking questions, creating community, and engaging in discussions. Upon reflection, she adapted her use of the tool to make her classroom more open and inclusive.

Moore & Tillberg-Webb (2023) provide some examples of questions that could be asked to incorporate ethical considerations into any technology selection or evaluation process:

|  |  |  |
| --- | --- | --- |
| **Accessibility** | **Data Practices** | **Soft Impacts** |
| Does the vendor embrace accessibility and a commitment to continually improve the product in alignment with accessibility standards?What sort of documentation does the vendor provide on accessibility? Has the interface been tested? If there are interactive features, are those accessible for users to participate in meaning making activites? | Does the vendor provide clear statements about the security of their platform?If you are using an integrated system with any institutional organizational systems, what data is passing between systems, and what level of security is in place?Who will have access to information shared with the tool, and is that clear to ALL users? Will users have a say in what is shared or not? | How will the technology shape or influence how learners and instructors communicate?Does the technology or design potentially have psychological impact on the learner?Are there ways in which the tool's features or design will foster or trigger addictive behaviors? |

Ethical reflection can also be embedded throughout design, development, implementation, and evaluation design phases and activities. For example, Moore and Tillberg-Webb (2023) recommended developing a set of questions that designers could put on a sticky note or a whiteboard to revisit throughout the design and development process. The following are some examples of reflective questions that can prompt embedded reflection:

* Do my choices inadvertently reflect racial or gender stereotypes? Should I redesign the scenario or characters?
* Will the strategies I selected meet the needs of diverse learners, or should I expand my strategy and modality choices to design more inclusive learning environments?
* Will any of the technologies I’ve selected introduce barriers for learners? If so, how can I reduce or remove those barriers through changing my choices, redesigning or modifying a solution, or introducing alternatives?
* How affordable is this solution? Is there a way I could lessen any possible digital divides for the learners I’m working with?
* Are learners empowered to choose what is collected on them and what happens with that data? How can evaluation and/or procurement processes or policies be leveraged to better support learners’ data rights and privacy?

Furthermore, being a reflective practitioner also means better understanding one’s values, interests, background, and beliefs that influence their design activities and their presence as designers in the process. That introspection can encourage practitioners to be more intentional. For example, some designers establish design philosophies for their work or for a project (Gray & Boling, 2016), like articulating a commitment to accessibility and inclusive design as explicit framing for a project or process.

### Think About It!

*Articulate a Design Philosophy*(from Moore & Tillberg-Webb, 2023)

Consider writing down your design philosophy, including personal commitments to certain values or the ethical perspective you adopt in framing your project.

How can you incorporate the perspectives of collaborators and stakeholders from the beginning?

Revisit this periodically to adjust or revise as you reflect and have new insights or change perspectives.

## Professional Ethics as Interrogation

For both reflection and interrogation, the main way to engage is through critical questioning. However, ethics as interrogation leans more into thinking critically about technology. Interrogating technology involves asking critical questions about means and ends and the evolving nature of each as new technologies emerge. It also involves better understanding different views of technology, including how these influence different ethical perspectives on technology and how we can employ analytic frameworks that help us better understand relationships between technologies, societies, and cultures.

### Ends and Means for LIDT

You may have heard the expression, “the ends justify the means” attributed to Machiavelli to justify any action to achieve political outcomes. In contrast, in educational writing, we have a rich history of noting that the means are just as important as the ends, starting with John Dewey. Dewey’s philosophical considerations in education have permeated many educational fields. The majority of his works viewed the relationship between ends and means in education as an ongoing process of interaction and adjustment (Waks, 1999). Dewey believed that education could not only focus on the end but also on the continual process of growth and development, working reciprocally with that end goal.

Considering the relationship between ends and means and contemplating both together is essential to thoughtful practice as a designer as recognized by Finn (1996). In his piece curated in the Ely and Plomp collection, Finn (1996, original published in 1962) called on instructional technologists to “pay more instead of less attention to Dewey on the question of means and ends in education” (1996, p. 51). Finn argued that technology should not be defined as a collection of gadgets, hardware, or instrumentation but instead as “a way of thinking about certain classes of problems and their solutions” (1996, p. 48). This resonates with Davies’ argument that there are three possible archetypes for the LIDT profession—the Audio-Visual archetype, the Engineering archetype, and the Problem-Solving archetype—and that we should arc more towards the latter. While the first two treat technology that will either lead to technical skills or to automate learning and instruction, the third treats technology as a process for solving problems. This requires a focus on and understanding of real problems that should be addressed. Today, Davies thoughts are echoed in contemporary calls for our field to shift from its emphasis on *things* to an emphasis on how we help *solve meaningful problems* (Reeves & Reeves, 2015; Reeves & Lin, 2020).

Another foundational figure in the field—Roger Kaufman—emphasized the importance of distinguishing between "ends" and "means" (Kaufman et al., 1969; Kaufman, 1996, 2000). Kaufman defined ends as the results, impacts, or accomplishments achieved using means; and he defined means as the processes, activities, resources, methods, or techniques used to deliver a result. His framework for educational planning and evaluation emphasized societal impact as the starting point for planning and the end point for evaluation. He argued that “this external referent should be the starting place for functional and useful educational planning, design, implementation, and evaluation—if education does not allow learners to live better and contribute better, it probably is not worth doing” (1996, p. 112, reprinted from 1977).

Thus, the ends of educational technology become the starting point for contemplation. Kaufman defined this as describing the desirable impacts that are articulated as strategic objectives which are then integrated into the rest of the planning or design process. In short, problem framing can start with defining the desired impacts, which should include not only learning outcomes but other types of outcomes as well. Kaufman argued that these impacts happen whether or not we plan or design for them, so it is better to be more intentional and aim towards desired outcomes. Rather than accepting unintended outcomes, we can articulate desired impacts on learners, on systems, on society as objectives that then inform planning and design decisions. One tool we have in practice for articulating desired impacts is the learning objectives; our use of objectives as a mediating tool that frames the problems we solve can be expanded to include desired impacts in addition to learning outcomes.

### Critical Theory for LIDT

A central focus of interrogation in ethical practice relates to the interrogation of technologies and tools. The LIDT field has expanded and continues to do so because of the ongoing emergence of new technologies that necessitate professional methods guided by a focus on learning outcomes and assessments to meet those outcomes. Professional methods in LIDT stand in contrast to the “shiny object syndrome” of a technology-centric approach to instructional solutions, where technology solutions are presented but it is not clear exactly what instructional problem or priority they will solve (see Gibbons, 2003 for more, and available online at https://edtechbooks.org/lidtfoundations/what\_and\_how\_do\_designers\_design). A technology-centric orientation in our profession often drives the inclination to want to try out new software and hardware before knowing whether it will be of value.

To develop professional methods that reorganize the relationships between technology and learning, we have to be able to critically unpack and evaluate underlying beliefs and philosophies toward technology. These philosophical underpinnings regarding how we engage with technology in our field become important background knowledge as we begin to unpack how we interrogate our use of technology. The three major paradigms of thought that inform different ways of thinking about technology, and therefore different ethical perspectives, are **modernism**, **postmodernism**, and **metamodernism**.

The **modernist** perspective towards technology reflects a view of technology as a continual march towards progress. Modernist ideas embrace objective truth, order, structure, rationality, and optimism. Modernism also brought us processes like the assembly line in manufacturing, rigid lines, and a focus on function in architecture. It also brough us constructs like rigor in education. A modernist view of ethics of technology suggests that technology is neutral because it is a derivative of the scientific process. Stemming from a positivist paradigm, modernism assumes that the scientific process is objective and neutral, and that technology is the byproduct of that objective process, so it is therefore not subject to ethical scrutiny. Historically, LIDT has strong modernist influences (see Bradshaw, 2017, 2018), which explains why we have design models that do not explicitly address the messier implications of ethical issues in our designs.

While many models and tools in the field are rooted in modernist ideas, other models arose as reactions to modernism and are influenced by **postmodernism**. For example, learning objectives reflect a modernist idea and are still used, but there is also increased interest in empowering pedagogy in instructional design through active learning and engagement and partnership with learners around the learning experience. Postmodernist thinkers posited that there are multiple subjective, relative truths, which gave rise and voice to new theoretical perspectives such as feminist theory, ecological theory, and post-colonial theory. Postmodernism includes critical questioning of all knowledge, deconstruction, irony, and rejection of grand narratives. Jonassen (2013) identified postmodern critiques that are applicable to educational technology, such as technology as power and a mechanism of control, technoglobalism, and the commoditization of education. You may also be familiar with constructivism, an epistemological framework arising from postmodern thought that posits there is no objective reality or truth, rather that our realities and truths (and therefore our knowledge) are subjectively constructed. In educational environments, the infusion of constructivism has influenced redefinitions of the role of the instructor, student roles in learning, and our understanding of how learners construct knowledge. In addition, critical theories have helped to interrogate and critique technologies in a way that modernist approaches simply could not.

A more recent philosophical development—**metamodernism**—has arisen to assist with navigating the natural tensions between modernism and postmodernism. Modernism often reflected an unbridled enthusiasm for technology and devolved into optimistic technological determinism. Post-modernism most often reflected critiques of technology, and often devolved into pessimistic technological determinism and irony with no path forward for action. Metamodernism aims to translate the postmodernist critique into a path forward that also resuscitates some of the optimism and sense of action inherent in modernism. Yousef (2017) illustrated how a metamodern stance helps navigate both these philosophical underpinnings, represented in Table 1.

|  |  |  |
| --- | --- | --- |
| Modernism | Postmodernism | Metamodernism |
| Belief in rational thought    Universal values    Unity    Empathy    Accepts grand narrativesPromotes truth and certaintyValues construction    Promotes uniformity    Apolitical    Belief in permanence    Linear thinking | Belief in irrational thought    Local values    Plurality    Apathy    Accepts small narrativesPromotes irony and doubtValues deconstruction    Promotes plurality    Politically oriented    Belief in transience    Circular, rhizomatic thinking | Belief in real things    Ethics    Proliferation    Engagement    Accepts both grand and small narratives    Promotes balance between truth and irony    Values reconstruction    Promotes duality    Socially oriented    Belief in oscillation    Polarities and tensions |

Metamodernism is not a different philosophical approach, but rather an oscillation between modernism and postmodernism, like a pendulum swinging between these approaches (Yousef, 2017).  “Metamodernism oscillates . . . between a modern enthusiasm and a postmodern irony, between hope and melancholy, between naiveté and knowingness, empathy and apathy, unity and plurality, totality and fragmentation, purity and ambiguity” (Vermeulen & van den Akker, 2010, p. 6). Yousef explained that, rather than being dismissive of postmodern ideas, the metamodernist approach uses some of postmodernism’s ideas and critiques, but also expresses a concern for “real, essential issues” (Yousef, 2017, p. 39).

In applying metamodernism to LIDT, Moore (2022) argued that metamodernist framing can help us simultaneously acknowledge the fractures, needs, shortcomings, and inequities in learning technology designs and implementations. Metamodernist framing can help us *also* frame those fractures as “real, essential issues” that require responses and actions, not just critiques and analysis or devolution into nihilism. Engagement in solving real needs or problems becomes a crucial reconstructive strategy, a form of pragmatic idealism. In the words of Le Cunff (2022), “yes the planet is dying, but maybe we can do something” (para. 10). We can both critically interrogate technology along with the power structures and inequities it contributes to, and we can use that understanding to devise solutions to difficult and complex learning needs and problems. This leads to using design as a powerful tool in the metamodernist toolkit, which we further explore below.

One way to balance both critiques and possibilities is to map out potential benefits and potential harms of an existing or emerging technology rather than treat these as design specifications or requirements when maximizing benefits and minimizing harms. One very old example of this is the emergence of writing in education. In *Phaedrus*, Plato originally argued that writing presented too many potential issues and therefore should not be used in the academy (Plato, 370 BC/1990). This represents a rather simplistic approach to critiques that results in binary decisions to accept or reject. In contrast, Quintillian (1990) argued that writing had both potential benefits and potential pitfalls. He argued that it should be used in the academy and described how writing could be used to benefit learners but also when writing should not be used so as to minimize concerning negative impacts.

A much more contemporary approach is exemplified in Scholes (2016) where she outlined potential benefits and harms for learning analytics and identified key principles that can help guide the critique of learning analytics and inform possible solutions and uses. She started with the question of how students are perceived and treated in one’s vision for the technology. Then, drawing on principles of agency, transparency, consent, choice, privacy, and security, she outlined how the use and implementation of learning analytics that might be designed in such a way as to reap the benefits. For example, learning analytics could be used for purposes such as identifying students at greater risk of failing or dropping out, while minimizing the risks of using analytics for normative practices. These risks can lead to discrimination, loss of individual agency and control over personal data, and obscuring or losing individual needs because of over-reliance on group-based analysis. Based on her analysis, Scholes advanced recommendations that aim to balance individual analytics with group analytics. She also identified how instructional designers can design for individual choice, effort, and achievement and can discern static risk factors from dynamic ones that could be changed if learners were provided an instructional intervention. Her analysis exemplifies how ethical reflection is not simply about accepting or rejecting technologies but about devising (i.e. designing) possible solutions.

### LIDT in the World: AI and Other Emerging Technologies

Each new technology seems to present a new cycle of hype where initial praise or critiques focus solely on possibilities or concerns that tend towards binary conclusions, like accept or reject. Historically, however, over time a less-polarized analysis unfolds, as seen in the examples from Quintillian (1990) and Scholes (2016), where a more design-based approach is used to devise solutions or uses that maximize benefits and minimize harms.

New AI technologies, such as ChatGPT and Dall-E present a range of both potential benefits and harms. Potential benefits could be serving as a form of writing support or scaffolding for students or using ChatGPT to draft ideas. Potential harms could include concerns about academic integrity; impacts on actual learning and understanding; and questions about authorship, accountability, and bias in AI algorithms.

By interrogating the technologies from different ethical perspectives, we can begin to map out the detriments. For example, you could interrogate a technology using different principles such as justice, equity, consent, and privacy. Using several principles, what are some potential benefits and harms you can identify related to AI for learning? Another approach might be a care-based perspective or even combining care theory with feminist theory to ask questions about impacts on relationships and power balances or imbalances. Using care theory and/or feminist theory, what are some potential harms and potential benefits?

#### Application Activity

Think of a technology that you feel can be beneficial to the learners you want to design for. It could be something as ubiquitous as online learning, YouTube, social media, or anything else. For this technology, create a chart summarizing both potential harms and benefits. Once you have charted the ethical space, use that to inform brainstorming of possible solutions.

## Professional Ethics as Design

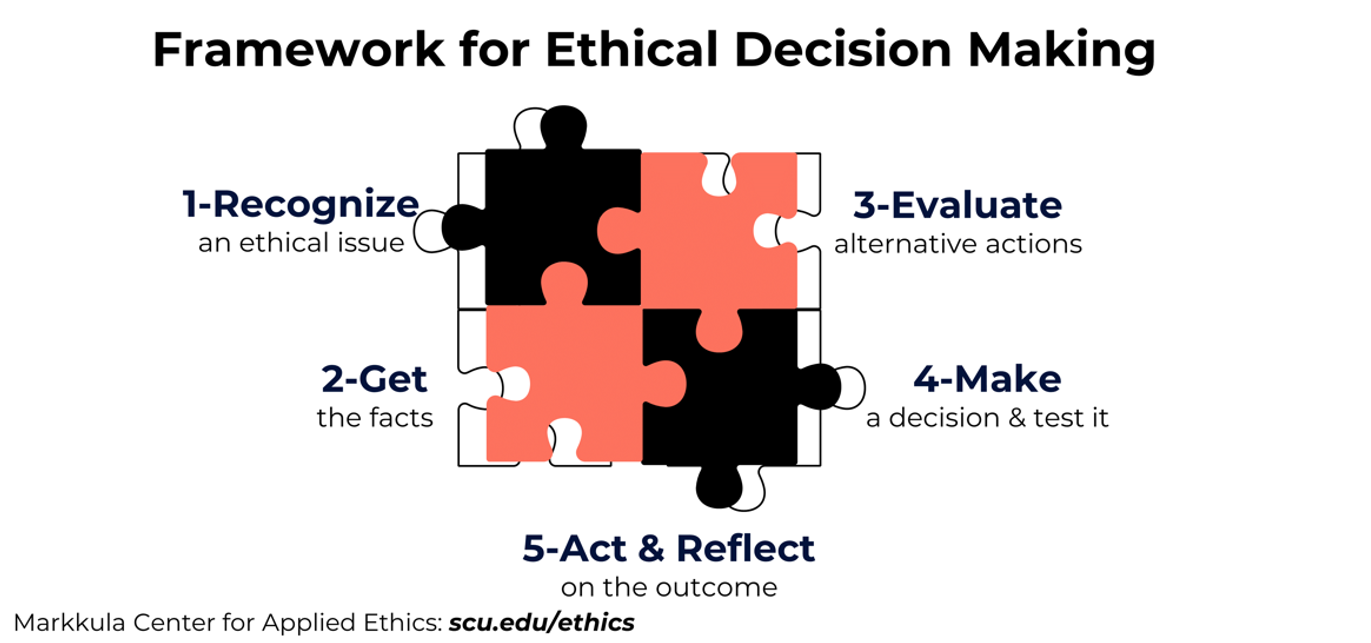
As we mentioned earlier, design is a powerful tool for translating reflection and interrogation into application. Applied fields such as LIDT need a theory of action in concert with critical theories. Design is an excellent candidate to be that theory of action in part because it is so central to LIDT practice. Coming from engineering, which is another applied field centered around design and technology, Whitbeck (1996) argued that many ethical problems are similar to design problems. She explained that, for both types of problems, there is rarely one unique or perfect solution. Observing that too much of the standard discourse on ethics is confined to a “judge’s perspective,” she made the case that ethics should not be limited to an evaluative or judgment process of determining right or wrong. She stated, “It is not enough to be able to evaluate well-defined actions, motives, etc., because actual moral problems are not multiple-choice problems. One must *devise* possible courses of action as well as evaluate them” (1996, p. 9). Because ethical and moral problems require responses in the form of practical solutions, they are practical problems, not just philosophical ones. The act of responding to these complex problems by devising possible solutions is the act of design**. Thinking of ethics as design, we can start to see how our design activities are a form of acting on and responding to the ethical dimensions of the problems we work on in LIDT.**

Some problems we work on may primarily be more technical or pedagogical in nature yet still have ethical dimensions. For example, when building an online learning initiative, much of the focus will be on technological and pedagogical features. Yet there are still embedded ethical considerations such as accessibility, affordability, copyright, and equity and justice issues. In other cases, the ethical problem may be the primary problem, such as initiatives where the primary focus is to increase access to education and provide learners more equitable access to educational opportunities as well as the job prospects connected to those educational opportunities. Additionally, there are ripple effects of the technologies we implement and design decisions we make—places where choices can be decided differently to accomplish different outcomes and impacts. For example, the introduction of proctoring software can lead to violations of student privacy and dignity (Glass, 2021; Harwell, 2020) and also create unjust situations where learners with darker skin or neurological diversity (e.g., students with ADHD) are flagged for cheating behaviors at a higher rate than their white counterparts (Grother et al., 2019). Considering those potential effects is a form of acting on an ethical problem through our design, development, selection, and implementation processes and practices.

### Practical Designerly Tools for Ethics

To support LIDT professionals in embedding ethics in design, we want to explore some designerly tools. Many of our common tools and methods can be adjusted and built upon. Here, we offer a few examples. Moore and Tillberg-Webb (2023) elaborated on many more ideas.

As stated earlier, in LIDT practice, professional designers and technologists need to be able to identify ethical dimensions of a given project, situation, or context, then decide how they apply their ethical perspectives to their work. One of the most practical and designerly tools that designers use in LIDT is the Framework for Ethical Decision Making by the [Markkula Center for Applied Ethics](https://www.scu.edu/ethics/ethics-resources/a-framework-for-ethical-decision-making/) (2021) at Santa Clara University. This framework includes a five-step process where designers ask questions in a reflective manner and, based on the answers to these actions, act in an ethical manner (Figure 2).



### Identifying Ethical Issues in the Problem Framing Stage

The five steps of the Framework for Ethical Decision Making could be embedded throughout the design process. Yet, we think it is important to rely on the framework earlier in the problem framing stage of the design process. As alluded earlier, in the process of problem framing, ethical reflection can start when designers pause to consider whether their choices inadvertently reflect any harm (e.g., racial or gender stereotypes). In this stage, designers can identify the ethical issues that could be inherent in their design project by asking the following guiding questions:

* Could this [framing] decision or situation be damaging to someone or to some group? Could it be inequitably beneficial to people?
* Does this decision [framing] involve a choice between a good and bad alternative, or perhaps between two “goods” or between two “bads”?
* Is this issue [identified in the framing stage] about more than solely what is legal or what is most efficient? If so, how?

The answers to these questions not only aid designers in identifying the ethical questions early in the problem framing stage, but also encourage the designer to be more intentional in their actions.

### Embedding Ethics Throughout the Design Process Through the Use of Reflection-in-Action

To become a reflective practitioner who is continuously reflecting on their design action while engaged in design (reflection-in-action, Schön, 1983), it is important to intentionally think of ethics when confronting any dilemma or a design issue. Throughout the design process, designers can seek facts and evaluate alternative actions in order to make ethically-driven design decisions; these are the second and the third steps of the Framework for Ethical Decision Making. To do so, a designer could ask the following guiding questions:

Seeking Facts

* What are the relevant facts of the case? What facts are not known? Can I learn more about the situation? Do I know enough to make a decision?
* What individuals and groups have an important stake in the outcome? Are the concerns of some of those individuals or groups more important? Why?
* What are the options for acting? Have all the relevant persons and groups been consulted? Have I identified creative options?

Evaluating Alternative Actions

* Which option best respects the rights of all who are stakeholders? (The Rights Lens)
* Which option treats people fairly, giving them each what they are due? (The Justice Lens)
* Which option will produce the most good and do the least harm for as many stakeholders as possible? (The Utilitarian Lens)
* Which option best serves the community as a whole and not just some members? (The Common Good Lens)
* Which option leads me to act as the sort of person I want to be? (The Virtue Lens)
* Which option appropriately takes into account the relationships, concerns, and feelings of all stakeholders? (The Care Ethics Lens)

Once a designer answers these questions—and applies the different lenses attached to each question—they would be able to choose an option for design action and test it, possibly during the *formativeevaluation* stage of the design stage; this is the fourth step of the Framework for Ethical Decision Making. This test would essentially evaluate their ethically driven design decisions, and reveal any possible shortcomings or “blind spots” through asking the following questions:

* After an evaluation using all of these [above] lenses is carried out, which option best addresses the situation?
* If I told someone I respect (or a public audience) which option I have chosen, what would they say?
* How can my decision be implemented with the greatest care and attention to the concerns of all stakeholders?

The result of this test and the answer to the last question would guide a designer to implement their final design decision when their design outcome is about to be released to the target audience/stakeholders; this is the fifth step of the Framework for Ethical Decision Making. Still, by relying on reflection-in-action, a designer could ask the following question:

* How did my decision turn out, and what have I learned from this specific situation? What (if any) follow-up actions should I take?

Assuming the designer made ethically driven design decisions throughout their design process, the answer to this question could bring some comfort and a confirmation to the designer regarding their good design work. It could also bring a tension that they have not explored or been fully aware of in their design practice, which could prompt them to take follow-up actions that either apply to their design process, or outcome, or both.

## Conclusion

While there may be a disconnect between documented codes of ethics and designers’ practices, ethics still show up in our professional activities. In addition to problem framing and reflection-in-action, we can also use common practices such as stakeholder involvement to embed ethics in practice. Research on change and technology integration repeatedly underscore how essential stakeholder involvement is for accomplishing successful design and implementation (see Ellsworth, 2000; Faber, 1998; Rogers, 2010). In thinking about stakeholder involvement from a professional ethics perspective, ignoring or leaving out stakeholders can also be a form of marginalization where some opinions, beliefs and values are pushed to the periphery while other voices have central influence.

Other design fields, such as service design (Stickdorn et al., 2018), have made stakeholder involvement central to their design processes—including extensive mapping of stakeholders and their values and creating opportunities throughout the entire process for stakeholder engagement. Some design frameworks that emphasize stakeholder involvement more have emerged. For example, participatory design (Cook-Sather, 2003; Könings et al., 2005, 2011, 2014) and emancipatory design (Noel, 2016) both endeavor to reframe our relationships as designers with those for whom—or with whom—we are designing. Both have similar roots in other design disciplines where designers sought to recognize power imbalances in the design process and adapt design practices to empower intended users.

Professional ethics are reflected in the decisions we make. They arise in our considerations of how decisions will impact individuals and the environment, as well as organizations. Ethical issues arise as embedded features of the problems that we are working on, so designers often confront these issues in practice even if they are not represented in design models. By reframing ethics, we can think of them as forms of reflection, interrogation, and design and turn them into parameters and specifications that shape the designs, artifacts, and projects we work on.

### Expand Your Library: Further Recommended Readings

The following form a good “starter set” for reading and learning more on more applied and embedded approaches to ethics for LIDT professionals:

Gray, C. M. & Boling, E. (2016). Inscribing ethics and values in designs for learning: A problematic. *Educational Technology Research and Development*, *64*(5), 969–1001. <https://doi.org/10.1007/s11423-016-9478-x>

Moore, S. & Tillberg-Webb, H. (2023). *Ethics and educational technology: Reflection, interrogation, and design as a framework for practice*. Routledge. <https://doi.org/10.4324/9780203075241>

Selwyn, N. (2010). Looking beyond learning: Notes towards the critical study of educational technology. *Journal of Computer Assisted Learning*, *26*(1), 65–73. <https://doi.org/10.1111/j.1365-2729.2009.00338.x>

Whitbeck, C. (1996). Ethics as design: Doing justice to moral problems. *The Hastings Center Report*, *26*(3), 9. <https://doi.org/10.2307/3527925>

## References

Bradshaw, A. (2017). Critical pedagogy and educational technology. In A. Benson, R. Joseph & J. Moore (Eds.), *Culture, learning, and technology: Research and practice* (pp. 8-27). Routledge. <https://doi.org/10.4324/9781315681689>

Bradshaw, A. (2018). Reconsidering the instructional design and technology timeline through a lens of social justice. *TechTrends*, *62*, 336–344. <https://doi.org/10.1007/s11528-018-0269-6>

Boatright, J. R. (2013). *Ethics in finance*. John Wiley & Sons.

Cook-Sather, A. (2003). Movements of mind: The Matrix, metaphors, and re-imagining education. *Teachers College Record*, *105*(6), 946–977. <https://doi.org/10.1111/1467-9620.00274>

Davies, I. (1996). Educational technology: Archetypes, paradigms and models. In D. Ely & T. Plomp (Eds.), *Classic writings on instructional technology* (pp. 15–30). Libraries Unlimited. <https://files.eric.ed.gov/fulltext/ED397791.pdf>

Ely, D. & Plomp, T. (1996). *Classic writings on instructional technology*. Libraries Unlimited. <https://files.eric.ed.gov/fulltext/ED397791.pdf>

Ellsworth, J. (2000). *Surviving change: A survey of educational change models*. ERIC Clearinghouse on Information & Technology. <https://files.eric.ed.gov/fulltext/ED443417.pdf>

Faber, B. (1998). Toward a rhetoric of change: Reconstructing image and narrative in distressed organizations. *Journal of Business and Technical Communication*, *12*(2), 217–237. <https://doi-org.libproxy.unm.edu/10.1177/1050651998012002003>

Finn, J. D. (1996). Professionalizing the audio-visual field. In D. Ely & T. Plomp (Eds.), *Classic writings on instructional technology* (pp. 231–241). Libraries Unlimited. <https://files.eric.ed.gov/fulltext/ED397791.pdf>

Gibbons, A. S. (2003). What and how do designers design? *TechTrends*, *47*(5), 22–25. <https://doi.org/10.1007/BF02763201>

Glass, I. (2021, Oct. 1). *This American Life: Episode 749, My bad* [Radio broadcast]. This American Life. <https://www.thisamericanlife.org/749/transcript>

Gray, C. M. & Boling, E. (2016). Inscribing ethics and values in designs for learning: A problematic. *Educational Technology Research and Development*, *64*(5), 969–1001. <https://doi.org/10.1007/s11423-016-9478-x>

Grother, P., Ngan, M., & Hanaoka, K. (2019). Face recognition vendor test (FRVT) Part 3: Demographic effects. National Institute of Standards and Technology. <https://doi.org/10.6028/NIST.IR.8280>

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

Harwell, D. (2020, November 12). Students rebel over remote test proctoring during the pandemic. *Washington Post*. <https://www.washingtonpost.com/technology/2020/11/12/test-monitoring-student-revolt/>

Jonassen, D. H. (2013). Transforming learning with technology: Beyond modernism and post-modernism, or whoever controls the technology creates the reality. In M. P. Clough, J. K. Olson, & D. S. Niederhauser (Eds.), *The nature of technology* (pp. 101–110). Brill Sense.

Kaufman, R. (2000). *Mega planning: Practical tools for organizational success*. Sage. <https://doi.org/10.4135/9781452220413>

Kaufman, R. (1996). Needs assessment: Internal and external. In D. Ely & T. Plomp (Eds.), *Classic writings on instructional technology* (pp. 111–118). Libraries Unlimited. <https://files.eric.ed.gov/fulltext/ED397791.pdf>

Kaufman, R., Corrigan, R. & Johnson, D. (1969). Towards educational responsiveness to society’s needs: A tentative utility model. *Socio-Economic Planning Sciences*, *3*, 151–157. <https://doi.org/10.1016/0038-0121(69)90006-8>

Kaurin, P. S. (2018, August 23). *Ethics: Starting at the beginning*. Wavell Room. <https://wavellroom.com/2018/08/23/ethics-starting-beginning/>

Könings, K., Brand-Gruwel, S. & van Merriënboer, J. (2005). Towards more powerful learning environments through combining the perspectives of designers, teachers, and students. *British Journal of Educational Psychology*, *75*(4), 645–660. <https://doi.org/10.1348/000709905x43616>

Könings, K., Brand-Gruwel, S. & van Merriënboer, J. (2011). Participatory instructional redesign by students and teachers in secondary education: Effects on perceptions of instruction. *Instructional Science*, *39*, 737–762. <https://doi.org/10.1007/s11251-010-9152-3>

Könings, K., Brand-Gruwel, S. & van Merriënboer, J. (2014). Participatory design of learning environments: Integrating perspectives of students, teachers, and designers. *Instructional Science*, *42*, 1–9. <https://doi.org/10.1007/s11251-013-9305-2>

Ladd, J. (1998). The quest for a code of professional ethics: An intellectual and moral confusion. In P. Aarne Vesilind & A. Gunn (Eds.), *Engineering, ethics, and the environment* (pp. 210–218). Cambridge University Press.

Le Cunff, A-L. (2022). An introduction to metamodernism: The cultural philosophy of the digital age. <https://nesslabs.com/metamodernism>

Markkula Center for Applied Ethics (2021, November 8). *A framework for ethical decision making*. Markkula Center for Applied Ethics. <https://www.scu.edu/ethics/ethics-resources/a-framework-for-ethical-decision-making/>

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>

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. (2022). The joyous paradox of making the multitude the norm: Blended learning as a reconstructive act. *Blended Learning: Engaging Students in the New Normal Era, Conference Proceedings*, 15th International Conference, ICBL 2022, Hong Kong, China, July 19–22, 2022. <https://doi.org/10.1007/978-3-031-08939-8_3>

Moore, S. & Griffin, G. (2022). Integrating ethics into the curriculum: A design-based approach for preparing professionals to address complex problem spaces. In J. Stefaniak & R. Reese (Eds.), *The instructional design trainer’s guide: Authentic practices and considerations for mentoring ID and ed tech professionals* (pp. 121–134). Routledge. <https://doi.org/10.4324/9781003109938>

Moore, S. L. & Tillberg-Webb, H. K. (2022). Mediating artifacts: Ethical, social, and political dimensions of content and media selection and design. *The Journal of Applied Instructional Design*, *11*(4). <https://dx.doi.org/10.51869/114/smhtwdm>

Moore, S. & Tillberg-Webb, H. (2023). *Ethics and educational technology: Reflection, interrogation, and design as a framework for practice*. Routledge. <https://doi.org/10.4324/9780203075241>

Noel, L. (2016) Promoting an emancipatory research paradigm in Design Education and Practice. In P. Lloyd & E. Bohemia (Eds.), “Future Focused Thinking” – DRS International Conference 2016, June 27–30, Brighton, United Kingdom. <https://doi.org/10.21606/drs.2016.355>

Plato. (1990). *Phaedrus*. In Bizzell, P. & Herzberg, B. (Eds.). The rhetorical tradition (pp. 113–143).

Quintilian. (1990). *Institutes of Oratory*. In Bizzell, P. & Herzberg, B. (Eds.). The rhetorical tradition (pp. 297–363).

Reeves, T. & Lin, L. (2020). The research we have is not the research we need. *Educational Technology Research & Development*, *68*(4), 1991–2001. <https://doi.org/10.1007/s11423-020-09811-3>

Reeves, T. & Reeves, P. (2015). Educational technology in a VUCA world. *Educational Technology*, 55(2), 26-30. <https://www.jstor.org/stable/44430353>

Rice, M. (2022). Special education teachers’ use of technologies during the COVID-19 era. *TechTrends*, *66*(2), 310–326. <https://doi.org/10.1007/s11528-022-00700-5>

Rogers, E. (2010). *Diffusion of innovations* (4th ed.). Free Press.

Scholes, V. (2016). The ethics of using learning analytics to categorize students on risk. *Educational Technology Research and Development*, *64*(5), 939–955. <https://doi.org/10.1007/s11423-016-9458-1>

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

Stickdorn, M., Hormess, M. E., Lawrence, A., & Schneider, J. (2018). *This is service design doing: applying service design thinking in the real world*. O'Reilly Media, Inc.

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://dx.doi.org/10.59668/id>

Tracey, M. W. & Baaki, J. (2014). Design, designers, and reflection-in-action. In B. Hokanson & A. Gibbons (Eds.), *Design in educational technology: Design thinking, design process, and the design studio* (pp. 1–13). Springer. <https://doi.org/10.1007/978-3-319-00927-8_1>

Waks, L. J. (1999). The means-ends continuum and the reconciliation of science and art in the later works of John Dewey. *Transactions of the Charles S. Peirce Society*, *35*(3), 595–611. <https://www.jstor.org/stable/40320781>

Vermeulen, T. & Van Den Akker, R. (2010). Notes on metamodernism. *Journal of aesthetics & culture*, *2*(1), Article 5677. <https://doi.org/10.3402/jac.v2i0.5677>

Whitbeck, C. (1996). Ethics as design: Doing justice to moral problems. *The Hastings Center Report*, *26*(3), 9. <https://doi.org/10.2307/3527925>

Yousef, T. (2017). Modernism, postmodernism, and metamodernism: A critique. *International Journal of Language and Literature*, *5*(1), 33–43. <https://doi.org/10.15640/ijll.v5n1a5>

## Appendix A – Relevant Codes of Ethics / Policy Principles

Association of Educational Communications and Technology (AECT) Code of Ethics: <https://www.aect.org/docs/AECT_Code_of_Ethic-March2016.pdf>

International Society for Performance Improvement (ISPI) Code of Ethics:   
<https://ispi.org/page/CodeofEthics>

International Society for Technology in Education (ISTE) Policy Principles:   
<https://www.iste.org/advocacy/advocacy-platform>

Association for Talent Development (ATD) Code of Ethics:   
<https://www.td.org/about/vision-mission-code-of-ethics>

Read this online at <https://edtechbooks.org/becoming_an_lidt_pro/professional_ethics>