



# Ethical Decision-Making and Visual Literacy Instruction in Architecture

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**abstract:** When visual literacy ethics instruction in higher education focuses only on teaching academic citation styles and fair use, students are unprepared for professional environments with less-defined ethical rules and harsher consequences. Instructors should look to visual literacy, metaliteracy, and disciplinary information literacy to identify needed skills and competencies that can be mapped into the curriculum. Utilizing behavioral ethics theories and ethical decision-making practices, instructors can help students recognize moral contexts and find appropriate strategies for using and creating visual materials. This article presents a five-step process for planning, implementing, and assessing visual literacy ethics instruction with examples from the author's sessions for architecture students. After these sessions, students had the tools to interpret and apply disciplinary practices and guidelines for the use and creation of visual communications in both academic and professional contexts.

## Introduction

**V**isual literacy is a sophisticated concept because fluency requires individuals to decode, recode, and package visual media according to contexts, including social, behavioral, and professional norms. Visual literacy can be further complicated by the unique learning needs and methodologies of different academic departments. Placing visual literacy within a disciplinary context empowers students to use skills and competencies to facilitate their success in the higher education classroom and in their profession. Instructors should particularly look to disciplinary practices

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when tackling the ethical component of visual literacy. The legal and moral questions students and practitioners face vary dramatically between communities of practice. Students, new to the discipline, are often unaware of the accepted models for producing and sharing visual media that disciplinary faculty employ. Library instruction can equip students to confidently enter the scholarly conversation by evoking real-world contexts and building applicable academic and professional learning outcomes. Librarians and disciplinary faculty should consider ways to incorporate visual literacy instructional concepts, disciplinary contexts, and theories and pedagogies used in behavioral ethics and ethical decision-making into their instructional design.

This article focuses on the author's efforts to integrate visual literacy ethics education into the curriculum of a College of Architecture. Coordinating with other librarians at the Architecture Library, a branch of the Texas Tech University Libraries in Lubbock, the author plans and leads visual literacy instruction. The instruction aligns to the Architecture Library's collaborative curriculum map, which compiles academic and professional information and visual literacy competencies. The librarians map these competencies to each year of the College of Architecture program, building yearly threshold goals for learning as students progress to their degrees. During visual literacy instruction modules, the author identified a lack of preparation among students to make complex moral decisions based on professional guidelines, norms, and practices. Students' ethical decision-making gaps resulted from their limited previous training in visual media use in academic and social contexts. This weakness was compounded by their lack of awareness of the complex and sometimes unwritten standards and guidelines that govern disciplinary scholarly communication.

While the specific instructional design discussed in this article was developed for architecture students, librarians and instructors can apply the process to other academic disciplines. The author's five-step procedure illustrates methods to target common ethical failures and behavioral impediments, identify discipline-specific competencies

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and practices, choose the best curricular points for instruction, create reflective and critical learning outcomes, and assess student ability to apply ethical visual literacy knowledge in academic and professional contexts. By adapting processes and concepts from visual literacy, metaliteracy, and ethical decision-making to work in a disciplinary context, students can better integrate ethical visual literacy ideas and questions into their scholarly and professional communications. In the process,

they build mental models that will serve them in the classroom and into the workplace.

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## Literature Review

### Visual Literacy, Metaliteracy, and Disciplinary Visual Literacy

Since John Debes first coined the term *visual literacy* in 1969, theorists and practitioners have adapted to shifts in the social and economic value placed on visual media in an increasingly global, participatory, and technology-dominated society.<sup>1</sup> General definitions of *visual literacy* cover the ways individuals discover, use, and create visual materials. Beyond the basics, most also focus on how individuals participate in visual communications by critically and self-reflectively constructing and deconstructing visuals according to contexts, visual qualities, audience, and interpretations. Ethics is a key component of most visual literacy standards. In the seventh standard of the Association of College and Research Libraries “Visual Literacy Competency Standards for Higher Education” (ACRL Visual Literacy Standards), Denise Hattwig, Joanna Burgess, Kaila Bussert, and Ann Medaille assert that students should “understand many of the ethical, legal, social, and economic issues surrounding the creation and use of images and visual media, and access and use visual materials ethically.”<sup>2</sup> Associated learning outcomes cover intellectual property, copyright, fair use, licenses, privacy, censorship, attribution, and academic and professional guidelines.

As knowledge production and dissemination in many fields increasingly rely on the use, repurposing, and creation of both visual and multimodal communications, instructors also find it useful to pull from other overlapping literacies, such as metaliteracy. Metaliteracy was first promoted in 2011 by Tom Mackey, Trudi Jacobson, and Kelsey O’Brien as a way of rethinking information literacy to include the collaborative production and sharing of information in a digitally dominated world. The Metaliteracy Learning Collaborative (2018) “Goals and Learning Objectives” covers ethics in goal two of four: “Engage with all intellectual property ethically and responsibly.”<sup>3</sup> Corresponding objectives discuss remixing and repurposing, privacy concerns, copyright, Creative Commons, and attribution. These learning goals and standards require individuals to consider the past, current, and future contexts of visual media. They must explore social, economic, and technological issues, and consider how visual media and subsequent dissemination could impact individuals and society at large.

Though the definitions and language used to identify skills and competencies may differ, practitioners of both visual literacy and metaliteracy share an interest in how individuals create and use visual media within academic, professional, and social arenas. Melding visual literacy and metaliteracy knowledge and dispositions allows foundational concepts to emerge. These concepts provide instructors with a framework to navigate the informational practices and communication language unique to a specific discipline. They can then identify competencies and skills for teaching the principled creation and use of visual materials.

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Ethical visual and metaliteracy concepts are crucial for students. They are neophytes in their field and often struggle to understand the norms and behaviors of their new communities of practice. Professors already steeped in the disciplinary practice frequently forget which customs and conventions may be unfamiliar, or assume students have already become fluent through previous coursework or independent study. If students fail to grasp this tacit knowledge, they may become too frustrated to enter the scholarly

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conversation in the discipline.<sup>4</sup> Library instruction can fill these knowledge gaps in disciplinary visual literacy for students, supporting their growth from novice to professional. Having a firm grasp on disciplinary contexts can help students build and model their own authority. Visual media use is increasingly key in coursework and professional communication forums,

and students will be judged by how well they conform to the accepted models. They need to use and create visual materials that can translate across many disciplines and communication strategies, particularly as academia becomes more multidisciplinary and collaborative.<sup>5</sup> Yet, students' ability to tailor their communications to reflect disciplinary practices is foundational to success in the classroom and into the profession. In biochemistry and molecular biology, Erika Offerdahl, Jessie Arneson, and Nicholas Byrne argue that students need to decode and encode the elements of disciplinary visual language to understand "both the diversity and nuances in the ways in which disciplinary ways of knowing are represented."<sup>6</sup> In architecture, for example, this diversity can include particular visual formats such as the architectural model, both handcrafted and computer-simulated, publications forums such as design blogs and social media, and concepts such as copying versus inspiration.

Unfortunately, limited instruction time in academic contexts can reduce coverage of the moral component of visual literacy instruction to only copyright and fair use, which allows limited or transformative use of copyrighted works for purposes including education and research. As Eva Brumberger's survey of articles in the *Journal of Visual Literacy* between 1981 and 2017 illustrates, few articles cover "visual literacy's role outside the academy."<sup>7</sup> However, some recent case studies and lesson plans, in particular those from the art and design fields, have extended the learning outcomes into the professional realm. Courtney Baron, Christopher Bishop, Ellen Neufeld, and Jessica Robinson discuss the principles of appropriation and address how to obtain permissions from copyright holders if use of the material exceeds that allowed under fair use.<sup>8</sup> Jessica Hronchek teaches graduating studio art majors how copyright and fair use will affect their future careers, imparting core knowledge about artists' moral rights and law versus ethics.<sup>9</sup> Karyn Hinkle uses the professional example of illustrating a technical manual to frame a discussion of how to use others' visual materials, promoting guidelines on public domain, Creative Commons, permissions, licenses, and fair use.<sup>10</sup> Cindy Derrenbacker covers visual literacy copyright and fair use in the architectural classroom, highlighting copyright, architectural models, and imitation versus innovation.<sup>11</sup> These successful in-



structional programs show that structuring teaching within a disciplinary practice helps students connect visual literacy concepts to a larger ethical discussion.

While successful, these case studies do not always consider students' social and cultural conditioning in terms of visual creation and use. Students possess preestablished mental models of visual media behavior. Without building new procedures for addressing moral questions of creation and use, students will continue their accustomed ways of handling such issues. Studies show that people default to making ethical decisions emotionally and intuitively before cognitive parts of the brain can engage.<sup>12</sup> Students need to adapt their mental models to include their discipline's best practices of professional visual media creation and use. Behavioral ethics theory and ethical decision-making concepts provide key insights and strategies for training these new visual literacy behavioral norms and procedures.

### **Behavioral Ethics and Ethical Decision-Making**

Behavioral ethics focuses on understanding how people behave when confronted with an ethical situation. Ethical decision-making provides a process for evaluating and choosing the most ethically aligned option. Using research in these areas, instructors can identify common traps and construct discipline-aligned ethical decision-making steps. Research into ethics instruction in higher education occurs more frequently in certain disciplines, with the scholarly literature in both library science and architecture providing limited case studies of ethical instruction. In library and information science, this lack of research may result from many graduate programs not including ethics education in their curriculum.<sup>13</sup> However, some academic librarians connect ethical decision-making theory to larger information literacy goals. Benjamin Harris argues for rethinking information literacy and the research process as a series of decisions and using ethical decision-making to guide users to consider the consequences of their information-seeking behaviors.<sup>14</sup> Nonetheless, case studies assessing ethical instruction in university courses are more prevalent in STEM and social science fields, notably engineering, life sciences, education, business, and communication.<sup>15</sup> According to Irene Mass Ametrano, teaching students to use ethical decision-making models proved effective in increasing counseling students' "willingness to use multiple factors in decision-making."<sup>16</sup> Bridget Bero and Alana Kuhlman's instruction improved engineering students' ability to "step outside of their own prejudices and recognize and develop alternatives and subsequent consequences that may not be obvious."<sup>17</sup>

When looking for analogous pedagogical examples, the author chose engineering, because engineering and architecture share similar step-by-step methods for teaching and learning in their academic and professional domains. Bero and Kuhlman argue that ethical decision-making represents the best method for training engineering students to solve moral problems, as the process effectively mirrors the iterative nature of solving design problems. Integrating the steps of the ethical decision-making process, students showed an ability to consider the moral factors in the engineering design process, and they improved their writing ethics as assessed through citation grading and plagiarism tracking.<sup>18</sup> The author adapted their comparison of the ethical decision-making process and engineering design process, with Figure 1 showing a synthesis of several ethical decision-making models mapped to the design process in architecture.<sup>19</sup>

Ethical Decision-Making Model		Architectural Design Process	
Assessment	Identify the ethical issues and gather needed information	Predesign	Identify problems, needs, and constraints; Investigate the context for the design
Values	Consult ethical standards, law, principles, and personal and professional values as aid to decision-making	Schematic Design/ Analysis	Research potential solutions via observation, case studies, and discussion/analysis with experts
Options	Consider multiple solutions and their potential consequences	Development/ Generation	Present draft designs; Consider feedback from multiple sources
Implementation	Select and implement course of action	Construction/ Testing	Display final design
Evaluation	Evaluate effectiveness of solution; Reflect on consequences	Reflection	Evaluate and reflect on the design through critiques

Figure 1. Ethical decision-making models mapped to the architectural design process.

As architecture professors train students, formally and informally, to use this general process in their studio courses, learners become more comfortable with the steps. As a result, the process itself becomes less taxing for students. By introducing the ethical decision-making steps within the architecture design process, the author intends learners to link the two models, integrating ethical questioning into their design work. This will benefit the students' coursework and academic skills through better inclusion of citations and avoidance of plagiarism. Beyond higher education, students can also use the framework to ensure their communication and designs are ethically sensitive and to consider the needs of the various stakeholders in the process. Qin Zhu and Brent Jesiek argue that the real goal of ethics instruction should be "achieving contextual plausibility in everyday practice,"<sup>20</sup> meaning students should be able to implement these skills into their larger disciplinary practice and be sensitive to the complex cultural, social, and disciplinary contexts they will encounter in professional life. This larger goal informed the author's process for visual literacy ethics instruction in architecture courses.

### Building Discipline-Based Ethical Visual Literacy Instruction

The author constructed a five-step process for planning, implementing, and assessing instruction in visual literacy ethical decision-making. This procedure aims to systematically identify and chart the disciplinary needs and applicable resources to coordinate instruction. While this procedure can be adapted to address different fields of study, the author's choices and examples specifically target the architecture student. The author chose to focus instruction on images because they are the primary visual media format used in prominent architectural publications, such as trade and scholarly journals. Instructors in other subject areas may choose to focus on significant formats in their discipline's scholarly communications, such as charts, data visualizations, multimedia creations, infographics, or video.

Step one is to understand the common ethical failures and behavior impediments students face when sharing visual media. Common ethical shortcomings when using





and sharing visual materials surround issues of citation, attribution, contextualization, and copyright and use restrictions. Ethical behavior impediments include peer influence and conformity biases, rationalizations, self-overestimation, and incrementalism. Recognizing where and why these failures occur and how to counteract the impediments enhances instructors' ability to provide meaningful instruction.

Step two is to reflectively investigate the discipline to identify from its standards and guidelines the competencies, dispositions, and knowledge

practices that students need to succeed in the classroom and the profession. Instructors should question what students need to portray themselves as authorities in scholarly and professional communication within the discipline. By laying out the intersection of academic and professional ethics, instructors can strategize goals aligned with both students' current coursework and their future efforts to create a professional identity.

Step three is to plan visual literacy instruction by choosing key points to introduce, reinforce, and expand students' knowledge base. Introductory concepts could include recognizing common ethical issues when using and sharing images, such as copyright, citation, and privacy. Advanced ethical visual learning outcomes should include an ability to evaluate and choose the appropriate examples to enhance their own information communications according to disciplinary criteria. Students need to pay attention to authority, audience, publication timeline, visual media format, and accompanying metadata. For advanced instruction, consider choosing a transitional point in the curricular program, where students have gained enough confidence in their abilities within the academic environment and have begun to think seriously about their future professional lives.

Step four is to construct learning outcomes and instruction strategies by charting ethical impediments, disciplinary guidelines, and visual literacy skills into the ethical decision-making process. Incorporating polling and discussion of key misconceptions around use of visual media in the discipline highlights gaps in student knowledge and can lead to better student engagement. Choose examples familiar to students from popular and prominent publications in the subject area. Academic and professional hypothetical prompts can encourage critical thinking and student application of the ethical decision-making tasks into their disciplinary process.

Step five is to assess the success of the instruction through in-course assessments and feedback from students and faculty. Ethical visual literacy skills are difficult to measure because mastery relies

on students' ability to apply practices according to individual situations. A mix of post-session questions and informal gauging of student engagement and faculty feedback can help instructors evaluate student learning and plan future instructional activities

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### Step One: Correcting Student Ethical Failures and Impediments

The first obstacle to correcting unethical behavior is students' lack of awareness of the ethical issues and challenges. The basic definition of an ethical decision describes it as one that is group-interested (benefits all), whereas an unethical decision is self-interested (benefits self).<sup>21</sup> This definition helps frame the conversation when applied to common student ethical failures inside the classroom and out. Across all disciplines, the most common failure is not including citations, attributions, and additional contextual information for visual materials. Framed as an ethical decision, omitting this information obscures the intellectual contribution of the creator. Additionally, viewers of the visual materials might disregard the scholarly, professional, or societal value of the underlying visual communication. When using visual materials, students also commonly fail to comply with licenses or use requirements as indicated by the material's creators or stewards (copyright holders, database providers, image repositories, and the like). These transgressions can include making unauthorized alterations to the visual media or failing to disclose allowed alterations. Ethically, this lack of compliance places the needs of the individual user over the wishes of the creators and stewards and ignores their intellectual contributions. It may alter the original intent of the visual or change the audience's perception of the work and could therefore infringe on the creator's moral rights. Ethical decisions are also present when students create visual materials. They commonly fail to assign or indicate copyright or license restrictions for their own visuals when they share them. This lack of documentation makes it more difficult for others to act ethically in their use of the shared visual media.

The second obstacle to correcting unethical behavior consists of biases and behaviors used to rationalize unethical decisions and avoid feeling guilt or shame. Common biases include peer influence and conformity. Students, succumbing to these biases, may justify their behavior as "everyone acts this way" rather than believe they violated moral values. For example, students see their classmates ignore citation rules in a research paper or fail to give attribution on Instagram and then rationalize their own failure to attribute visual media or obey intellectual property law. Common rationalizations can include depersonalizing the victim ("That company has enough money" or "That architect is a misogynist") or denial of harm ("The creator would appreciate the larger audience" or "The alterations changed the work so much it is no longer identifiable"). In addition, students can fall prey to self-overestimation and incrementalism. Self-overestimation refers to how people tend to believe they are more ethical than others, and incrementalism

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demonstrates how small ethical transgressions can lead to larger unethical behavior through creeping, unnoticed behavior shifts.<sup>22</sup> When people routinely apply these unethical behaviors to specific situations, they may not recognize their ethical shortcomings. Instructors need to understand and incorporate strategies to help students recognize and combat biases and rationalizations so that students can improve their ethical visual media behavior.





Even when students gain an understanding of intellectual property rights and want to give attribution and comply with license and use restriction, the process can be confusing. Many scholars note a decreased emphasis on copyright and intellectual property in the academic environment in the United States, where general copyright ignorance can erode moral imperatives to follow the law.<sup>23</sup> Instructors often blame student citation deficiencies on cultural trends, but academic trends are at play as well. Teaching about citations and attribution has shifted away from in-class discussions or activities within first-year writing courses. Textbooks, bibliographic software and systems, or both often replace in-class instruction, which can turn attribution into a mechanical rather than an intellectual practice.<sup>24</sup> Students, disconnected from the purpose behind attribution, often fail to recognize the importance, process, and decisions that go into constructing a useful citation. Even if they tried to cite a visual in an academic project, they would encounter difficulty doing so; research indicates that major style manuals lack adequate coverage for image citation.<sup>25</sup> Beyond academics, social media often have no standards for attribution or copyright acknowledgment, and including acknowledgments in this context can be difficult and time-consuming.

Beyond these transdisciplinary ethical challenges, instructors may need to address additional ethical complications in certain subject areas. Students in design fields, such as architecture and graphic design, must recognize the difference between using a visual as inspiration and copying or imitating the original creation. Students in academic disciplines and professional fields where projects are commonly completed in groups must consider how to communicate the intellectual contribution of all creators of collaborative works.

No one solution exists to these questions of ethical visual media use and creation. Rather, students and professionals need to assess every situation. They should first recognize the ethical components and overcome their own biases and rationalizations. Then they can choose the best strategy for acknowledging intellectual contributions and respecting copyright and intellectual property.

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### **Step Two: Investigate Visual Literacy Practices in Standards and Guidelines**

Charting disciplinary core knowledge and where the academic and the professional spheres align or diverge helps target instruction to key areas of ethical visual literacy practice. Looking to disciplinary information literacy, Sara Miller's reflective questions provide a systematic way of identifying foundational knowledge, norms, and guidelines. These questions ask:

- "How is information disseminated?"
- "In what types of formats (i.e., journals, conference presentations, popular forums, etc.) can the conversations in your discipline typically be found?"
- "What are any particular traits of attribution in your field that might be different from others?"
- "How does open access affect your standing as a scholar?"
- "What counts as an original idea?"<sup>26</sup>

Linking the answers to these questions with competencies from the Metaliteracy Learning Collaborative and ACRL Visual Literacy Standards provides needed guidance and structure.

For the first three questions about dissemination, format, and attribution, students must navigate the publishing process for textual and visual materials. This process includes who publishes, in what forums, according to what timelines, for what intended audience, and how intellectual contributions are credited. This understanding aligns with knowledge areas covered in the standards, including intellectual property, copyright, fair use, licenses, privacy, censorship, online identity, and academic and professional guidelines. Guidelines are particularly useful because they serve to reinforce everyday procedures and their underlying purposes, saving time and unnecessary ethical deliberation.<sup>27</sup> Instructors can look to professional organizations for codes of best practices. Examples of academic guidelines for visual materials include the College Art Association's "Code of Best Practices in Fair Use for the Visual Arts" and the Visual Resources Association's "Statement on the Fair Use of Images for Teaching, Research, and Study." An example of a professional guideline for architecture is the American Institute of Architects (AIA) "Guidelines for the Attribution of Credit." Question four, about open access, spotlights a larger discussion of copyright, licenses, and Creative Commons in

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both academic and professional practices. Question five, about originality, highlights those differences in vocabulary and consequences applied to academic coursework and professional practice. In academia, failure to transform another's original work results in plagiarism, potentially affecting the student's grade or even enrollment. In professional practice, using an original work for anything other than inspiration can result in copyright infringement claims,

loss of professional reputation, and legal consequences. Figure 2 illustrates how the author charted these key knowledge areas and guidelines in architecture.

### **Step Three: Ethical Visual Literacy Learning Outcomes and Curricular Goals**

Once the disciplinary landscape has been assessed, instructors can plan learning outcomes for visual literacy ethics instruction. Some instruction might require prior knowledge in either visual literacy or specialized academic and professional practices, so it might be useful to present beginner visual literacy concepts in introductory courses. More advanced teaching that focuses on discipline-specific conventions of scholarly communication should occur at key transitional points where students have attained an academic knowledge base and have begun to anticipate professional lives.

Ideally, students at this critical stage in their academic career will see the need for the instruction and can apply these disciplinary visual literacy ethics skills. One way to determine this pivotal step in their academic career is curriculum mapping. The author defines curriculum mapping as structuring the introduction and reinforcement of in-

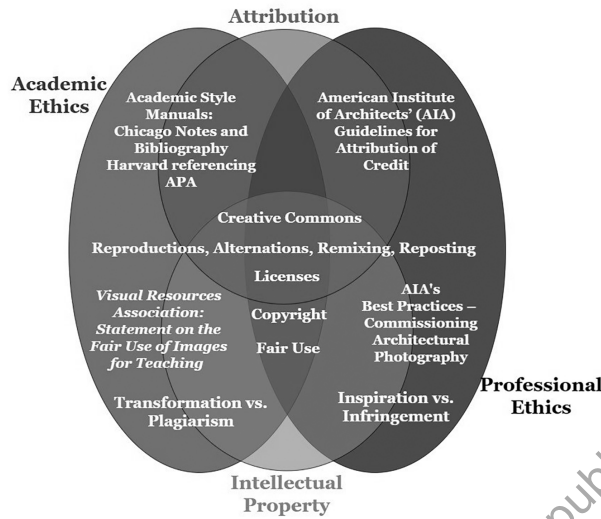


Figure 2. Intersections of the academic and architectural domains in visual literacy ethics.

formation and visual literacy skills and competencies across a course curriculum. The resulting map allows for targeting student points of need and illustrates paths for collaboration between librarians and teaching faculty. The Architecture Library curriculum map focuses on year levels and assigns information and visual literacy skills accordingly. Figure 3 shows the subsection of the map focused on ethical visual literacy skills.

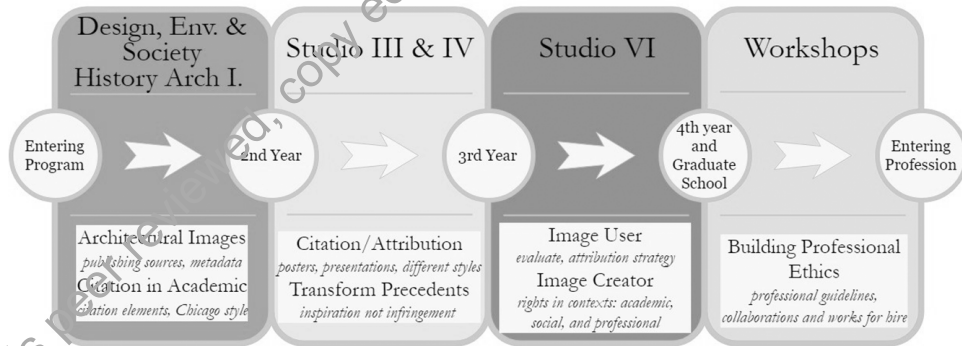


Figure 3. Curriculum mapping of ethical visual literacy for the College of Architecture at Texas Tech University.

Essential skills such as evaluating sources, citation, and transformation are introduced in the first two years, along with a broader push for ethical behavior. A popular instructional exercise the author uses with the first-year architecture students involves student polling around the hypothetical question: “You create a design drawing for a project, and you post it on Instagram. Would you allow the use of your image for free

under these scenarios?" Students respond yes or no according to six scenarios that include variations (mimicking basic Creative Commons licenses) on who used the image, where they used the image, if the drawing was modified before reuse, and if the original creator was credited. Figure 4 shows the polling results from 160 students in the fall 2018 class, where 83 percent of the students would allow another student to use their design for a course project with credit and only 6 percent of the students would allow uncredited use of their design. Further class discussion encourages students to think about their own use of others' visual materials, the benefits of using Creative Commons-licensed works, and applying Creative Commons licenses in their creations.

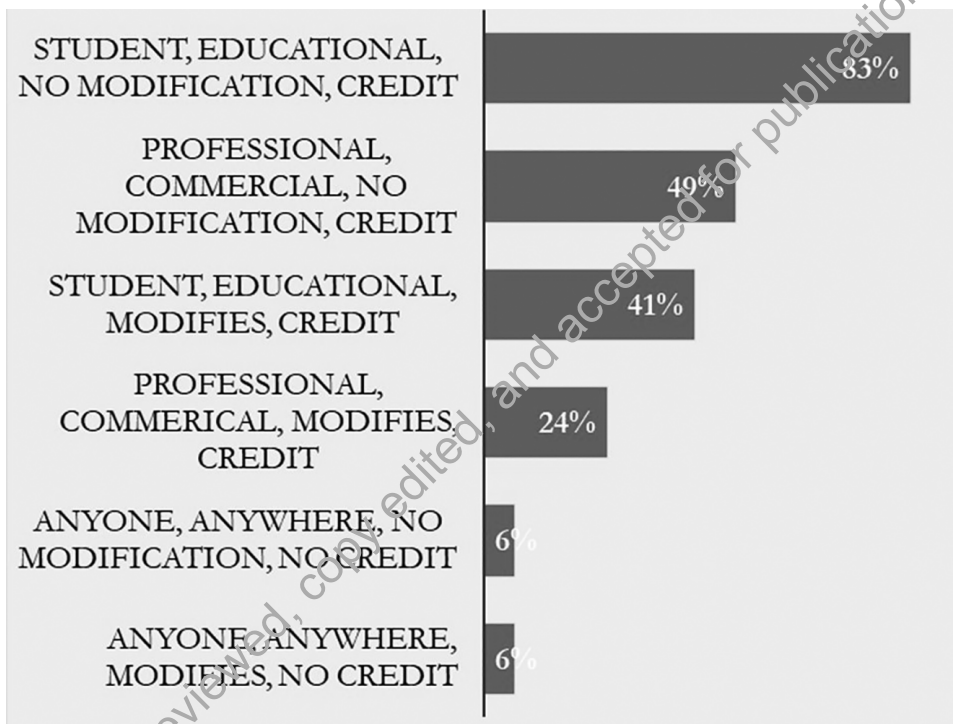


Figure 4. Student polling results from fall 2018 answering the question "Would you allow the use of your image for free under these scenarios?"

Advanced ethical visual literacy skills, such as modeling best practices for academic and professional image use and creation, are a better fit for the third year. Students in the second half of their third year are considering graduate studies, assembling and refining their portfolios, and researching internships. These activities mean that they have more immediate opportunities to apply the concepts taught to their academic and professional activities, reinforcing the instruction.

## Step Four: Constructing an Instruction Module

Before constructing the lesson for third-year students, the author created a chart showing the questions and tasks that image creators and users should consider during each stage of the design process, from predesign through reflection (see Figure 5).<sup>28</sup> The chart served as an aid in identifying the learning outcomes and laying out the session in the order of the architectural design process, but not as an instructional object. The author used the chart to create three learning outcomes. At the end of the session, students should know how to:

1. Identify the purpose and audience behind the use of visuals in architectural publications by analyzing the images, sources, and accompanying text.
2. Analyze various architectural publications and professional standards to use as models for their own image use and sharing.
3. Apply citations, credit statements, or both for images according to various academic and professional contexts.

Architectural Design Process	Design Tasks	Ethical Decision-Making	Ethical Impediments	Image Creator Considerations	Image User Considerations
Predesign	Identify Needs/ Constraints	Identify the Moral Factors	Improper Framing/ Not Recognizing Ethical Components	Where am I posting/displaying this image? Who is my audience?	How did I get this image? Who created the image? What information (metadata) is included?
	Research: -Technical -Theoretical -Social -Historical -Contextual	Identify Moral Responsibilities and Dilemmas		Was this image fully created by me or does it contain elements from other creators? Does this image portray me as a professional? Does this image meet the guidelines/ standards to be displayed accurately in its intended display site?	How was this image created? How did the creator intend it to be displayed? Did they indicate how to credit the image? Are there any restrictions on image use? Has the image been modified? Will I need to further modify the image to fit the intended display environment?
Schematic Design Analysis	Research: -Case Study -Site Visit -Observation -Experts	Consider Alternate Course of Actions and Implications	Peer Influence/ Conformity Bias	Observe ethical examples from admired architectural firms Note ethically aligned postings on professional sites Ask your professors, employers, colleagues for their opinions	Look at the terms of service for the source. Does your professor/employer have guidelines for image use/attribution? Observe ethical examples from admired architectural firms.
	Discuss and Analyze			Identify potential avenues for display/ sharing (print, social media sites, professional sites, personal website) What are the pros and cons of each? What licenses can I apply to my images?	Can I link to the image instead? Can I use a portion? Does fair use apply? Can I get permission from the owner?
Design Development Generation phase	Find Solutions	Alternative Perspectives	Incrementalism	Draft display plans with accompanying documentation	Draft ways of incorporating the image into your creation with accompanying documentation
	Feedback			Solicit opinions and proofreading Ask any co-creators for this approval	Solicit opinions and proofreading
	Presentation			Finalize your design	Finalize your design
Construction phase Testing	Evaluation	Implement the Decision		Display image with documentation OR Don't display your image	Use image in creation with appropriate credit OR Don't use the image
Reflection		Reflect on Decision and Unintended Consequences	Depersonalize the Victim Denial of Harm	Track and analyze comments, sharing, and linking of your design Take note and address any improper use Check in with any co-creators	Track and analyze comments, sharing, and linking of your design Take note and address any improper use.

Figure 5. Using the architecture design process to frame ethical decision-making in architecture visual literacy ethics.

To set the tone for the third-year instruction, the author used polling questions to start conversations about legal and ethical components of visual media use in academic and architectural professional contexts (see Appendix A). These polling questions led to discussions about the originality requirement in copyright; creative decisions such as



lighting, angles, and digital manipulation in architectural photography; and copyrightable architecture under the Architectural Works Copyright Protection Act (AWCPA) of 1990. The author also used these questions to engage students in discussion on ethical and moral issues beyond the scope of United States copyright, most importantly citation and attribution. Students were surprised by their misconceptions of copyright law and image attribution, which reinforced the applicability of the learning outcomes to their academic and professional success.

With the first learning outcome about the purpose and audience of publications, the author used a post from *ArchDaily*, a popular online blog in the architecture and design community, and an item detail page from Artstor, a library-subscribed image database with strong collections in art, design, and architecture. With these examples, the author focused on the predesign section of Figure 5, asking students to consider the following:

- Creator(s): architect(s), firms, project participants, photographers, graphic designers
- Additional metadata and context: title, date, view, format, and the like
- Credit statements, licenses, restrictions, and so on.

The discussion focused on what the creator of the image tries to communicate through images and text and what students can infer about the primary audience for the source. For example, the names and specific roles of architects, consultants, and other project participants would be of unique interest to people in the architectural field, so their inclusion in *ArchDaily* would indicate a primary audience of professionals. Next, the students applied this strategy to Example C, a page from an article in the print version of *GA [global architecture] Document*, a prominent architectural journal known for publishing high-quality plans and drawings of important architectural works.

For the second learning outcome, the author introduced guidelines and best practices documents to cover the “Schematic Design Analysis” section of Figure 5, featuring the tasks:

- Find appropriate guidelines and best practices for image use and attribution.
- Observe ethical examples from admired architectural firms.
- Note ethically aligned postings on professional sites.

The two key guideline documents for architecture come from the AIA. Their National Ethics Council’s “Code of Ethics and Professional Conduct” identifies failure to give appropriate credit or recognition as perhaps the most frequently reported ethical violation handled by the Ethics Council.<sup>29</sup> The AIA also partnered with the American Society of Media Photographers to provide guidance on managing photo credits and editorial licensing to benefit all parties, showing the potential effect of an architect’s ethical decisions on other professionals.<sup>30</sup> Using these documents, students determined whether the attribution information for the images in a posting on *ArchDaily* and an article from the website for *Architectural Record*, a professional periodical for news and continuing education, met the standards. The author then asked students to consider their own designs and research, and how attribution formats in these professional publications differ from those in academic papers. The author used the Architecture Library citation guide, a section of the architecture research subject guide at Texas Tech University, as an example of an academic guideline for attribution.



The third learning outcome requires students to apply citation and credit statements covering the “Design Development Generation Phase” considerations:

- Identify potential avenues for display, sharing, or both, such as academic projects, portfolios, social media, professional sites, personal websites, and the like.
- Draft appropriate documentation, including attribution for images.
- Solicit opinions and feedback.

The author asked students to consider the various contexts in which they shared images created by themselves or by others, then narrowed the discussion to four main types: academic posters, academic papers, portfolios, and social media. For each category, students examined the primary audience or audiences and formats (static Web, dynamic Web, mobile, print, and so on). Students considered the unintended consequences of image use and incorrect attribution, particularly when posting their projects online. Open discussion included fair use, licenses, and permissions. Students were encouraged to think critically about their academic and professional image creation and use, and to pose questions to their librarian, their professors, and one another.

### Step Five: Assessing Student Learning

Gathering assessment data for these types of instruction can be tricky, as true success would involve students integrating the practices into their academic and professional activities. For learning outcomes about student ability to analyze an ethical visual literacy situation, instructors can use informal methods such as quick polling and noting key terms and concepts revealed in discussion to provide evidence for student engagement. For example, the author took notes about image metadata mentioned by students in the discussion (individual architects, consultants, building materials, and captions) to illustrate student comprehension of the first learning outcome about identifying the purpose and audience behind the use of visuals. The author used quick polling results to determine that roughly 80 percent of students could identify the primary audience or audiences—professional, academic, or general—of publications.

Instructors can utilize alternate strategies such as post-session quizzes to gauge student understanding and application of guidelines and standards. For example, the author used a five-question quiz asking students to apply guidelines, consequences, and citation or credit statements to common academic and professional communication formats (see Appendix B). Results from the application of guidelines show students appropriately applied the library citation guide, an academic guideline (see Figure 6). However, *Architectural Record*, a professional guideline, had a more muddled response. Approximately 84 percent of students recognized the importance of using ethical image behavior in their portfolio, which is a primary format for professional portrayal. Questions about a *Chicago Manual of Style* citation versus a professional online journal style citation show students preferred the *Chicago* style for the academic paper and the online journal example for social media, but they were torn between the two for academic posters and portfolios (see Figure 7).

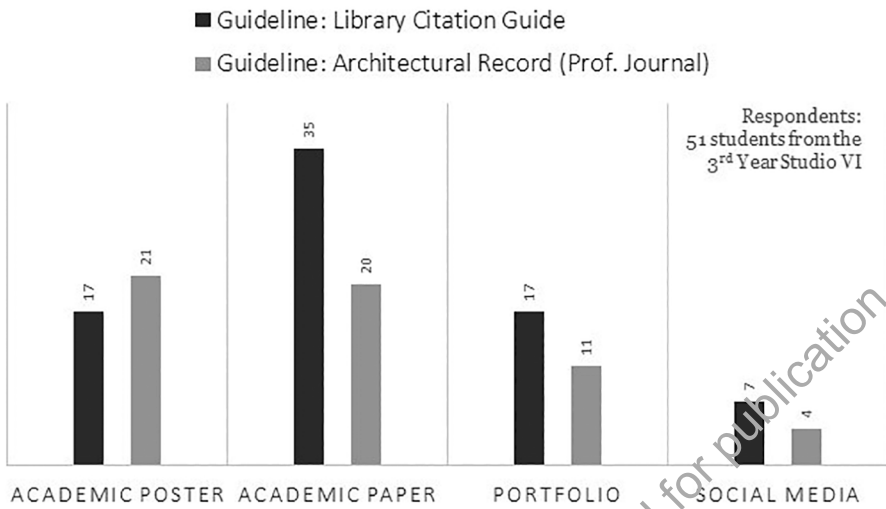


Figure 6. Assessment of student ability to apply guidelines to citation strategies.

Citation #1  
 Fig. 4. Alsoop & Stomer, Peckham Library; multicolored windows, detail, 1999, photograph, London, Art On File, ARTstor.

Citation #2  
 Detail of multicolored windows at Peckham Library, London, 1999 Photo Credit: Art on File via ARTstor.

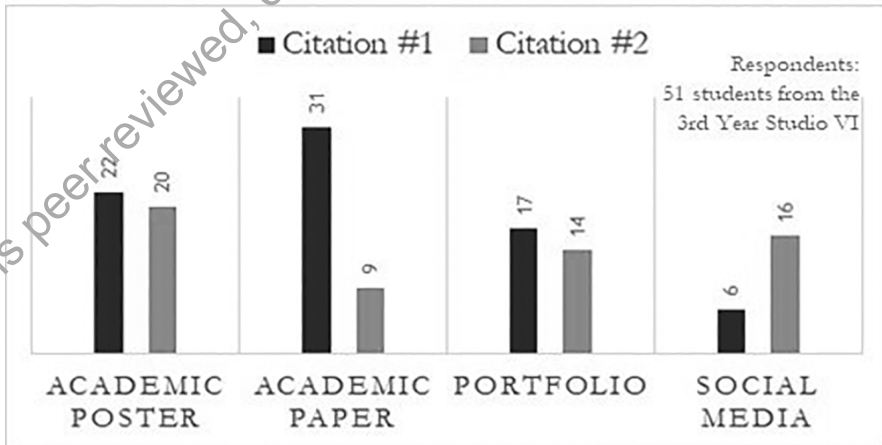


Figure 7. Assessment of student ability to apply citation and credit statements.



Additionally, teaching faculty feedback can track changes in student behavior after instruction sessions. For example, the author received comments from faculty expressing appreciation and surprise for the students' engagement with the subject. Additionally, one professor estimated roughly 80 percent more students provided image attribution in their course posters than had done so the previous year.

## Discussion

In the future, the author could enhance assessments by having students construct their own citations to match different contexts. This would prove useful for the portfolios and social media examples, with which students struggled the most. Gathering student-generated attributions would also more clearly illustrate their grasp of the material and potentially reinforce its applicability to both coursework and professional communications. Because time constraints often limit assessment during one-shot library instruction sessions and modules, another option would be to ask faculty for student attribution examples from course projects. Also, if students display their course projects in poster sessions or digital or physical displays, library instructors could document and analyze their attributions.

Additionally, assessment could connect to other forms of measurement used in the College of Architecture, the university, and the larger academic and professional architectural field. By aligning instruction and assessment to the Association of American Colleges & Universities' "Ethical Reasoning VALUE [Valid Assessment of Learning in Undergraduate Education] Rubric," particularly the "Ethical Issue Recognition" and "Application of Ethical Perspectives/Concepts" sections, visual literacy ethics instruction could have more weight with university-level administration. At the college level, it would be useful to align with accreditation documents. For architecture, the National Architectural Accrediting Board's student learning objectives and outcomes would apply, particularly the criterion SC.2 Professional Practice.<sup>31</sup> The author could then better argue for increased instruction by clearly demonstrating the value of visual literacy ethics mapped to assessments understood by professors, administrations, and professionals.

Moving forward, the author will expand instruction in such topics as moral rights, copyright in collaborations and works for hire, protecting copyrightable material, and crafting a professional identity online. She will teach these concepts in workshops, one-shot instruction sessions, infographics, tutorials, and other learning tools. In addition to using the ethical decision-making model, some topics may benefit from case-based ethics instruction. Researchers have had success using cases to support the incorporation of relevant knowledge into student's mental models.<sup>32</sup> Instructional case studies have also shown that evoking an emotional component can aid in transfer, retrieval, and application of guidelines and best practices in future behaviors.<sup>33</sup> Constructing emotionally resonant case vignettes for complex ethical image use issues could prove useful for evoking critical thinking, discussion, and knowledge acquisition.

## Conclusion

Students must build and model their own authority through visual communications in academic, social, and professional contexts. Visual media saturates all areas of our lives,



and so visual literacy skills become increasingly vital. As students struggle to adapt to new communication formats and avenues of dissemination in their academic coursework, they can easily and unwittingly fall into unethical behaviors. Librarians and disciplinary faculty can help students build better models for using and sharing visual materials that will serve them in the classroom and the workplace. Incorporating behavioral ethics and ethical decision-making theories with disciplinary information and visual literacy teaching models allows for targeted real-world instruction. Students benefit by learning to evaluate their intended audiences and identify and apply appropriate discipline-specific guidelines, models, and best practices for their visual media creation and use. These ethical visual literacy skills and competencies will aid students on the road to success in their current academic and future professional careers. Further research into the best ways to plan, implement, and assess visual literacy ethics instruction could include other disciplinary approaches, visual formats, and technologies.

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## Appendix A

### Quick Polling Questions about Copyright and Attribution

1. In most cases, if you take a photograph of a 1990–present building, who owns the copyright?
  - a. You
  - b. Architect
  - c. Both
  - d. Neither
2. In most cases, if you take a photograph of a recently created building plan by an architect, who owns the copyright?
  - a. Architect
  - b. Both
  - c. Neither
3. A copyright notice must be included on an image for it to be protected under U.S. copyright.
  - a. True
  - b. False





4. Citing/ Attributing images at TTU [Texas Tech University] is necessary to avoid . . .
  - a. Academic dishonesty
  - b. Copyright infringement
  - c. Both
  - d. Neither
  
5. There is an agreed upon standard for citing/ attributing images in architecture.
  - a. True
  - b. False

## Appendix B

### Post-Session Quiz for Image User/Image Creator

1. For which uses would you look primarily to the guideline of the Architecture Library LibGuide?
  - a. Academic poster
  - b. Academic paper
  - c. Portfolio
  - d. Social media
  
2. For which uses would you look primarily to the guideline of the *Architectural Record*?
  - a. Academic poster
  - b. Academic paper
  - c. Portfolio
  - d. Social media
  
3. For which uses would professional prestige be a positive consequence for correct use/ attribution?
  - a. Academic poster
  - b. Academic paper
  - c. Portfolio
  - d. Social media



4. Where would you use this citation/ credit statement: Fig. 4. Alsop & Stormer, Peckham Library; multicolored windows, detail, 1999, photograph, London, ART on FILE, Artstor.
  - a. Academic poster
  - b. Academic paper
  - c. Portfolio
  - d. Social media
  
5. Where would you use this citation/ credit statement: Detail of multicolored windows at Peckham Library, London, 1999, Photo Credit: ART on FILE via Artstor.
  - a. Academic poster
  - b. Academic paper
  - c. Portfolio
  - d. Social media

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