Proceedings of the Design Society, Volume 5: ICED25
https://doi.org/10.1017/pds.2025.10354

# What makes a top-tier internship: ranking internships in industrial design

**Carly Hagins[1,✉] and Betsy Barnhart[2]**

*[1] University of Kentucky, USA, [2] The University of Kansas, USA*

✉ carly.hagins@uky.edu

**ABSTRACT:** Students, educators, and professionals find value in industrial design students participating in internships, however, there is currently no approach for evaluating the quality of internships students are participating in. This research addresses the need for a standardized metric to evaluate industrial design internships. During a two-year longitudinal study conducted at three comprehensive universities, data were collected on internship experiences. Using this data, the authors developed a weighted ranking approach, providing a valuable tool to evaluate internships' quality and relevance. This ranking fills a critical gap, offering unique insights for students, academic programs, and internship providers to assess and enhance internship quality, currently unaddressed by existing tools.

**KEYWORDS:** internships, industrial design, design education, education

## 1. Introduction

Internships and Cooperative Education positions (co-ops) play a crucial role in shaping the educational and professional trajectories of industrial design students, offering real-world experiences that bridge the gap between academic and professional experiences. Despite their importance, these internships vary widely in quality, structure, and impact, leaving students and educators without clear benchmarks to determine their value. This inconsistency presents challenges for academic programs, which often require internships as part of their curriculum but lack reliable tools to evaluate their relevance and quality. Students, in turn, invest time and resources in securing these opportunities, often with limited guidance on which internships align best with their goals.

For educators, the lack of standardized metrics to assess internships undermines their ability to guide students effectively. For students, the absence of reliable criteria exacerbates power imbalances in the internship arrangement, where organizations hold control over the experience's structure and perceived value. Students aren't only participating in internships to develop skillsets, but also to build robust and competitive resumes to be more competitive in seeking employment post graduation. Employers, on the other hand, may struggle to benchmark their programs against others or identify areas for improvement. The development of a ranking tool for industrial design internships addresses these challenges by introducing structure and consistency into how these experiences are evaluated. By defining and prioritizing key attributes—such as compensation, relevance, mentorship opportunities, and delivery format (remote or in-person)—this research aims to provide actionable insights for all stakeholders. Such a tool has the potential to mitigate biases, empower underrepresented students, and ensure that internships provide meaningful educational experiences.

This study addresses the urgent need for objective standards in evaluating industrial design internships. It builds on existing discussions around the value of experiential learning and establishes a foundation for further exploration into what constitutes a high-quality internship. This research fills a critical gap by presenting a weighted ranking approach, offering a valuable resource for students, academic programs, and employers alike.

## 1.1. Literature review

Internships and co-ops are widely recognized as a cornerstone of experiential learning, providing students with opportunities to develop technical skills, industry connections, and professional confidence. Research has consistently highlighted the benefits of internships, including enhanced employability, better academic performance, and improved career readiness (Maertz et al., 2014) (McHugh, 2016). However, defining what constitutes a "valuable" or "good" internship remains a complex and subjective challenge, and few studies attempt to systematically evaluate or rank internships, particularly within specific fields such as industrial design.

Existing research underscores the benefits of internships or co-ops but rarely provides tools or frameworks for evading the quality of the internship or co-op. Studies in engineering education explore the impact of internships on skill development through specific activities like materials analysis. (Erdil et al. 2018) While this approach measures task-based learning outcomes, it does not offer broader evaluation criteria for internship quality. Similarly, (Gama et al., 2018) discuss design education and reflective practices but focus on short-term program outcomes rather than comprehensive internship experiences. Other studies tend to emphasize qualitative aspects, such as the importance of mentorship, the role of internships in bridging the education-to-employment gap, and student satisfaction. For example, Maertz et al. (2014) discuss strategies for building successful internships but stop short of offering a comprehensive evaluation model. Similarly, studies often highlight the variability in internship experiences but provide limited actionable metrics to assess their quality. This research highlights the general value of experiential learning but falls short of proposing standardized frameworks for evaluation.

In the expansive field of industrial design, the absence of structured evaluation tools is especially apparent. Industrial design internships, which demand a mix of creative and technical skills, are particularly difficult to determine value and relevance. Academic programs frequently require internships as part of their coursework but lack criteria to measure their relevance or quality. This leaves educators, advisors, and students reliant on anecdotal advice or their own limited experiences to determine which internships will be most beneficial.

Attempts to develop ranking systems for internships or co-ops in other disciplines are rare and tend to focus on high-level attributes rather than industry-specific criteria. For instance, studies in business education often rank internship programs based on employer reputation or post-internship hiring outcomes (Narayanan et al., 2010; Maertz et al., 2014). However, these metrics fail to capture critical nuances, such as mentorship quality, exposure to relevant projects, or the balance between creative and technical responsibilities. Furthermore, these studies are typically tailored to broad industries and do not address the distinct demands of industrial design, where internships often serve as both professional development and creative apprenticeship opportunities.

Current literature does not explore how internship formats (e.g., remote, hybrid, or in-person) impact learning outcomes and professional development. Broad approaches, such as employer or company rankings, may indicate prestige but do not include specifics of internship structure, such as the nature of tasks assigned, the quality of supervision, or the extent of hands-on experience. While the COVID-19 pandemic highlighted the viability of remote internships, existing research explores internship effectiveness across different settings with general insights (Narayanan et al., 2010) but it does not provide clear insights into how these formats compare in terms of learning outcomes, professional development, or long-term career benefits.

Another overlooked aspect in the literature is the role of compensation and equity in evaluating internships. Paid internships are generally associated with higher perceived value, as they reduce financial barriers and signal greater employer investment in the intern's development (Maertz et al., 2014; Frenette, 2013). However, the secretive nature of compensation for internships and co-ops complicates the landscape, leaving many companies and students unsure of what constitutes fair pay. Few studies explore how pay disparities impact students' access to opportunities or their long-term career trajectories, particularly in fields where unpaid internships remain prevalent (Perlin, 2012; Curiale, 2010).

Overall, the lack of a standardized ranking system for internships is a significant gap in the literature. This study seeks to address this by developing a field-specific ranking tool for industrial design internships. By incorporating both quantitative metrics (e.g., pay, hours worked, and industry relevance) and qualitative feedback (e.g., industry relevance), this research fills a critical void. It provides a practical framework for assessing and comparing internships, enabling students, academic programs, and employers to make more informed decisions.

## 2. Research methods

The aim of this study is to identify the characteristics that define a high-quality industrial design internship experience, with the goal of evaluating and ranking potential internship opportunities. The research employs a mixed-methods approach, incorporating surveys and qualitative interviews for data collection.

The survey, focused on internship experience, was distributed to industrial design students at three comprehensive research universities. Responses were solicited from second, third, and fourth-year students as well as recent alums because they are most likely to have had at least one internship experience. The first version of the survey was disseminated during the fall semester of the 2022-23 academic year and repeated (with revisions) in the fall of the 2023-24 academic year. To date, this longitudinal study reflects 197 survey responses across two years.

Qualitative interviews were conducted with a small selection of survey respondents in an effort to build a more robust contextual understanding of student experiences with applying to, landing, and working in industrial design internships. Interviews were scheduled for thirty minutes and took place over Zoom. Interviewees were recruited based on their overall breadth of internship experiences and paired with interviewers they were unfamiliar with (in an attempt to minimize bias.)

## 3. Analysis and rankings

In an effort to interpret data collected about student internship experiences, a weighted composite score formula was developed. The formula used was:

$$\text{Final Weighted Score} = (W_1 \cdot S_1) + (W_2 \cdot S_2) + \ldots + (W_n \cdot S_n)$$

Where:

- $W_n$: Weight assigned to each criterion (e.g., importance of specific attributes such as remote or in-person, hourly rate of pay, etc.)
- $S_n$: Score of the company for each criterion, normalized if necessary. (OpenAI, 2024)

This study is the first to systematically evaluate and rank the caliber and value of industrial design internships. The rationale for the weighting framework is based on factors that influence the quality and impact of student internship experiences. Specifically, three factors—remote versus in-person format (40%), hours worked per week (20%), and hourly rate of pay (20%)—are based directly from survey question Q8. Industry relevance (40%) is based on the professional reputation of internship companies, as discerned by the authors. This novel approach provides a method for evaluating and comparing the value of industrial design internships.

- Remote or In-Person: In-person internships earned a score of '1,' while hybrid internships earned a score of '0.75' and remote internships earned a score of '0.5.' The rationale for this is that in-person experiences offer the best opportunities for job experience and mentorship. The COVID-19 pandemic forced many internships (including internships reflected in this data set) to shift to remote. The authors recognize this may result in internships being ranked lower than they otherwise would be.
- Hours per Week: Students reported how many hours per week they worked at their internships. Working close to full-time is seen as advantageous primarily because it offers students the most on-the-job experience. Generally, in the US, employers are required to pay for benefits for any employee who works at least 30 hours per week. Where hours per week were reported as more than 40, the number was adjusted back to 40 in order to avoid an undue bias toward overtime.
- Hourly Rate of Pay: Hourly rate of pay can be an indicator of how much value the employer places in the employee. Research has also shown that internships can be a significant financial burden for students. A higher hourly rate of pay is favored because it has the potential to ease financial stress.
- Industry Relevance: This score is based on the author's impression of companies where students interned. Well-established and well-known companies earn a score of '1,' while lesser-known companies earn a score of '0.5' Companies with minimal relevance to industrial design earn a score of '0.25.'

## 4. Outcomes and discussion

The weighted ranking system developed in this study provides a novel approach to evaluating internships by incorporating quantitative metrics—such as pay, work hours, and format—and qualitative factors like industry relevance. The outcomes of the ranking process are consistent with qualitative student interviews and anecdotal student stories about internship experiences. Predictably, larger corporations with more established internship programs and ample resources ranked better than smaller, lesser-known companies. Because each position in this data set is representative of one internship experience (i.e. internships have not been consolidated in the case where multiple students worked for the same employer), it is notable that Company A has three listings in the top 10 (Figure 1), and Company B has two. This suggests that top-ranked employers are delivering consistently valuable industrial design internship experiences.

| Year | Internship Number | Name of company | Industry Relevance | Remote or In Person | Remote or In Person Ranking | Location | Length of internship (months) | Hours per week | Hourly rate of pay | Composite Score | Rank |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2023 | 2 | [redacted] | 1 | In Person | 1 | Warren, Michigan | 3 | 40 | 31 | 14.8 | 1 |
| 2023 | 1 | [redacted] | 1 | In Person | 1 | Boston | 12 | 40 | 29 | 14.4 | 2 |
| 2023 | 1 | [redacted] | 1 | In person | 1 | Warren, Michigan | 3 | 40 | 28 | 14.2 | 3 |
| 2023 | 2 | [redacted] | 1 | In person | 1 | Portage, MI | 3 | 40 | 28 | 14.2 | 3 |
| 2022 | 1 | [redacted] | 0.5 | Remote and in | 0.75 | Saint Louis | 3 | 40 | 29 | 14.175 | 5 |
| 2023 | 2 | [redacted] | 0.75 | In person | 1 | Portland OR | 9 | 40 | 27.5 | 14.025 | 6 |
| 2023 | 2 | [redacted] | 1 | in person | 1 | Colorado | 8 | 40 | 26 | 13.8 | 7 |
| 2022 | 1 | [redacted] | 1 | In Person | 1 | Warren, Michigan | 3 | 40 | 26 | 13.8 | 7 |
| 2022 | 2 | [redacted] | 1 | In person | 1 | Los Angeles, CA | 6 | 40 | 25.75 | 13.75 | 9 |
| 2022 | 2 | [redacted] | 1 | In person | 1 | Los Angeles, CA | 6 | 40 | 25.5 | 13.7 | 10 |

**Figure 1. Top 10 industrial design internship experiences**

Implications

- For Students: The ranking system serves as a practical tool for identifying high-value internships and gaining confidence in their choices, particularly in a competitive landscape where securing any internship can be challenging.
- For Employers: Rankings provide benchmarks for enhancing internship programs, with high placement boosting reputations and attracting top talent. Conversely, lower rankings could prompt meaningful program improvements.
- For Educators: Academic institutions can use this framework to assess and promote the quality of their students' internship opportunities, aligning them with educational goals and career readiness.

This approach represents a significant first step toward addressing a critical gap in how industrial design internships are evaluated. By creating a ranking system based on structured data, this research introduces transparency into what has been an opaque process for defining a "high-quality" internship. This framework builds a foundation for improved internship experiences and provides insights that students, educators, and employers will use to make informed decisions.

This weighted ranking system actively fosters transparency and equity. By making rankings publicly accessible, including compensation and format (in-person, hybrid, remote), equity is introduced to the evaluation process, addressing historic disparities that impact historically marginalized populations. The study becomes a tool to increase accessibility and fairness for all students, regardless of their support from their educational programs, geographic constraints, or personal finances.

### 4.1. Future refinement of research

As this was the first iteration of creating a ranked internship program the researchers can build on this study by refining and expanding the survey to address identified gaps and create a comprehensive publication.

Further revision of the research instrument has the potential to enhance its clarity and utility. In the 2023-24 survey, respondents were asked to provide information on internship #1, #2, and so on, but these were not explicitly defined as the first, second, or third internship experiences in chronological order.

Establishing clear chronology could offer deeper insights into the progression and overall impact of a student's internship experiences. Additionally, students were asked to evaluate the collective impact of all their internships on career development, future benefits, and industrial design education. However, collecting these rankings for each individual internship would allow for more granular data and provide an additional criterion for overall rankings.

The survey, conducted anonymously over two consecutive years at the same universities, also raises the potential for duplicated responses. While this consistency strengthens the dataset's reliability, it presents challenges in ensuring the uniqueness of data points. Future studies could address this issue by implementing anonymized, trackable identifiers that maintain participant confidentiality while reducing the likelihood of redundancies.

Additional data could be incorporated into this ranking system to make it more comprehensive. Internship impact, even as it is defined in the 2023-24 survey (i.e. for all internship experiences a student has had) would be an opportunity for the ranking to more directly reflect the student perspective. The ranking framework establishes a foundational standard, enabling further statistical exploration. Future studies could examine trends, such as the relationship between demographic characteristics or university affiliation and the likelihood of securing higher-ranked internships. (OpenAI, 2024)

The current framework does not address critical aspects such as diversity, equity, and inclusion (DEI). The survey data reflects internship experiences in the years immediately following the COVID-19 pandemic when many employers were still following a work-from-home protocol. (Many of the internships that were ranked lower because they are remote would likely now be in-person.) These gaps present opportunities for future studies to broaden the scope and deepen the impact of this ranking system.

## 5. Conclusion

This study highlights the critical need for a standardized framework to evaluate and rank industrial design internships, offering valuable insights for students, educators, and employers. By identifying key metrics such as compensation, format (in-person vs. remote), and industry relevance, the research underscores the complexity of defining a "valuable" internship. It is worth noting that even challenging or less-than-ideal internships can provide significant learning opportunities, revealing the inherent bias in any ranking system.

The ranking tool developed here has broader implications for academic institutions and students. Schools can leverage high rankings to demonstrate the success of their programs, potentially attracting prospective students and stakeholders. For students, the rankings offer much-needed guidance in selecting internships, particularly for those navigating competitive fields where securing a position can be daunting. With a data-driven tool, students gain confidence in making more informed decisions about their professional development.

Several areas present opportunities for further exploration:

- Incorporating Demographic and DEI Factors: The current framework does not explicitly address diversity, equity, and inclusion (DEI) considerations. Future iterations could integrate demographic data to better understand access disparities and promote equity in internship opportunities.
- Chronology of Internships: Further investigation into how students' first and subsequent internships differ could yield insights into how early experiences shape future opportunities.
- Broadening Dissemination and Student Perceptions: Expanding the study's reach to students, educators, and industry stakeholders could foster greater awareness. Capturing more nuanced student feedback would further enhance the relevance and reliability of the rankings.

Moving forward, repeating a refined version of the survey and expanding its scope to a broader demographic will help validate the findings and address limitations such as data duplication and unclear internship sequencing. A longitudinal approach could offer deeper insights into trends over time, shedding light on the evolving nature of industrial design internships.

Ultimately, this research lays the groundwork for a more equitable, transparent, and actionable evaluation system. By refining the ranking framework and addressing data gaps, future studies can ensure industrial design internships fulfill their dual role as educational experiences and pathways to professional success.

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