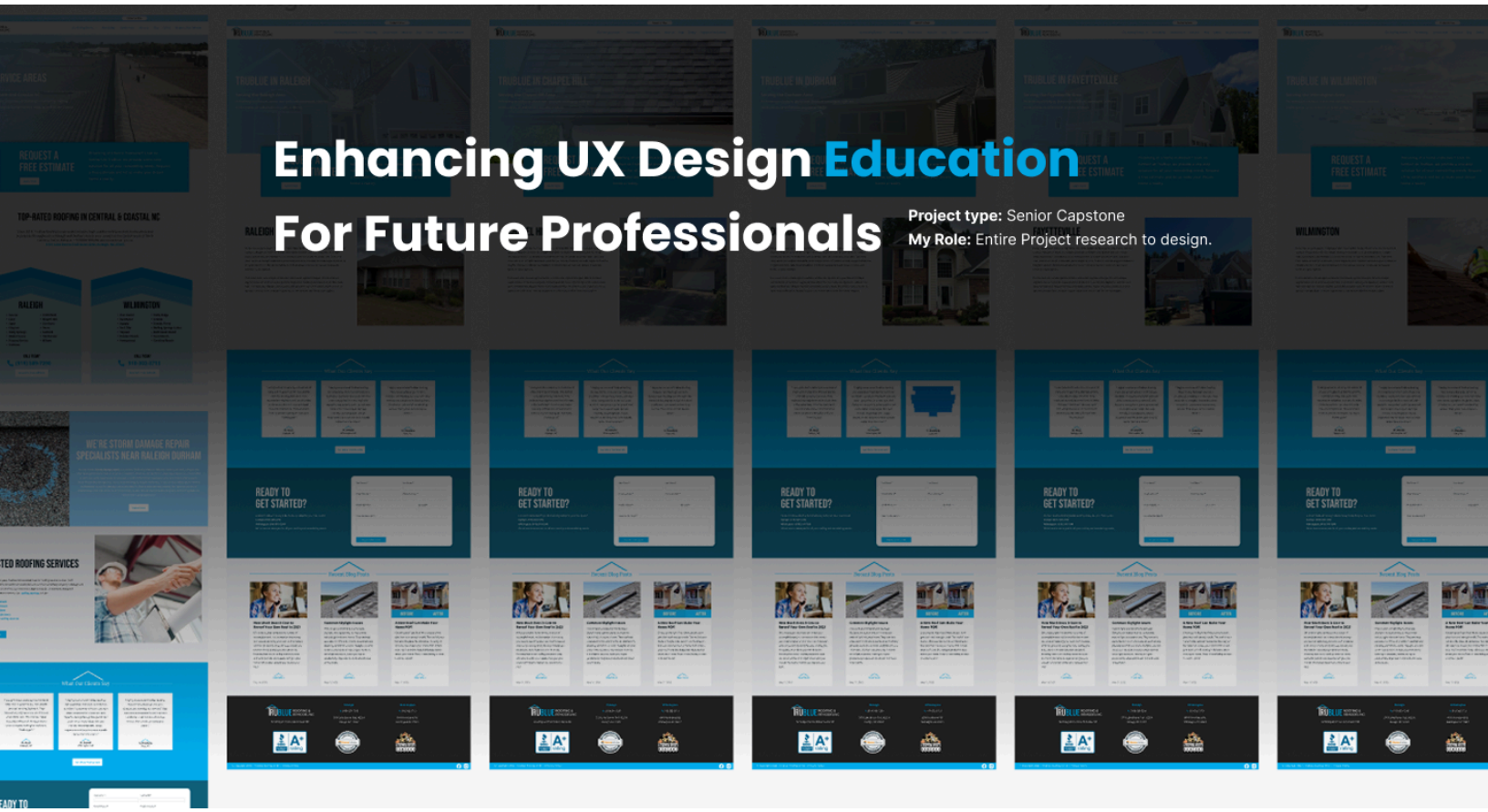

Fig. 1

Source: Kiandost, Fiona. Website Page for TruBlue Roofing and Remodeling. 2025. Big Red Dog Marketing, Raleigh, NC. Photograph.

By: Fiona Kiandost

Course: DS 483 (002)

Research Librarian: Shaun Bennett Feb 27th 2025

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Abstract

As UX Design continues to evolve, UX education must adapt by integrating interdisciplinary knowledge, practical applications, and emerging technologies to better prepare future professionals. To meet industry demands, UX Design should be established as its own dedicated major in universities rather than being treated as a subset of other design or technology programs.

This research explores how the principles of Design Thinking can be effectively integrated into UX Design curricula to enhance students' creativity and problem-solving skills, while also examining the challenges and benefits of implementing more hands-on, project based learning experiences. It can consider how UX Design education might bridge the gap between academic theory and industry practice to better prepare students for real-world challenges, and how the User Experience Design for Learning(UXDL) framework can be adapted to support the learning needs of UX students themselves. Additionally, this study investigates how diverse cultural perspectives and global design trends can be incorporated into curricula to prepare students for an increasingly interconnected digital world.

This research draws from both primary and secondary sources, including insights from related disciplines that support effective learning strategies in a university setting. Notably, after consulting with a research librarian, only three highly relevant sources were identified on UX Design Education. This limited availability further highlights the need for deeper exploration and innovation in this field.

Key Discovery: There are critical gaps between UX education and industry needs.
Solution: Develop a more diverse and interactive academic program.

Glossary of Key Terms

1. User Experience (UX) Design: A user-centric approach to designing products, services, and digital interfaces that prioritize usability, accessibility, and user satisfaction.
2. Human-Computer Interaction (HCI): The study of how people interact with computers and digital systems, influencing UX Design principles.
3. Usability: The ease with which users can navigate and complete tasks within a system, website, or application.
4. Accessibility: Designing products and experiences that are usable by people with disabilities, ensuring inclusivity in UX.
5. Wireframes: Basic, low-fidelity visual representations of a website or application layout, used to plan structure and functionality.
6. Prototyping: The process of creating interactive models of a design to test functionality before full development.
7. User Research: The study of user behaviors, needs, and motivations to inform design decisions, often involving interviews, surveys, and usability testing.
8. Iterative Design: A continuous process of refining and improving a design based on user feedback and testing results.
9. Information Architecture (IA): The organization and structuring of content in digital interfaces to enhance usability and navigation.
10. User-Centered Design (UCD): A design philosophy that prioritizes the needs, behaviors, and preferences of users at every stage of the design process.
11. Empathy in Design: The ability to understand and address user pain points, frustrations, and needs to create meaningful and effective experiences.

12. Interaction Design (IxD): A branch of UX focused on how users interact with digital systems, ensuring intuitive and responsive user experiences.
13. UX Metrics & Analytics: Data-driven evaluation of UX effectiveness, including user engagement, conversion rates, and usability scores.

What is UX Design?

When asked about my field of study, I often simplify it to “Design”. However, this generalization barely scratches the surface of my true passion: User Experience(UX) Design. The frequent follow-up question-”what is UX Design”- reveals both the field's novelty and complexity.

So what is UX Design? At its core, it is a user-centric approach to creating products, services, and experiences. It’s about the understanding and prioritizing users’ needs, desires, and pain points throughout the entire design process. But UX Design is far from simple-it’s a multifaceted discipline that blends psychology, technology, and design to create solutions that are not only functional, but also intuitive and enjoyable to use.

The UX Design process typically involves several key stages:

1. Research: Understanding the user, their context, and the problem space
2. Analysis: Synthesizing research findings to identify patterns and opportunities
3. Design: Creating wireframes, prototypes, and user flows
4. Testing: Evaluating the design based on user insights and data

Fig. 2

Source: Kiandost, Fiona. Key Stages Processes. 2025. Created using Figma. Graphic design.

What sets UX Design apart from other fields like Graphic or Industrial Design is its holistic approach. While those disciplines focus on specific elements(such as visual appeal or physical form), UX Design considers the entire user journey and how all components work together to shape a seamless experience. The complexity of UX Design underscores the need for specialized education in this field. As the discipline grows in prominence, it becomes crucial to explore how UX Design Education can evolve to better prepare future professionals for the challenges and opportunities ahead.

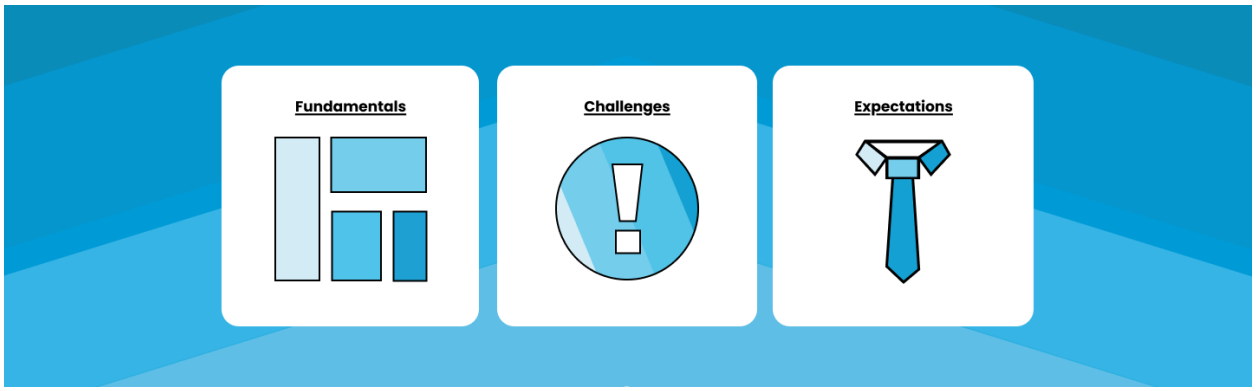


Fig. 3

Source:Kiandost, Fiona. UX Education Footer graphics. 2025. Created using Figma. Graphic design.

Key Influences: Don Norman, Niels Floor & IDEO

Why is UX Design Important?

Fig 4.

Source: OpenAI, Map of localization efforts. 2025. ChatGPT, https://chat.openai.com. AI-generated image.

The Importance of cultural considerations in UX Design has grown alongside the internet's global expansion. Initially, design was viewed primarily through a functional or aesthetic lens, with little attention to cultural diversity. But as the internet reached new regions, companies like Google, Microsoft, and Apple began to recognize the limitations of a one-size-fits-all approach. The realization that cultural

context shapes how users interact with digital products sparked the integration of cultural awareness into UX as well as other Design disciplines.

As the UX Collective explains, “a beautiful(i.e. effective) product…is not likely to be faithful to its original version when it becomes available to a different country.” UX teams must “align the experience delivered to different cultures, tastes, and styles” (Conte). By the early 2000s, companies began investing in localization-going beyond the text translation to include layout, iconography, color, and interaction design(Yang, 285). This marked a turning point, prompting a shift in design education toward cultural sensitivity.

Anna Valtonen, in *Approaching Change With and In Design*, notes, “New design processes exist to enable [diverse] outcomes…broader, more diverse communities often contribute to collective changemaking” (Valtonen,1). Designers are no longer just solving problems-they’re identifying which problems matter. This aligns with Human-Centered Design(HCD), which declares, “A brilliant solution to the wrong problem can be worse than no solution at all” (Norman,218). This evolving mindset has influenced education, placing greater emphasis on experiential learning(EL). Niels Floor states in *Learning Experience Design*, that immersive EL exposes students to real-world contexts and teaches essential skills like leadership and teamwork more effectively than traditional classrooms.

Floor also notes, “The focus is traditionally on ‘What do you learn?’ instead of ‘How is this experience going to impact the learner?” (Floor,2023), pointing to a shift from theory-heavy curricula to impact-driven learning. Preparing students to think critically and navigate diverse digital environments is becoming just as important as technical proficiency. As UX Design becomes more global, designers are expected to create experiences that meet both functional and cultural needs. Valtonen sums it

up: “The result is not just a product, but… a human emotion, character, or identity” (Valtonen, 508).

The Gaps in the Current UX Design Education

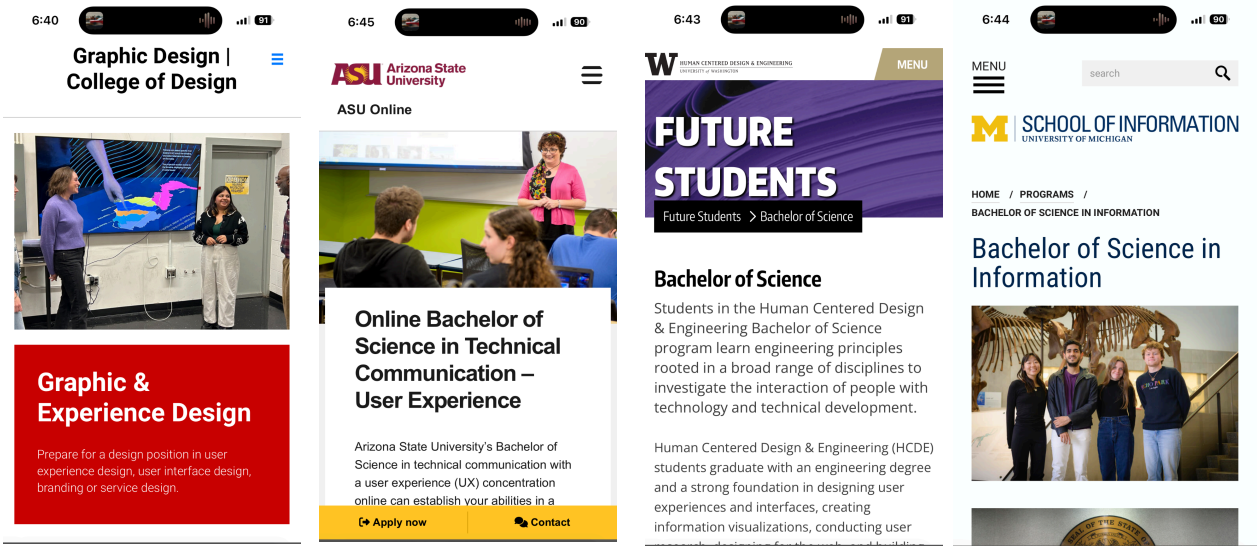


Fig. 5, 6, 7, & 8

Screenshot of NC State University Website, Screenshot of Arizona State University Website, Screenshot of University of Washington Website, *Screenshot of University of Michigan Website.*

Despite its increasing relevance in the digital age, UX Design Education lacks a standardized approach. Many universities offer UX Courses within broader programs such as Graphic Design, Computer Science, or Human-Computer Interaction(HCI), but these courses rarely cover the full UX Design Process in depth. Students may learn visual design principles, basic coding, or usability testing, but few programs offer a comprehensive curriculum that integrates all the necessary elements of UX, including research methodologies, accessibility, and behavioral psychology. At NC State University, for instance, UX-related learning is often distributed across colleges like the College of Design and the College of HUmanities and Social Sciences(CHASS), requiring students to independently piece together a multidisciplinary education. While this collaborative effort allows for exposure to both

technical and human-centered perspectives, it can also create inconsistencies in training and make it harder for students to build a cohesive understanding of UX Design as a unified discipline.

A major issue is the disconnect between theory and practice. While students may study UX concepts, many graduate without real-world experience applying them. UX is iterative by nature- requiring testing, user feedback, and continuous refinement. Without internships, case studies, or industry partnerships, students lack the hands-on experience needed to navigate real design challenges. Rapid technological change only complicates matters. With advancements in AI, VR, and new interaction modes, universities often can't update their curricula fast enough. Even if they did, by the time students graduate, tools may be outdated. To address this, programs like COD focus on adaptable, foundational skills- but this still leaves students needing external training (bootcamps, workshops) to meet industry demands. A promising solution would be greater collaboration between academia and industry. Micro-courses, guest-led workshops, or short-term tech partnerships could keep students current while reinforcing their foundational learning.

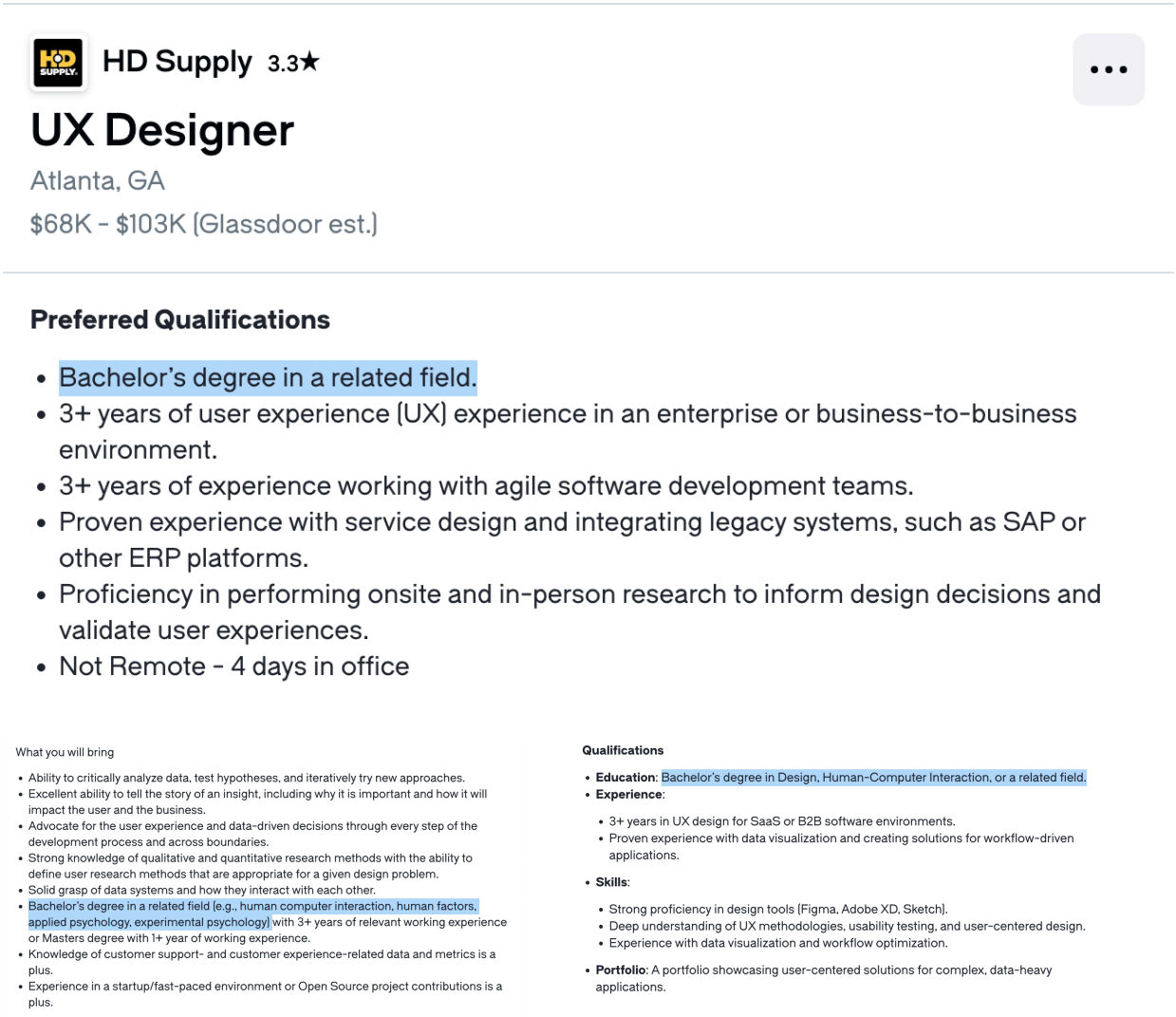
Moreover, the field's career requirements are still shifting. UX Design Began as a certification-driven field, but many employers now seek candidates with collefe degrees in "related fields"- despite no clear standard for what that entails. Job descriptions often include vague criteria like:

"Ideally, you will have a degree or equivalent work experience in Human Factors, Graphic Design, Interaction Design, or a related field"

OR

"A BA or higher in Design or a related field is required"

These inconsistencies reflect a lack of clarity around qualifications, leaving students unsure how to prepare.



HD Supply 3.3★

UX Designer

Atlanta, GA

$68K - $103K (Glassdoor est.)

Preferred Qualifications

- Bachelor's degree in a related field.
- 3+ years of user experience (UX) experience in an enterprise or business-to-business environment.
- 3+ years of experience working with agile software development teams.
- Proven experience with service design and integrating legacy systems, such as SAP or other ERP platforms.
- Proficiency in performing onsite and in-person research to inform design decisions and validate user experiences.
- Not Remote - 4 days in office

What you will bring

- Ability to critically analyze data, test hypotheses, and iteratively try new approaches.
- Excellent ability to tell the story of an insight, including why it is important and how it will impact the user and the business.
- Advocate for the user experience and data-driven decisions through every step of the development process and across boundaries.
- Strong knowledge of qualitative and quantitative research methods with the ability to define user research methods that are appropriate for a given design problem.
- Solid grasp of data systems and how they interact with each other.
- Bachelor's degree in a related field (e.g., human computer interaction, human factors, applied psychology, experimental psychology) with 3+ years of relevant working experience or Masters degree with 1+ year of working experience.
- Knowledge of customer support- and customer experience-related data and metrics is a plus.
- Experience in a startup/fast-paced environment or Open Source project contributions is a plus.

Qualifications

- **Education**: Bachelor's degree in Design, Human-Computer Interaction, or a related field.
- **Experience**:
  - 3+ years in UX design for SaaS or B2B software environments.
  - Proven experience with data visualization and creating solutions for workflow-driven applications.
- **Skills**:
  - Strong proficiency in design tools (Figma, Adobe XD, Sketch).
  - Deep understanding of UX methodologies, usability testing, and user-centered design.
  - Experience with data visualization and workflow optimization.
- **Portfolio**: A portfolio showcasing user-centered solutions for complex, data-heavy applications.

Fig. 9, 10, & 11

Source: Kiandost, Fiona. Screenshot of LinkedIn UX Design Job Postings. Captured 2025. LinkedIn, https://www.linkedin.com/jobs. Accessed 14 Apr. 2025. Screenshot.

Those with non-UX degrees often lack the hands-on skills needed for employment, while those with certifications may be dismissed for not having formal academic backgrounds. This double bind highlights a growing need for UX-specific, experience-rich degree programs that bridge education and real-world application.

What is Next for UX Design?

The IDEO “Designer’s Mindset” offers a human-centered and flexible approach to UX, emphasizing empathy, optimism, and adaptability. These qualities mirror frameworks like Stanford's Design Thinking process and the Double Diamond Model, both of which stress user research and iterative design. However, critics argue that while mindset matters, it is not a substitute for technical skills and structured methodology. A flexible mindset without clear process guidance may leave novice designers unprepared. As UX branches into niches like AI-driven service design, technical fluency and specialized knowledge are becoming just as vital as creativity and empathy.

Looking ahead, future research should explore how to integrate mindset-driven approaches like IDEO’s into more structured educational models. Hybrid programs that balance creativity with hands-on skill-building could better prepare students for today’s fast-moving industry. It will also be important to examine how AI and automation can support UX without compromising the field’s human-centered values.

Reflecting on these insights, it’s evident that the future of UX Design hinges on education that blends structured methodology with cognitive flexibility. IDEO’s model excels in encouraging innovation, but its power lies in pairing that mindset with real-world application. As technology and user expectations evolve, so must UX Education. Students need more than abstract principles-they need career-ready skills, ethical grounding, and cultural adaptability. By embedding these elements into UX-specific programs, universities can ensure that future designs aren’t just creative thinkers, but capable professionals ready to shape the digital experiences of tomorrow.

Annotated Bibliography

Conte, Tania. "Localization in UX: Way Beyond Text Translation." *UX Collective*, 21 Oct. 2020, https://uxdesign.cc/beyond-text-translation-ux-design-and-localization-77b337b1f686

This article discusses how UX Design must be adapted for different cultural audiences through localization, not just translation. Conte emphasizes the importance of aligning experiences with local taste and expectations, highlighting how cultural awareness is key to successful UX. This source supports the argument that modern UX education must include global and cross-cultural design literacy.

Floor, Niels. "Why Learning Experience Design Matters." 26 June 2023.

Floor advocates for immersive, experiential learning in design education. He argues that focusing solely on content("what you learn") is less effective than prioritizing how the learning experience impacts students. This supports the idea that UX education should move beyond theory to real-world engagement and reflection.

IDEO. "Design Thinking." *IDEO*, IDEO U, designthinking.ideo.com. Accessed 17 Mar. 2025.

This source outlines IDEO's approach to creativity and problem-solving, emphasizing traits like empathy, iteration, and optimism. While inspirational, its lack of concrete process makes it difficult to apply directly in structured curricula. The source helps frame a key tension in UX education: mindset versus methodological instruction.

Norman, Don. The Design of Everyday Things. Revised and expanded edition, Basic Books, 2021.

Norman's work is foundational in UX and HCD(Human-Centered Design), offering insights into usability, design failures, and user psychology. His quote on solving the "right problem" is central to the argument that UX education should teach students how to frame and approach complex challenges with empathy and context.

Valtonen, Anna. "Approaching Change with and in Design." *She Ji: The Journal of Design, Economics, and Innovation*, vol. 6, no. 4, 2020, pp. 505–529, https://doi.org/10.1016/j.sheji.2020.08.004.

Valtonen explores the social and cultural evolution of design thinking, highlighting the shift from product-focused outcomes to community-oriented change. Her emphasis on inclusivity and emotional outcomes reinforces the need for design programs to incorporate diverse perspectives and values into their teaching.

Yang, Yanxia. "Extending the User Experience to Localized Products." *Usability and Internationalization. Global and Local User Interfaces: Second International Conference on Usability and Internationalization, UI-HCII 2007*, edited by Nuray Aykin, Springer, 2007, pp. 285–292. https://link.springer.com/chapter/10.1007/978-3-540-73289-1_34

Yangs paper focuses on usability in international contexts, emphasizing how interface design must adapt to regional norms and user behaviors. It provides a technical foundation for discussions of localization

and serves as academic support for incorporating global UX concerns into university programs.

Zbiejczuk Suchá, Ladislava, Jáchym Kubáček, and Jitka Bartošová. "Formal Education and the Readiness for Work in UX: The Results from a Mixed-Methods Research Study." Proceedings of the IADIS International Conference Interfaces and Human Computer Interaction 2022.

This mixed-methods study investigates how well formal education prepares students for careers in UX. The researchers found significant disconnects between university coursework and employer expectations, especially around practical skills and industry-readiness. This source reinforced the central claim of the essay: UX education must evolve to better bridge the gap between academia and real-world practice.

Works Cited

Norman, Don. The Design of Everyday Things. Revised and expanded edition, Basic Books, 2021.

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Lahey, Michael. "Navigating Complexity: User Experience Design Education, Business Culture, and the Job Market Transition." The International Journal of Design Education, vol. 18, no. 1, 2023.

James Branch, Christopher J. Parker & Mark Evans (2021) Do User Experience (UX) Design Courses Meet Industry's Needs? Analysing UX Degrees and Job Adverts,The Design Journal, 24:4, 631-652, DOI: 10.1080/14606925.2021.1930935

Floor, Niels. This is Learning Experience Design: What it is, How it Works, and Why it Matters. Pearson / New Riders, 2023.

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"ChatGPT." Formatting and citing sources, OpenAI, 17 Mar. 2025, chat.openai.com

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Fig. 5 Source: Kiandost, Fiona. Screenshot of NC State University Website Homepage. Captured 2025. North Carolina State University, https://www.ncsu.edu. Accessed 14 Apr. 2025. Screenshot.

Fig. 6 Source: Kiandost, Fiona. Screenshot of Arizona State University Website Homepage. Captured 2025. Arizona State University, https://www.asu.edu. Accessed 14 Apr. 2025. Screenshot.

Fig. 7 Source: Kiandost, Fiona. Screenshot of University of Washington Website Homepage. Captured 2025. University of Washington, https://www.washington.edu. Accessed 14 Apr. 2025. Screenshot.

Fig. 8 Source: Kiandost, Fiona. *Screenshot of University of Michigan Website Homepage*. Captured 2025. University of Michigan, https://umich.edu. Accessed 14 Apr. 2025. Screenshot.

Fig. 9, 10, & 11 Source: Kiandost, Fiona. Screenshot of LinkedIn UX Design Job Postings. Captured 2025. LinkedIn, https://www.linkedin.com/jobs. Accessed 14 Apr. 2025. Screenshot.