UX PRACTITIONERS' ENGAGEMENT WITH INTERMEDIATE-LEVEL KNOWLEDGE

UXP²
PEDAGOGY × PRACTICE

Colin M. Gray & Yubo Kou *PURDUE UNIVERSITY*

ABSTRACT

Scholars have repeatedly called for the knowledge production efforts of the HCI research community to have resonance with the needs of practitioners. These efforts, reified in approaches such as "implications for design," annotated portfolios, and other forms of intermediate-level knowledge have begun to take hold within the research community, yet it is unclear if and how these forms of knowledge are used to actually support user experience (UX) practice. In this study, we analyzed resources shared via URLs that pointed to articles on external websites within a practitioner-focused Reddit community. Using Löwgren's taxonomy of intermediate-level knowledge, we identified the forms of knowledge these resources represent, and use this analysis as a provocation for future exploration into the types of knowledge practitioners desire and use to support their practice.

INTERMEDIATE-LEVEL KNOWLEDGE

THEORY ◀ ·················· ▶ **ULTIMATE PARTICULAR**

(Adapted from Löwgren [6])

BACKGROUND

Numerous efforts have been made by HCI scholars in the past decade to support knowledge production that has relevance for practice, respecting both the varied nature of design knowledge (as contrasted with fully objective, scientific knowledge) and the means of adequately representing this knowledge with potential uptake for future scholarship and practice [1,2,3,4,7].

However, it is unclear how—if at all—these research-driven conversations have impacted the use of academic HCI knowledge in practice. In this work-in-progress, we seek to describe the types of knowledge that UX practitioners share and rely upon to support their design activities, expanding previous conversations on the nature of design scholarship in a practice-led framing.

In this study, we use the notion of intermediate-level knowledge [5,6] to frame a practice-led study of UX practitioner interactions on Reddit. In particular, we operationalize the different types of knowledge proposed to exist in the intermediate space between theory and ultimate particulars [6] to categorize and describe the knowledge that UX practitioners share to support their practice, thus furthering HCI researchers' understanding of what knowledge is perceived to be useful. The contribution of this study is two-fold: 1) operationalizing the proposed categories of intermediate-level knowledge in order to make sense of the knowledge that is valued by practitioners; and 2) providing a provocation for future research on the knowledge desired and used by practitioners, and the ways in which HCI researchers may be productively intertwined in this knowledge-generation process.

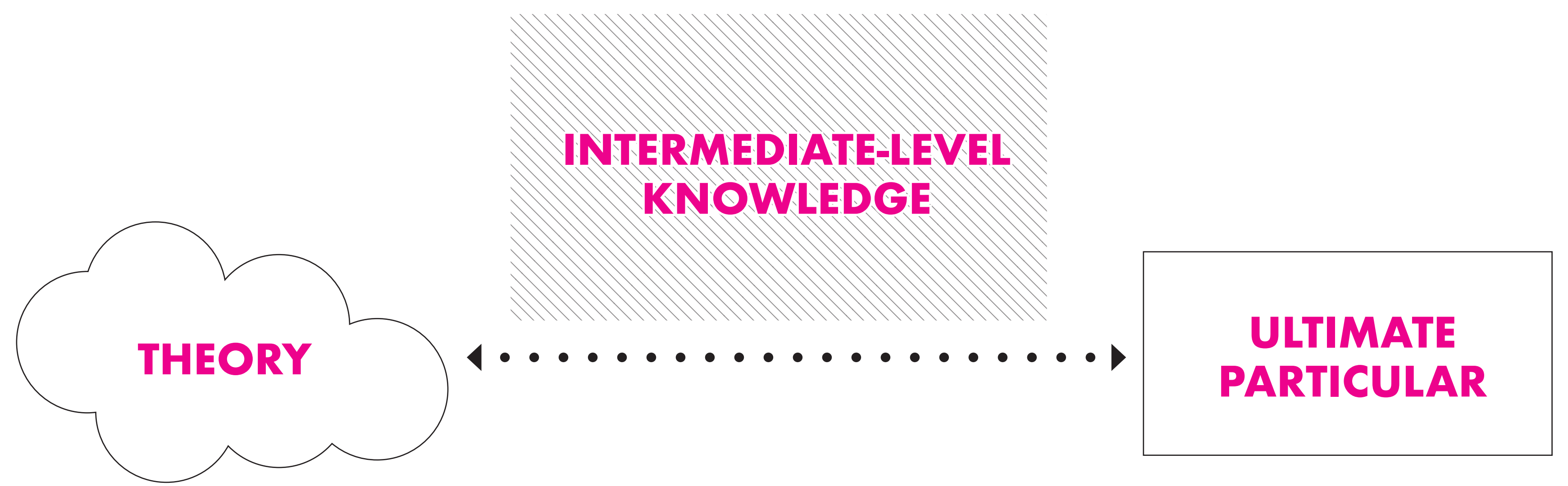| KNOWLEDGE TYPE	N	DESCRIPTION
Design Methods and Tools	28	How designers extend their capabilities to undertake their work. e.g., "A list of UX Design Methods and Deliverables"
Guidelines	31	An operationalization of general theory, phrased in a generative way. e.g., "Practicing Empathy in Product Design"
Heuristics	14	Similar to guidelines, but phrased in evaluative language. e.g., "Good Design is Humble"
Criticism	14	Invoking a new frame of reference to abstract and reinterpret existing design practices. e.g., "Honeycomb of UX Shame"
Patterns	7	A stylized depiction of particular artifacts or families of artifacts. A way of communicating and representing best practices among designers. e.g., "Icons and UX"
Experiential Qualities	21	"Use qualities" that relate to user experiences rather than elements of an artifact. e.g., "What does software sound like?"
Annotated Portfolios	17	A selection of artifacts with generative, artifact-related annotations that relates to experiential qualities of use. e.g., "Effective Maintenance Pages: Examples and Best Practices"
Concepts (e.g., Strong; Bridging)	0	Design concepts that are not necessarily built, but are generative to the development of other design ideas.
Case studies	3	Concrete reports on individual or historical products. e.g., "Steve Jobs – The Mastermind of UX Design"
Meta discussions	3	Discussions of UX or UX-related roles. e.g., "Don Norman on the term 'UX'"
Landing pages	3	Pages that include multiple posts or ideas in a minimally-curated form. e.g., "20 documentaries every designer should watch"

METHOD

To understand how UX practitioners rely upon knowledge-sharing practices to support their work, we have engaged in extended study of a specific community on Reddit, a subreddit known as "/r/userexperience." We collected all posts, comments, and metadata from this community from January 19, 2016 to August 24, 2016, yielding 970 posts. These posts were then analyzed through an open thematic approach to understand what topics were discussed, and the relative frequency of these topics. The present study focuses on one theme, which represented posts that describe discussions or sharing of information that participants indicated as relevant or essential for UX practice, comprising 182 posts. Of these posts, 154 included a link to an external resource, which represented some knowledge that the post author deemed relevant for the UX community.

We analyzed this subset of posts by following each URL and attempting to describe the kind of knowledge the linked resource contained. We used the Löwgren taxonomy of intermediate-level knowledge as a set of a priori codes, performing a closed thematic analysis of the posts and related URLs. After removing a small number of unavailable URLs (n=7), our final dataset contained 147 posts. We identified 4 resources explicitly engaging with theory—only 2 describing an ultimate particular—and the remaining 141 sharing intermediate-level knowledge. We coded 132 of 141 posts into the eight categories proposed by Löwgren. we also identified an additional three categorizations of knowledge that appeared to be distinct: case studies of individuals or historic products (n=3); meta discussions of the definition of UX or UX-related roles (n=3); and landing pages that represented multiple posts or ideas in a minimally-curated form (n=3). Table 1 describes definitions for these knowledge types and representative examples.

FINDINGS

UX practitioners in this subreddit shared a wide range of intermediate-level knowledge, including every category except concepts. Practitioners appeared to appreciate clear-cut guidelines, heuristics, patterns, or a combination of these types as displayed in an annotated portfolio format (where not only the abstract organizing principle is stated, but also visual examples that exemplify this principle). In fact, almost half of all intermediate-level knowledge posts were of these types (n=69/132). Based on our initial analysis, these resources appear to translate common UX challenges into an objective or objective-like form of knowledge, bracketing aside the judgment the designer will need to modify or apply this knowledge in a specific design situation. However, some resources revealed a willingness and ability to engage in criticism of the field, occasionally through external disciplinary perspectives, but more frequently through humor and parody.

DISCUSSION

This study documents the use and articulation of intermediate-level knowledge in UX through an analysis of practitioners' online interactions. This identification of intermediate-knowledge in practitioner-selected artifacts may serve as an important provocation to the HCI research community, extending the discussion of "implications for design" that began over a decade ago. In particular, the interactions within this Reddit community underscore the types of knowledge that are desired and used by practitioners. This knowledge is primarily action-oriented, concrete, and pragmatic, often including exemplars to illustrate various ways of incorporating or approach under discussion.

It is increasingly important to understand UX practice on its own terms, recognizing the knowledge that practitioners build and rely upon to support their work, being open to a more balanced and bidirectional relationship among academics and practitioners.

In some ways, this strong link between image and text has been taken up in the Pictorials format at DIS [1], but more discussion of precedent knowledge and how this knowledge supports practice in unpredictable, designer-driven ways is needed to more fully contextualize the value of these forms of intermediate-level knowledge. The Löwgren taxonomy was likely not intended to be used for empirical work of this type, and thus we used the heading structure, title, and other linguistic cues to identify the dominant knowledge type. Future work will be needed to further analyze the relationship among knowledge types and artifacts that were frequently intertwined in the URL text, documenting the role of these elements and the surrounding Reddit conversation in supporting practitioners' work.

FUTURE WORK

Seek out knowledge that may allow for greater understanding of practice.

Document and analyze the kinds of knowledge that appear to be valued by practitioners.

Describe how practitioners consume and use resources in their practice, and how these resources may promote discussion in online practitioner communities.

Bubbling-up these insights may enrich the current conversation on intermediate-level knowledge, and may reveal additional ways in which researchers may be productively intertwined in the knowledge-generation and dissemination process.

REFERENCES

1. Eli Blevis, Sabrina Hauser, and William Odom. 2015. Sharing the hidden treasure in pictorials. *interactions* 22, 3: 32-43. https://doi.org/10.1145/2755534
2. William Gaver. 2012. What should we expect from research through design? In *Proceedings of the 2012 ACM annual conference on Human Factors in Computing Systems*. ACM Press, New York, NY, 937-946. https://doi.org/10.1145/1124772.1124855
3. Bill Gaver, and John Bowers. 2012. Annotated portfolios. *interactions* 19, 4: 40-49. http://doi.org/10.1145/2212877.2212889
4. Kristina Höök, Peter Dalsgaard, Stuart Reeves, Jeffrey Bardzell, Jonas Löwgren, Erik Stolterman, and Yvonne Rogers. 2015. Knowledge Production in Interaction Design. In *Proceedings of the 33rd Annual ACM Conference Extended Abstracts on Human Factors in Computing Systems*. ACM Press, New York, NY, 2429-2432. http://doi.org/10.1145/2702613.2702653
5. Kristina Höök, and Jonas Löwgren. 2012. Strong concepts. *ACM Transactions on Computer-Human Interaction* 19, 3: 1-18. http://doi.org/10.1145/2362364.2362371
6. Jonas Löwgren. 2013. Annotated portfolios and other forms of intermediate-level knowledge. *interactions* 20, 1: 30-34. https://doi.org/10.1145/2405716.2405725
7. Corina Sas, Steve Whittaker, Steven Dow, Jodi Forlizzi, and John Zimmerman. 2014. Generating Implications for Design through Design Research. In *Proceedings of the 2012 ACM annual conference on Human Factors in Computing Systems*. ACM Press, New York, NY. http://doi.org/10.1145/2556288.2557357