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Maturing a Practice

Abstract

The authors of this paper position pratice-led research (PLR) as an effective agent in the transformation of the seemingly inherent and natural acts found in casual practice into the formal arrangement of accepted truths and regulated practices of a discipline for user experience design (UXD) and information architecture (IA) communities of practice. The paper does not intend to exhaustively define discourse analysis, discipline practice or pratice-led research per se, but rather to introduce practitioners and the fields of UX and IA at large to the basic concepts of PLR so as to begin establishing discussion and awareness.

Introduction

The question "How can PLR improve information architecture and user experience design at large?" can be understood on two levels: the first being that of the field; the second, the impact on the acts of design or making for practitioners. In this paper, our primary interest is in the former although the process of maturing the practice to discipline through PLR would influence both the act of making and the experience of practitioners working within the field and this we touch on although not exhaustively.

A variety of limitations and threats to the field are the primary drivers behind writing this paper: the informal structures of a community of practice are limited in their ability to store and disseminate knowledge; the validation of knowledge is not rigorous; opinion and knowledge are often confused; communities of practice tend to be impermanent; there is a lack of real progress made in ongoing discourses (discussions are circular); and for the practitioner there is no larger coherent body of validated, scientific knowledge to appeal to or apply when designing in commercial or other contexts where the designer is accountable.

Our argument centers on the role of research (and the specific benefits of PLR) in the development of a discipline for user experience design (and information architecture design) and the manner in which this would directly work to address the above concerns. As such, this paper presents an

examination of the field of user experience design (UXD) in general, and information architecture (IA) in particular. We note that although the field is comprised of numerous fields and communities of practice and that it benefits from the theoretical inheritance of related disciplines (it is multi-disciplinary in nature) collectively it lacks the benefits associated with an institutionalized discipline of its own. We argue that the present community of practice is characterized by an abundance of know-how and opinion, which is in fact a threat, and a disservice to the larger benefit experienced as a result of applying UXD.

Through an exploration (and some definition) of practice and discipline we come to understand the benefits to be gained from maturing the community of practice of UXD to that of an institutionalized discipline. Scholarly research and the creation of scientifically validated knowledge is a key element in this process of maturation.

In this paper we maintain that the approach of practice-led research (PLR) could greatly assist the larger UXD community due to the abundance of artifacts produced by the designers and the central role that the artifact plays in the PLR method. In the research mode of the PLR method, the role of the practitioners and those of the researchers are often coupled and interwoven. Although of course more is required for the robust formation of a formalized discipline, it is our suggestion that enormous headway could be gained through the validation of the knowledge to be unearthed by practitioners in the process of design. This production of knowledge would be the basis for an economy upon which a discipline could take form.

User Experience Design and Information Architecture

User experience (UX) is certainly a broadly defined term, to the point that a universal definition of UX does not exist so far even though there seems to be large convergence on referring to the attainment of behavioral goals, satisfaction of non-instrumental or hedonic needs, and acquisition of positive feeling and well-being (Hassenzahl et al 2006). According to Hassenzahl and Tractinsky (2006), UX is eminently holistic, subjective, and positive, and can be said to be a momentary, primarily evaluative feeling (good-bad) while interacting with a product or service. By that, UX shifts attention from the product and materials (i.e., content, function, presentation, interaction) to humans and feelings - the subjective side of product use. In addition, it emphasizes the dynamic. UX becomes a temporal phenomenon, present-oriented and changing over time (Hassenzahl 2008).

This attention to dynamics and change is traditionally neglected in usability,

as much as the fluctuating importance of the different experiential components in accordance to tasks being accomplished or momentary psychological state (Hartmann & Sutcliffe 2006). While academia has been working on the general concept of what user experience is and how can it be defined, the field of practice has been active in trying to address the issue of what user experience design is and how it relates to other design practices. Again, views differ vastly (Morville 2004; Kolko 2009): we will refer to the so-called T-model (Boersma 2004) as it has been greeted with a certain success and has hence been widely commented and widely criticized through the years, and hence offers a solid base to further the discussion.

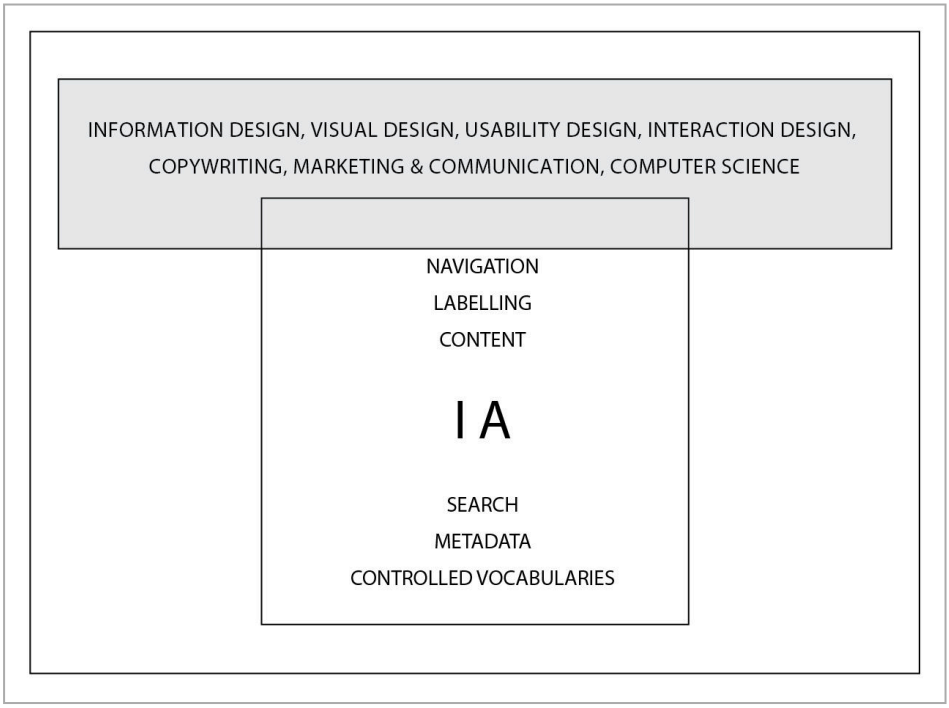

Figure 1. T-model reflecting Morville's "Big Architect, Little Architect" view of information architecture and related fields (Boersma 2004)

The diagram shows two rectangular shapes: the horizontal block contains fields related to IA and the vertical block the practices or tasks within the field of IA. This reflects the view illustrated in another rather well-received and influential article by Peter Morville, "Big Architect, Little Architect" (2000). Boersma notes how "little architects" would be active at the bottom of the vertical block, where the deep specific subjects are, while "big architects" would be mainly operating at the top, shallower, level: with the vertical line representing the field of IA with varying degrees of depth, while the horizontal line represented the width of related fields around (IA). The depth of IA ranges from shallow subjects that have clear overlap with the other

fields to deep subjects that other fields hardly touch upon. Shallow subjects are navigation, labeling, and content that overlap with interaction design, marketing and copywriting for example. Deep subjects would be search, metadata, and controlled vocabularies. Peter Morville's little IA's live here, and each would have his own strengths. Boersma felt that this T-model as it was did not depict the relationships among the different fields accurately, and maintained that graphically representing information architecture as the one dominant field was a mistake. Furthermore, Boersma elaborated that every field in the area of digital design has its own variant of the T-model, where their vertical line stands next to IA's, and they de facto share the overlapping horizontal line. For Boersma the horizontal overlap is the place where User Experience (UX) practitioners operate. They are likely to have a background in one of the fields (their private vertical line) but in their work they focus on the horizontal line, orchestrating specialists who operate in their vertical. This overlapping area could be identified with the new field of practice of user experience design [1] (Boersma 2004).

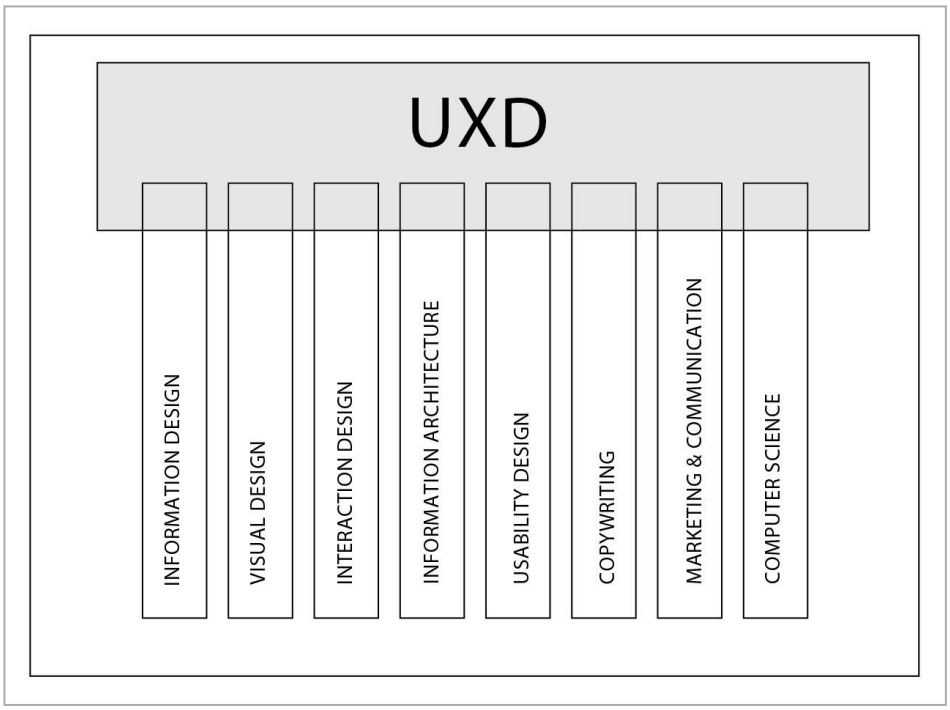

Figure 2. The T-model of user experience (Boersma 2004)

In this view, user experience design can be read to be the overall design of the architecture and interaction models that impact a user's perception of a device or system, encompassing a number of different fields, practices, and disciplines. This reflects the view of the field as directed at affecting "all aspects of the user's interaction with the product: how it is perceived, learned,

and used" that Norman (1) originally pushed forth.

For the purposes of this paper, since our focus is on maturing the field and not on achieving a better definition of the term or terms per se, we will use a simplified t-model, where user experience can be considered an umbrella term for the practices of information architecture, interaction design, information design, interface design - and other related practices, applied user-centered research and iterative design methods collectively employed for the design of digital experiences and products. Similarly, throughout the paper we will often treat the term user experience as a synonym for the practice of user experience design.

The Practice-led Field of User Experience Design

At present the field of UXD is practice-led, or organized as casual practice, and although professionally successful and widespread is not weaved into a common or coherent discipline. For the scope of this discussion, casual practice is defined as practice outside of a formal, institutional discipline framing it. When referring to practices situated within a discipline, we will use the term discipline-based practice. In the context of design, Brown (2000) considers practice a network in which the commencement of transactions begins at the middle of an already existent practical formation.

It is clear how this description of practice defines it as some kind of structure constructed around activities and action, as opposed to emphasizing theoretical concerns and hypothetical preliminary questions that runs most of scientific research. Bourdieu describes practice as a 'field of regulated improvisations' that feel spontaneous but are actually 'regulated by the proclivities and dispositions, the abilities, practices and understandings' that are often only tacitly understood (Highmore 2009:73). UXD and IA discussions, definitions and opinions are largely expressed via organic Internet-based media such as email, mailing lists, personal blogs and personal or company websites and a handful of public conferences. The academic contexts for UXD to be taught in and where discourses relating to the field can exist, with the kinds of rigor required of discipline-based practice for publication and use by the community, do not exist. In this view, the larger UXD field and the more specific IA field are a 'community of practice'.

A community of practice (COP) is usually a group of people who are united by their interest in a particular field of knowledge. At this stage it is worth expanding on the concept of communities of practice as they are often the link between the practice of the individual, the meta-community and the discipline. The nature of disciplines and disciplinarian practice will be

discussed later, at this stage a discipline can be regarded simply as a centralised formation in which field-based knowledge is stored and accessed. In the scope of this paper, of which the focus is on practices that exist in the absence of a formal discipline, COP's can be seen as important to the developmental process that leads to the formation of disciplines even though they are not explicitly disciplinarian in nature. COP's are often the first stage of collective organisation that practices begin to situate themselves under. COP's are natural and powerful resources for learning and knowledge (Verna 2000:4) and take place in reference to the "real execution of work" (Verna 2000:4). According to Etienne Wenger (1998), communities of practice:

- are nodes for the exchange and interpretation of information;
- are fundamentally self- organizing systems;
- reflect the member's own understanding of what is important and what their practice is about. They are organised around what matters to members as opposed to business interests;
- are mostly informal;
- exist within businesses, across business units and across organisational boundaries;
- are areas of knowledge as opposed to particular tasks; they have an identity and facilitate a shared practice and collective learning;
- can retain knowledge tacitly and explicitly and steward competencies;
- exist in a number of stages.

COP's are powerful tools for the creation and validation of practice-based knowledge. However, much like many others discursive practice, situated outside of an institutional formation, they are informal structures. They have little capacity for storing generated knowledge, and their ability to disseminate knowledge is often limited to oral communication, with all its limits, or to obscure or difficult to find web postings. Even though COP's validate knowledge through practice, they seldom have a rigorous validation system. The intrinsic danger of this lies in the fact that knowledge that makes sense to a community of practice can be circumstantial in application as opposed to generally accurate. As a result, a number of separate COP's often regurgitate similar findings due to the inability to share knowledge widely.

The isolationist tendencies of COP's outside of disciplinarian practice stifles the ability of the field to grow as new insights often arise at the boundary between communities (Wenger 1998) Finally, the most worrisome attribute of COP's is that they tend to be impermanent. According to Wenger' Stages of Development (1998) COP's can be tracked down to follow through five linear stages. The first three stages are:

- Potential: the shared experience of individual practice;
- Coalescing: the initial collectivization; and
- Active: Members engage in the development of practice.

UXD and IA can be said to probably sit most comfortably in the Active stage. Unfortunately, according to Wenger, the next two stages in the lifecycle of a COP's are Dispersed and Memorable which, as their names suggest, are the stages where gradual disintegration of the community happens. The way to counter this is to either transform the COP's into a more permanent formation or to transfer the knowledge of the COP's to an existing more permanent formation.

In the following sections we will present the benefits of disciplinary practice over casual practice. It is worth noting that as COP's are often the primary locations of discourse and practice, many of the problematic concerns raised here are endemic to all aspects of practice outside of institutions, thus the subsequent discussion while focusing on specific aspects of practice have an equal bearing on communities of practice.

In UXD, a move from casual practice towards institutionalization has emerged in recent years. Examples of this shift include the establishment of the Information Architecture Institute (IAI) and the Interaction Design Association (IxDA). Published thought leaders exist, although remarkably a number of them do not self-identify as either information architects or user experience designers. Specialist publishers like O'Reilly and Rosenfeld Media are printing for the practice but their offer does not qualify as either academic or scientific. Similarly, a vast body of content, largely available on the World Wide Web and the Internet, provides the practitioner with a literally endless body of know-how for use in design practice, but little of this is of scientific interest, and often dispersed. Perhaps the most significant development of late has been the creation of the peer-reviewed Journal of Information Architecture.

In the absence of a functional network of academic institutions and scholarly,

research-based publications supporting the growth of the field, perhaps the key challenge is a lack of real progress made within the practice on larger discourses. The recurring pattern we see is opinion leaders, usually practitioners themselves and not critics, leading discussions and points of view where the same content surfaces, trickles off on discussion forums to reemerge in almost exactly the same form a few years later without any discernible growth or evolution of the content or arguments [2]. Perhaps most importantly these opinions are not written, presented or published in some verifiable process which could add credibility through scientific method to the points of view and arguments.

At present the field lacks the language, theories and scholarly research that ultimately would create a discipline which would underpin the education, methods, making and artifacts for the practicing community; a discipline within which research, discourse and argument can exist, gain validation and be disproved; and from which a 'fringe' could develop to further challenge the discipline and push the practice (and discipline) further.

The underlying design principles, which have been co-opted as part of UXD core design methodology have emerged from a multi-disciplinary background which includes the visual arts, graphic design, user centered design, library science, information science, architecture, anthropology, psychology, ethnography, and a number of others. A specific threat exists for both the community and the individual practitioners because of this. A recent example of this can be seen in the reaction of the Information Architecture design community to the rise of web-based social media at the 7th ASIS&T IA Summit in Vancouver, Canada, in 2006. Online social networks developed or perfected significant new IA design paradigms, such as tagging and folksonomies for example, which literally saw information architects at a loss to justify their presence in design circles and in the market place. The immediate response of the community was to return to the cyclical discussion on the definition of information architecture, interaction design and user experience design taking the fields back a year to the last time that discussion resurfaced.

A critical occurrence at the time was the emergence of the IxDA, an event that in many ways found credibility in the IA community's temporary inability to effectively respond to new technological and design developments. This effectively created a large degree of splintering within and between design communities that fundamentally require one another for the development of the greater UXD agenda, while these practices have a larger and larger impact on projects and organizations, more and more designers are finding themselves functioning within the fields because of their particular relevance to digital product design.

However, in the face of professional threats and ethical concerns [3], the lack of a structured disciplinary counter-part for the field means that these threats have a vastly larger impact on the growth of the field and the practitioners themselves even to the point that an information architect or user experience designer required to justify their role within a company, or to convince clients of the validity of a solution, often has no larger coherent body of validated, scientific knowledge to appeal to.

For some time the notion of the UXD practitioner as a lone wolf has been discussed [4] and efforts have been made within some institutions to address the problem. One example of this is the IAI's Local Groups Initiative 5. The lone wolf condition is more than simply social, though. In the sense of access to validated and scientific knowledge, the practitioner is alone. The personal development of the individual as a designer is also hampered by this lack of discipline: how do I judge my own work? Beyond answering a client brief, how have I taken my own understandings and practice forward? Is my work good or bad? What is my next step as a designer and not just as an employee or provider of services?

Recently, discussions have begun to emerge in the IA and UXD communities suggesting a growing consciousness around these concerns. Practitioners and some leaders within the community are attempting to make the practice both deeper and broader.

In April 200, at the 10th ASIS&T IA Summit in Memphis, Tennessee, Jesse James Garrett [6] called in his momentous closing plenary for a language of critique and put forward a framework for approaching experience. This came in response to a growing feeling that there is a lack of reference to the work of so-called leaders in the IA and UXD fields; that the context, content and research surrounding their work is missing; and fundamentally, that the dilemma of who we are being led by and what is good or bad user experience design has not been thoroughly addressed. In partial response to that talk, and shortly after that conference, Richard Dalton made his work on The characteristics and principles of UX [7] available on-line, but these grounding questions have appeared more than once in the various dedicated mailing lists and forums. On the Information Architecture Institute member lists Peter Morville recently posted:

> *I like this question from an architect: 'Does IA push any bounds beyond client concerns? Is there any artful or conceptual pursuit in the discipline that's not based on solving the immediate problem?' [8]*

In April 2010, at the 11th ASIS&T IA Summit in Phoenix, Arizona, a number of talks, including those by Nathaniel Davis, Nick Finck, and Keith Instone

and Andrea Resmini [9] among others, identified the need to take cognizance of the temporary formation of knowledge within the UXD practice and the benefits of developing more formal structures.

Practice, Discipline, and the Role of Research

As established in the previous section, there is a definite and recognized need for the formation of a discipline to consolidate and formalize the practices of UXD. This section of the paper discusses approaches towards the codification and validation of knowledge and processes integral to the creation of a discipline. The discussion reflects on the characteristics of fields that are discipline-led, the value of practice- based fields developing into disciplines, and how research enables this transformation.

According to Del Favero (2003), discipline is

> *a formation containing practice, discourses, predispositions and institutional facts that provide a framework for and result in a system of orderly behavior that is manifested in practitioners and theorists approaches to understanding and investigating new knowledge and ways of working.*

The constituency of the discipline includes a community of scholars; a body of accepted and codified knowledge; a mode of inquiry that produces new knowledge, a validation process for new knowledge entering the discipline; and the existence of methods of communication within the formation. This ordering requires consensus to what constitutes new knowledge, what are appropriate methods for inquiry, what criteria are applied to determine acceptable findings, what theories are proven, and the importance of problems to study. Consensus implies unity of mind on elements of social structure and the practice of science. The indicators of consensus in a field are the absorption of the same technical literature, a similar education and professional initiation, a cohesiveness in the community that promotes relatively full communication and unanimous professional judgments on scientific matters, and a shared set of goals, including the training of successors (Del Favero 2003).

Although disciplines contain practices, practices themselves can operate and produce independently and unaware of any relationship with an existing discipline. The value for a field to transform from a practice-led to a discipline-led domain can be measured under the following descriptions:

- disciplines contain and store, in an accessible manner, the heritage

of established facts and practices. There is no need to constantly reestablish truthfulness or purposefulness. Second and subsequent generations of knowledge can begin to be added to the knowledge pool;

- knowledge can be accessible and widespread, rather than be formulated as disconnected or even hidden pockets of excellence and individual practices. The practitioner and their immediate context can exist within a background that facilitates the sharing of knowledge and the development of the practice;

- opinion can, through methods of validation such as publication and public forum, be accepted as insightful and valuable, or debunked; practice can begin to be explained against established rules and conventions rather than appearing as intuitive to the practitioner, thus allowing for replication and apprenticeship;

- the values inherent in the practice can become measurable in the context of discipline and assist in perpetuating the practice;

- if found to be useful, practices and knowledge contained within other discipline's collected knowledge can be validated and absorbed into the new discipline;

- levels of expertise can be established in reference to skills and qualifications. Job titles, attached responsibilities, and remuneration can be formalized.

Discourses relate to practice and discipline, as they are the network of systems that contain, develop and regulate the practices and knowledge of a specific field within a generative structure. Without a codification of rules, knowledge and conventions of the discipline to validate against, discourse knowledge would remain casual and in danger of becoming fragile memory as is the current concern for IA and UXD. To ensure the transfer of established knowledge from the discourse to the discipline, it must be formally and rigorously validated to be accepted as uncontested institutional fact.

The institutional validation process in most design disciplines takes the form of research. A general interpretation of institutional research describes it as an independent and original contribution to knowledge using methodologies and communication conventions appropriate to the chosen field (Biggs 2002: 3) and that takes place within a framework of set philosophies (Kumar, 1:5). This paper positions institutional research (theoretical research or research-

for-knowledge) as the process of validating casual practice and knowledge so as to include it, formally, within the discipline's generative knowledge structures. In summary, research codifies what practice and discourse generate.

By situating the theory, activities and beliefs as the progeny of a discipline rather than belonging to individuals, common traditions and general beliefs can begin to be explored, formally discussed and validated in terms of usefulness and purposefulness by the wider congregation of the discipline. Research, in its many methodologies and modes, is the institutional process of moving opinion through a discipline-appropriate validation system in reference to a generative knowledge system, that has been dubbed background (Searle 1995:5) or habitus (Bourdieu 1982:73).

Any discipline has its own collection of knowledge embedded in its practices. This knowledge is kept on record and found in artifacts such as books, articles and produced objects, conventions and rituals. This knowledge is referred to as the unconscious knowledge of the discipline's discourses. The unconscious knowledge has been accepted as factual and useful to the field through a process of validation, and lies dormant but at hand. When acted upon or recalled, the unconscious knowledge becomes conscious. The ability of the field to allow knowledge that is not in use to remain dormant eases the metaphysical burden that would be required by the constant recalculation of already proven facts (Searle 1995:4). Conscious knowledge is the current knowledge that is used at the current time in the field. Conscious knowledge, be it as theory or practice, is used in the generation of new knowledge. The new knowledge goes through a process of validation where its usefulness to the field is evaluated and judged.

For theory or activities to be recognised as valid within a structure, they have to gain some degree of acceptance by the participants within the structure. The act of acceptance of the knowledge is regulated by the conventions or practice already accepted as part of the discipline. Once the acceptance of the theory as 'truthful' or the activity as 'of use' is established there is no need for their usefulness to be re-established (Searle 1995:4). Informally as in the case of casual practice, the validation process takes place naturally in terms of usefulness and relation to the rest of the knowledge in the field. (Bourdieu 1982:77).

Informal validation is useful for rapid advancement but can be, as discussed earlier, transient in nature. Disciplines through institutional means provide a formal process of validation of knowledge and theory in the form of publication and peer review. Institutionally-based research (theoretical research or research-for-knowledge) differs from casually-applied design

research (research-for-design) for a number of reasons:

- institutionally-based research has a high degree of formality, rigor, verifiability and general validity (Lundburg, in Kumar 1:5). Evidence is provided for every claim;
- institutionally-based research is published in the public sphere where it can be critiqued and its quality debated and agreed upon. Forms of publication include thesis, journal articles, books, and artifactual productions;
- the validation of the research process and its related knowledge is formally open to peer review by means of responses that challenge the findings of the research within the formal structure of the discipline.

Practice-led Research

Within newer fields of design practice such as UXD and IA a high proportion of the knowledge is embedded in the artifacts which are the result of the design process. This differs from established fields of practice that contain a strong sense of disciplinary identity such as Law, where a large quantity of the knowledge resides in textual accounts. The codification of the knowledge contained in a field guides practitioners in terms of the expectations and limits of the field.

Often newer fields of practice have not established institutional rules and practices and thus have no formal codification of the knowledge that regulates them. Due to the traditional focus of design on outcomes as opposed to process (Brown 2000:8), descriptions of the reality of design practice are normally absent. When they are available, they are usually colored by the designer's own expectations and bias (Lawson 1997:162). This is further compounded in commercial practice where approaches developed are often purposefully kept within an organization for reasons of competitive advantage. Very often the only factual evidence of any knowledge or discourse informing practice is found in the outcome of the practice: the artifact.

In practice-led research (PLR), the artifact has a central position in the academic research process. In PLR, 'articulation and dissemination of the research findings take place both through the product of making [the artifact] and established means: these are seen as dialogical, interrelated and iterative (Faber 2009). Practice informs knowledge which reciprocally informs

practice.

PLR, while including all the qualities of established institutional research practices, strongly focuses on artifacts as the vessels of discursive knowledge. This is an essential reason why PLR is so important to developing design-based disciplines. In the words of MÃ¤kÃ¤la and Routarinne (Faber 2009)

> *the artifact created during art and design practices (...) is conceived to have a central position in the academic research process. This reconfiguring of the artifact as central to the academic study process is particularly useful to newer fields of design as they predominantly only have, in their immature state, a heritage of artifacts. By accounting for the artifact in reference to the interrelated system of discursive practice that includes cause, intentions, methodologies, practices and background knowledge as regulated by and subjected to discursive, disciplinary and social rules, conventions and established practices, the researcher begins to interpret the rules and conventions that lay previously hidden.*

PLR, although variously defined, can be considered to be a 'self-reflexive' form of research where:

- the artist / designer / creative practitioner provides a rigorous critical analysis of their work, positioning it within broader contextual / theoretical / historical / discursive research paradigms;
- articulation of the processes involved in making the product of research form an important part of the research findings;
- articulation and dissemination of the research findings takes place both through the product of making and established academic means. These are seen as dialogical and interrelated (Faber 2009:7).

This is where a potentially meaningful use of practice-led research exists to address some of the issues faced by casual practices. Could PLR, as a widespread method in the production and making of our design, either running parallel to or embodying established UXD methodologies, assist to:

- create scientifically driven, research-based knowledge;
- mature the fields of UXD and IA from practice-led to discipline-led;
- mature designers in their practice;
- provide the practitioners (the consumers of this knowledge) with

an established approach to research that could provide both a supply and demand for a structure to emerge upon, and allow this structure in turn to form the basis for a discipline-led field.

Applying PLR in the Practice of UXD and IA

So, can PLR as a mode of research assist in maturing the current casual practice of UXD and IA towards discipline-oriented practice?

Much of the knowledge of this field originates in a number of related disciplines: graphic design, architecture, anthropology, industrial design, library science, ergonomics, marketing, just to name a few. Arguably, while there is nothing truly original about the individual parts of UXD, the organization of the elements into a whole is unique and thus requires its own framework for practice and regulation.

PLR methodologies could facilitate analysis that helps to identify and explicate knowledge, theories and practices, from these related disciplines and reconstitute them under a new disciplinary framework with the originality of the arrangement and context being the key binder. The uptake of PLR, the primary suggestion outlined in this paper, would influence the manner in which practitioners design and conduct their design-related activities.

The applied research (research-for-design) methods of UXD, such as contextual inquiry, user research, ethnography, and other forms of qualitative research often merged with quantitative research and analytics, are part and parcel of the IA and UX design process. A richness of knowledge, often in the form of primary and secondary research, definitely exists: however, the vast majority of UXD and IA practitioners are not writing for scholarly research, scientific or academic discussion or consumption.

The parameters of design research, usually conducted early in the design process, would need to be broadened to start addressing the hidden or yet-to-be-discovered discourses of the fields. The boundaries of their research in most commercial projects (and public sector, arts and culture, and non-profit projects) are created by constraints inherent in 'the brief', or the framed design problem. This framing is exactly what is required by the designer to create effective and appropriate, outcomes-based solutions. However, the manner in which this framed problem exists in the context of broader issues, be they teleological, methodological, historical, cultural, economic, geographic, or ethical, is often neither explored nor made explicit and articulated.

The research conducted by user experience designers and information architects will by its very nature begin to examine and explore these broader issues but the current practice places no emphasis on these relationships. A wealth of potential knowledge could be unearthed, documented and made visible. A similar point could be made regarding decisions to adhere to a particular version or variety of the user experience method. In some cases, companies or individuals will have well established design methods and processes that they follow. In some cases these companies and people will experiment with methodologies and processes. More often than not, when there are time, resource and budgetary constraints, methodologies and processes will be amended or written uniquely for the needs of a project.

Again though, the extent to which the methods and process are documented and validated may not go further than project plans such as project budgets and other project management tools. The kind of self reflective documenting of process as recommended by PLR may very well not extend beyond a project post mortem or case study, if they are created at all, and often these kinds of documents are not part of the act of making but rather after-thoughts queued onto the end of a project. The space of documenting-while-designing, recording learning's, feelings, meanings, decisions, measuring effectiveness and documenting contextual factors while on a project could provide a wealth of knowledge for the practicing community and could provide greater validation for the methods, tools and techniques of the field.

The dissemination of findings and outcomes is a space of some controversy, both because there have been numerous calls from within the various UXD communities for opinion leaders and community leaders to validate their opinions in reference to their own work, and at times because of the inherent intellectual property and confidentiality issues that we find in commercial projects. On numerous occasions there have been public calls for more papers and presentations that deal with specific project-based case studies, with examples drawn from the public realm. It seems that the stumbling block, at least on the surface, remain the issues of confidentiality and intellectual property.

From an academic perspective though, the UXD community, is interested in theoretical research (research for knowledge) not the applied research (research for design) conducted on a project. The latter is the area of concern for confidentiality and intellectual property. The dissemination of theoretical design research emerges from the broader perspective of the body of knowledge developed by working within the PLR method and the sharing of knowledge relates to the broader aspects of a discourse (the larger research agenda posited at the outset of a project).

From a pure intellectual property point of view, the breadth of research output would extend beyond the specifics of 'the practical design project' and the knowledge generated would speak with greater depth to the act of design and design practice, shifting the focus away from the pure problem space challenge itself - that space which is most concerned with the intellectual property restrictions.

Conclusions

It is our suggestion that a broad uptake of PLR by practicing user experience designers and information architects could assist in the generation of knowledge and discourse and that this in turn could considerably assist in the maturing of the practice towards a discipline. PLR could assist in the creation of scientifically driven, research-based knowledge; provide practitioners with an approach to academic research; facilitate a supply and demand for a structure to emerge, helping progress UXD and IA from communities of practice to disciplines.

The creation of a robust discipline of user experience design from which information architecture could profit would however require more than the active uptake of PLR research methods. A discipline would require a framework considering:

- the identification of drivers for the production of new knowledge, including financial drivers;
- a community of scholars to communicate and collaborate with;
- methods of communication, as in scholar to scholar; scholar to practitioner; practitioner to scholar;
- agreed-upon methods and terms for the codification of knowledge;
- agreed-upon modes of inquiry and validation for the production and acceptance of knowledge;
- validation of knowledge already available as inheritance from related or boundary disciplines such as architecture,
- psychology, anthropology, etc;
- the identification of current and required discourses;

Finally, the PLR endeavor could hold enormous potential for the individual designer to grow in their personal development through their own creation of knowledge and participation in discourse, and broaden their views: practice that informs knowledge that informs practice.

Acknowledgments

In response to a call for participation to the Colloquium "On Making: Integrating Approaches to Practice-Led Research in Art and Design" at the University of Johannesburg, Research Centre, Visual Identities in Art and Design, Faculty of Art, Design and Architecture in October 200, Jason Hobbs proposed a breakaway session at the ASIS&T 5th European Information Architecture Summit (EuroIA 2009) in Copenhagen, Denmark to discuss how practice-led research could play a role in developing the work of practitioners and the fields of IA and UXD as a whole.

The breakaway session became a full Sunday morning retreat attended by Jason Hobbs, Andrea Resmini, and Eric Reiss, whose early contributions have been precious in establishing a conceptual reference framing firmly tied to the solid reality of the profession. Hobbs's subsequent presentation at the University of Johannesburg colloquium of many of the early ideas sketched in Copenhagen helped us understand that the paper could stand its ground.

Further exposure and feedback from national communities in the IA and UXD practice have been achieved through presentation of an adaptation of this paper by Hobbs. Under the title The Door, The Wind, The Bird and The Valise, the ideas discussed herein were presented at two SA UX Forum meetings in Johannesburg and Cape Town, South Africa, as the opening keynote address at the 4th Italian IA Summit in Pisa, Italy, and at the IA Konferenz 2010 in Koln, Germany.

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Footnotes

[1]. Boersma later modified this initial scheme to take into account suggestions coming from the project management side of the discussion (Boersma 2005) as well.

[2]. This pattern is documented and discussed to some length in Resmini, A., Madsen, D., and Byström, K. (2009) IA Growing Roots. Concerning the Journal of IA. Bulletin of the ASIS&T. See References.

[3]. The ethical issues arising from ubiquitous computing are discussed at great length by Adam Greenfield in his book "Everyware: The Dawning Age of Ubiquitous Computing" (2006). The extent to which ethical issues are addressed in the UX process or final works existing in the public realm remains undocumented and little explored.

[4]. Stacy Surla introduced the idea of lone wolves in her presentation "A Room of Our Own: Starting IA Locals and Bringing IA to Work" at the ASIS&T IA Summit 2006, in Vancouver.

[5]. The Local Groups Initiative can be found on the Information Architecture Institute website at http://iainstitute.org/en/network/localgroups/local_groups.php.

[6]. A podcast of the Memphis Plenary Speech can be found at Boxes and Arrows. http://www.boxesandarrows.com/files/banda/ia-summit-0-plenary/Jesse_James_Garrett.mp4.

[7]. Dalton, R. (2009) The Characteristics and Principles of UX. http://mauvyrusset.com/200/07/22/the-characteristics-principles-of-user-experience/.

[8]. Morvillle, P. (2009). (Information) Architects. Available on the Information Architecture Institute Mailing List Archives for Sept 30 2009. http://lists.iainstitute.org/listinfo.cgi/iai-members-iainstitute.org.

[9]. See Davis, N. (2010) The Practice of Information Architecture: It takes a village of practitioners to raise a discipline; Finck, N. (2010) The Commoditization and Fragmentation of the Information Architecture Community. See also Instone, K.

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A two-times past president of the Information Architecture Institute, Andrea co-founded the Journal of Information Architecture; Architecta, the Italian Society for Information Architecture; the Academic / Practitioner Roundtable; and World IA Day. Andrea is a compulsive reader of WWII submarine warfare trivia, Tolkien drafts, and Jack the Ripper case studies. He is the current Editor-in-Chief of the journal.