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ILLUMINATING INFORMATION CREATING: USING THE "FOUR C" MODEL OF CREATIVITY AS A LENS FOR ILS (Paper)

Abstract:
Information creating is understudied in the ILS field. This paper introduces the interdisciplinary "Four C" Model of Creativity (Kaufman & Beghetto, 2009) and begins to employ it as a lens for conceptualizing and approaching information-creating research. The "Four C" model distinguishes four main types or modes of creativity. When translated into ILS, the model serves as a platform for aggregating information-creating research, synthesizing across it, recognizing gaps in it, and growing this research area overall.

Résumé:

1. Introduction

The information and library science (ILS) field is interested in people's behaviours, practices, and activities when interacting with information, particularly when seeking, using, and sharing it (e.g., Bates, 2010; Savolainen, 2008). Before information can be sought, used, or shared, however, it must be created. Yet, information creating is a relatively understudied area of the ILS canon. Information creating in contexts of school, work, and home has been considered by but a handful of scholars; fewer still point out that the urge to seek, use, share, and even create information tends to accompany spiralling interest in some leisure pastime, such as cooking or genealogy. Though infrequently, how information resources factor into the work of prototypically creative groups such as artists and architects has also been studied. However, growing a critical mass of research related to information creating seems not to be the priority of these projects, which may: mention instances of the practice, but not make it a focus; mention the practice, but do so only to illustrate it as a potential line of inquiry for later follow-up; and/or not compare their information creating-related findings with those from other empirical studies that mention creating.[1]

With an ever-increasing number of new, commercially available tools and technologies that encourage and enable creativity on both small and large, individual and social, scales, the time is apt for ILS researchers to turn their attention to the practice of information creating. This paper introduces and employs the interdisciplinary "Four C" Model of Creativity (Kaufman & Beghetto, 2009) as a lens for conceptualizing and approaching information-creating research in the ILS field. The "Four C" model distinguishes four different types or modes of creativity, and when translated into ILS, serves as a platform for aggregating information-creating research, synthesizing across it, recognizing the largest gaps in it, and growing this research area overall. Thus, original empirical findings are not presented in this paper; instead, the results of original "translation work" are. Translation work refers to the close reading and interpretation of outside scholarship, and to putting in the necessary effort to apply it with relevance in one's own field (Palmer & Neumann, 2002).[2] This paper reviews information creating; describes the "Four C" Model; and presents insights realized from using the model as a lens onto information-creating research.

2. Information Creating in ILS

Trace (2008) explains that *information creating* "pushes the boundaries of exploration back to the place where people put pen to paper (or fingers to keyboard), and sets in motion the lifecycle of information" (p. 1540). Koh (2013) states *information-creating behaviour* covers "the way people create messages, cues, and informative content that can be used to meet the existing or potential information needs of the creator or others" (p. 1827). Hektor (2001) prefers *dressing* to describe acts whereby "information is framed and a cognitive product is externalized" by an individual; "thoughts, ideas, facts, and pieces of [information] are dressed in signs and symbols, words and text, images and pictures, and physical expressions" (pp. 86-87, p. 309). Kari (2010) refers to a *production-based* form of information use, "the counterbalance of internalizing, [when someone] externalizes […] an expression of knowledge others can also observe" (…Information Production) after combining and editing existing information pieces. An important takeaway of these definitions is that information creating is grounded in the making of a tangible artefact. It is thereby differentiated from the practice of *information constructing*, which is about cognitive acts of interpretation, processing, and synthesis (Kari & Savolainen, 2010; Savolainen, 2000). Three decades ago, Bawden (1986) reviewed the role of and place for information institutions and systems in creativity, and underscored that browsing, serendipity, a 'prepared mind,' and interdisciplinary interests were key in spurring creative thought, and in driving tangible creating.

3. The "Four C" Model of Creativity

In 2009, two creativity researchers, Kaufman and Beghetto, introduced the "Four C" Model of Creativity, a spectrum positing four main types or modes of mental and physical creative output. Prior to their model, creative outputs had been dichotomized as either "everyday," socially inconsequential ones or "eminent," innovative ones, leaving more nuanced and middling forms of creativity unaccounted for. The "Four C" Model is depicted below in Figure 1.
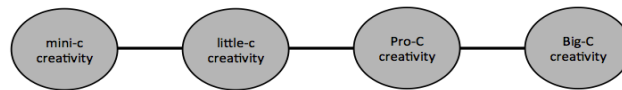

Figure 1. An original depiction of the "Four C" Model from Kaufman and Beghetto (2009).[3]

The first type of creativity on the spectrum, *mini-c*, describes intrapersonal creative development. Mini-c creativity is the "genesis of creative expression" (Kaufman & Beghetto, 2009, p. 2), and is about individuals "constructing personal knowledge and understanding [... and] personally meaningful interpretations" (p. 3). Mini-c creativity will generate original thoughts, at least, for the person in question. The second type of creativity shown is *little-c*, known also as "everyday" creativity. Little-c creativity refers to "living life creatively" (Beghetto, 2009), with imagination and positivity, and centres on deeds that beget personal joy and transformation. Little-c creativity is used to do things like "express [oneself], sort out emotions, or explore ideas and life experiences" (Kaufman & Beghetto, 2009, p. 7), but, importantly, it emphasizes a deliberate external output. Incidences of it can be seen in a photo-album arrangement or a new food fusion.

The third type of creativity on the spectrum is *Pro-C*, a category for creative outputs that have not (or not yet) reached "eminent" status. Pro-C creativity substantially contributes to a field, but not in a revolutionary manner. Pro-C creativity is exclusive; one prerequisite is expertise in a given area (deriving from about ten years of combined training and practical experience) (Kaufman & Beghetto, 2009). Like little-c creativity, Pro-C creativity begets external expressions

that fellow experts assess. The fourth type of creativity shown is *Big-C*, known also as "eminent" creativity. Big-C creativity refers to unambiguously excellent displays of genius, and begets contributions of lasting universal significance. Big-C creativity requires the depth of knowledge of Pro-C creativity, along with breadth of knowledge and luck (Runco, 2009). Crucially, it needs gatekeepers' renown, for it must exceed the expectations of its assessors. Examples of Big-C creativity are a timeless musical composition or an idea that becomes an encyclopaedia entry.

4. What the "Four C" Model Contributes to ILS

Employing the "Four C" Model of Creativity as a lens onto ILS information-creating research realizes several insights; this abstract summarizes some of them. From a review and examination of information behaviour and practice literature, 25 empirical research studies were identified as involving, to some extent, information creating (the making of a tangible documentary artefact). These 25 studies were located via the Library and Information Science Abstracts (LISA) database and Google Scholar, from full-text searches for "information create/creating" and "information science," and via source-chaining, and their content was assessed. Of the 25 research studies identified, 3 classify as mini-c creativity, 18 as little-c, 4 as Pro-C, and none as Big-C; these classifications were made qualitatively, based on the nature of the creating described and congruence with the definitions set out by Kaufman and Beghetto (2009), described above.[4]

Mini-c creativity relates to intrapersonal ideation. Three information-creating research studies are representative of mini-c creativity. Of these, Carol Kuhlthau's (1991, 1993, 2004) aggregate study of people's information search processes is perhaps the best known; it showcases a general progression toward internal cognitive coherence aided by external physical creation. Most of Kuhlthau's research was done with students who sought information to help them "create something new, at least for [themselves]" (2004, p. 4). The research of Koh (2011, 2013), which looked at middle-schoolers remixing and tinkering with information in order to create online media, and of Trace (2004, 2007, 2008), which examined the record-creating socialization of fifth-graders, are other examples of mini-c creativity. Individuals need not necessarily cross from information constructing to creating in order to engage in mini-c creativity, as defined by Kaufman and Beghetto (2009). As only a few studies to date describe this interplay, however, it may be an avenue for future research.

Little-c creativity emphasizes external outputs that bring joy or transformation to (an) individual(s). Unsurprisingly, examples of little-c creativity in information-creating research abound in the contexts of everyday life and leisure. Eighteen information-creating research studies are representative of little-c creativity. Hektor (2001) argues that most domestic information is created with an action orientation (cf. McKenzie & Davies, 2010, 2012; McKenzie, Davies, & Williams, 2014) and an aim to enlighten or release. While leisure information creating is less utilitarian than domestic creating, it may too aim at enlightenment or release. For example, Hartel (2014) studied liberal arts hobbyists, "prolific producers of information" (p. 946) online and off, who seemingly work to both these ends.[5] For others, like knitters (Orton-Johnson, 2014), quilters (Gainor, 2009), and teen creatives (Harlan, 2012, 2014; Harlan, Bruce, & Lupton, 2011, 2014), identity-building is the objective (if unconsciously so). One question arising from little-c creativity ILS research studies is whether some leisure pursuits are less creation-intensive, or whether those practising and/or researching them are just less cognisant of the information creating performed therein. In the liberal arts, food blogging (Cox & Blake, 2011) and genealogy (Fulton, 2009a, 2009b, 2016), creating is readily observable; this is less the case in backpacking (Chang, 2009), duck collecting (Lee & Trace, 2009), motor sports (Johnson, 2016), and fandom (Spurgin, 2011), though creating is present in each of these.

Experts engage in Pro-C creativity over the normal course of their careers. Four information-creating research studies are representative of Pro-C creativity, which is interesting considering professionals, namely knowledge workers, are the most studied information behaviour and practice demographic (Julien, Pecoskie, & Reed, 2011). Findings in this category revolve around scholars, for whom creating takes the form of "crafting" or writing, when old information is assembled into new (Palmer & Neumann, 2002; Palmer, Teffeau, & Pirmann, 2009). Eventually, writing begets an article, presentation, or monograph; along the way, however, hasty notes and "mapping outs" (Foster, 2004, p. 234) are generated. Shankar (2004, 2007, 2009) found that creating day-to-day drafts has significant affordances, as it socializes individuals into their professions. Simultaneously, "acts of writing [will] reconstruct and reinforce existing practices in a domain" (Palmer et al., 2009, p. 22). ILS researchers might contrast what is known about knowledge workers' information creating with that which is done by workers in newly forming professional domains, where routines are less entrenched (it may be thought, for example, that some serious leisure amateur bloggers are engaged in Pro-C, not little-c, creating).[6]

Big-C creativity is an out-of-the-ordinary display of genius with global significance. No ILS information-creating research studies broach Big-C creativity, perhaps because doing so is seen as a logistical challenge. Kaufman and Beghetto (2009) explain that their "Four C" Model can be read as a developmental trajectory of sorts, given that elements of each type of creativity are extended by the next (mini-c is present in little-c creativity, elements of little-c in Pro-C, some mini-c in Big-C, and so on). To this end, ILS researchers may track information creating over the course of a career arc, or even a serious-leisure career arc, with longitudinal study designs.

The "Four C" Model of Creativity is a valuable lens for conceptualizing and approaching ILS information-creating research. It may help to visualize the existing shape of this area, enable comparison among different types of information creating, and guide further research.

Notes

[1] The dearth of ILS research about information creating (cf. Cox & Blake, 2011; Hartel, 2014; Koh, 2013; Trace, 2007, 2008) may be a consequence of some scholars equating information creating with information use—though use also is understudied, and what little literature has given information creating some attention suggests it is rich enough to approach as a (related) practice itself. This scarcity may be an outcome of the ILS field's history of privileging mental, in-brain processes over material handling (that is, privileging information constructing over creating). Or, the lack of information-creating research may reflect the "highly individual," "highly personal nature of the creative process" (Bawden, 1986, p. 204, p. 213).

[2] Jenna Hartel (2014) used "translation work" as a method when she proposed the Serious Leisure Perspective and adult learning literature as a framework for conceptualizing liberal art hobbyists' information practices.

[3] As these are qualitatively different types of creative output, they are positioned on the spectrum from left to right in terms of their sociality; that is, mini-c creativity is individual, and Big-C creativity is social.

[4] As information creating is the direct focus of little ILS work, it is difficult to say that a comprehensive set of studies about it have been compiled, even given the methods used to locate relevant literature. The works reviewed here are therefore selective, but representative of active, effortful information creating done by single individuals.

[5] Hartel also studied gourmet hobby cooks, who create lists, menus, and workflows pre-meal (2010) and annotate and journal post-meal (2006).

[6] Food bloggers (Cox & Blake, 2011), photobloggers (Cox, 2012; Spurgin, 2011), and genealogists (Fulton, 2009a; Yakel, 2004) may all present work to audiences and earn small revenues from their pursuits.

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