How Professionals Support Amateurs' Creativity Within the Brewing Community

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ABSTRACT

Interest in artistry beer brewing has become increasingly popular over the past few decades. Within the brewing community, both professionals and amateurs engage their creativity when crafting their own beer. In this study, we are interested in understanding how members of the community support each other to be creative. Specifically, we investigated the forms of creativity support that professional crafters provide to amateurs. Our findings suggest that this *creativity support* holds an important role in enhancing creativity. We propose that technology design leverages the unique position of professionals to promote amateurs' creativity.

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Table 1: Participant Demographics

Participant	Gender	Age	Years brewing
AB1	Male	40s	10+
AB2	Male	60s	20+
AB3	Male	60s	30+
AB4	Male	40s	15+
AB5	Male	50s	30+
AB6	Male	20s	1
AB7	Male	20s	1
AB8	Male	30s	10+
AB9	Female	30s	10+
AB10	Male	20s	5+
PRO1	Male	50s	2AB / 30+PRO
PRO2	Male	40s	0AB / 20+PRO
PRO3	Male	30s	3AB / 5PRO
PRO4	Male	20s	0AB / 5PRO
PRO5	Male	30s	2AB / 8+PRO

AB connotes amateur brewer; PRO connotes professional brewer

Table 2: Data Collection and Analysis

Interviews	60-90 minutes
Location	Convenient for participant
Recorded	Fully transcribed
Coded	Comparative analysis [6]

INTRODUCTION AND RELATED WORK

Craft brewing has experienced a revival in interest over the past few decades. Approximately 1.1 million Americans engaged in the activity as hobbyist brewers in 2017 [2]. In addition, the number of craft breweries in the United States has skyrocketed from around 3,800 in 2014 to over 7,000 at the end of 2018 [4]. The growth of the brewing community reflects a growing interest in artistry products that allow the crafters to express their uniqueness and creativity [3]. In this paper, creativity is the everyday production of novel and appropriate ideas to open-ended problems [1]. Specifically in brewing, it is expressed through experimentation with the making process, unconventional uses of tools, and innovations with recipes [7].

The brewing community is comprised of amateurs and professionals who share the practice of brewing beer, which is an example of what Wenger considers a *community of practice* [11]. Cultivating members into the practice is vital for the viability of the community [10], and may be one reason that professionals invest their resources into developing amateurs'. With the support of the professionals, the amateurs are more capable of being creative because they have a larger palette to choose from. Prior work suggests that amateurs can also develop each other's creativity by showing others how to re-purpose items into hand-made tools [5], through collaboration and interpersonal support [8] as well as how-to documentation [9]. To further our understanding of support for creativity, we build on our prior work in peer-to-peer creativity support and home brewing [7] to examine how beer-making professionals develop amateur crafters' creativity.

We conducted an exploratory user study with five professional craft brewers who hold the title of head brewer at a commercial brewery and 10 amateur brewers who brew as their hobby. We investigated the following research questions: 1) How do professional craft brewers (e.g. head brew masters) support amateur crafters (e.g. non-professionals who make beer at home) to be creative within their shared domain of practice? 2) What strengths and assets do professionals bring to promote amateurs' creativity? In the remainder of this paper, we refer to non-professional brewers as *amateurs* and people who brew at a commercial brewery as *professionals*.

METHODS

We interviewed 10 amateur home brewers and five professional brewers (see Table 1). All participants were distributed across the East Coast of the United States and were members of the home brewing

PRO1

"I placed a guy who is now the quality assurance manager at [well-known brewery]. He worked with me at my last brewery as an intern. The minute I laid eyes on him I knew he was intelligent. When he started talking about chemistry and microbiology, I was like, oh my god, dude. What we are doing here is so minuscule compared to what he had the potential to do."

(Male, brewing professionally for 30+ years)

PRO2

"Some of our work ethic was passed down too... it was the whole get it done no matter what [ethic]. They [amateurs] were probably cursing my name the entire time they did the hard work. But then years later when they realized how important that was, and how much it affected them, then they'd call me up and say 'hey I remember that, thank you!' I hired a guy in 2003, he left in 2005. He and I still talk. He will still talk about the work ethic that we instilled in him, that he's now instilled in all of the places that he's worked."

(Male, brewing professionally for 20+ years)

PRO5

"Next up is AB10's IPA. We usually do [the collaboration] so that the home brew club can exhibit it. We'll give them a keg of it to pour at [a local festival]. AB10 will be able to send bottles to his family too. So I thought that's a cool way to do that. He'll help us choose the artwork [for the bottle]."

(Male, brewing professionally for 8+ years)

AB10

"It was a lot of fun. It was cool to see the parallels between what I do at home and the way they do things there... It was a lot of the same kind of stuff that I do at home, just amplified."

(Male, brewing as an amateur for 5+ years)

community of practice. The amateurs were either current home brewers, or former home brewers who were still active in a home brew club. The professional brewers were all head brew masters who brewed professionally at a commercial craft brewery on the East Coast. All amateur brewers were recruited from either one local home brew club or through snowball sampling. The professional brewers were recruited by contacting craft breweries. See Table 2 for data collection and analysis.

CREATIVITY SUPPORT FROM PROFESSIONALS

Our study suggests that professional crafters support amateurs' creativity by leveraging their role as professionals. Overall, the professionals expressed willingness to provide support and also encouraged amateurs to further develop their skills and creative problem solving. We call this *creativity support* from professionals to amateurs. Professionals promoted amateurs' creativity in four ways: acting as a *bridge to connect* amateurs to other members of the brewing community, *mentoring* and supporting amateurs to improve their skills, *training* amateurs through lectures, workshops or competitions, and *obtaining materials* that may be difficult or expensive for amateurs to acquire otherwise. These four sources of support helped non-professionals to experiment and innovate with their craft.

Bridging Connections

Two of the more experienced professionals, PRO1 and PRO2, mentioned the value they found in using their connections to further amateurs' networks. For example, PRO1 (see sidebar) enjoyed leveraging his 30 years of professional experience to help talented amateur brewers connect with apprenticeships in professional brewing. He also supported newcomers to receive further training, learn new techniques, and reach a higher level of domain-relevant skill, all of which facilitated the newcomers to craft artistry beer in their own styles. For PRO2, he was proud to have instilled a strong work ethic into the amateurs. By connecting amateurs to entry-level work in his brewery, he supported them to understand the required concentration and dedication involved in beer making. For him, working hard promoted another side of creativity: that diligence was less-attractive yet equally important behind the scenes.

Mentorship

Many of our professional participants talked about mentoring as something they did to support amateur brewers to improve their skills. Professional-amateur brewing collaborations were a popular activity that was sponsored by the professional. In this collaboration, the professional would invite an amateur home brewer (usually someone who won a local home brew competition) to craft their award-winning beer on the commercial equipment, which would then be offered in the commercial brewery's taproom. The amateur brewers enjoyed that they could receive feedback on their creation. For example, PRO5 supported AB10, a winner of the local home brewing competition, to make his

PRO2

"I gave [a talk] about getting into the industry. If I am at a beer dinner, I get up and speak...or do Q&A...Sometimes I will Skype with groups in Florida, or groups in California. We talk about beer and brewing and the history, where it's coming from in [State] and where it's coming from at [his brewery]. We talk about sensory evaluations of beers and stuff like that. I've done many of those."
(Male, brewing professionally for 20+ years)

PRO3

"We [PRO3 and his professional brewer friends] would judge [the home brew competition] and then whoever won that competition, they'd come in for a brew day, and we'd brew it on our 30 barrel system."
(Male, brewing professionally for 5+ years)

AB10

"It's helpful to get feedback from [the professional brewer] judges, people who professionally taste beer."
(Male, brewing as an amateur for 5+ years)

PRO5

"I do the bulk grain ordering for them on a monthly basis... I don't upcharge so they can buy in bulk sacks and save a lot of money."
(Male, brewing professionally for 8+ years)

AB4

"[In response to the bulk grain ordering] We get the benefits and we get the access to brewer's prices for grain... it's helpful."
(Male, brewing as an amateur for 15+ years)

beer using the professional system. While AB10 was enjoying the collaboration with PRO5, he also gained a deeper understanding of the brewing process and managed to craft more creative beer styles.

Training

The training opportunities that professionals afforded to amateurs supported the amateurs' to gain new skills in brewing. Like PRO2, he often passed on new things that he learned from an annual nationwide brewing conference to the amateur brewers. For example, he sometimes hosted online workshops where he walked through and discussed brewing techniques with amateur brewers.

In another example, PRO3 mentioned that he often served as a judge of amateur home brewing competitions and provided feedback to non-professional contestants. As an amateur entrant, AB10 mentioned that the feedback provided by the professionals helped him to understand where he excelled and where he could improve. In both cases, the professionals supported amateurs to learn new things about their shared domain of interest, which helped the amateurs craft beer in novel and interesting ways.

Obtaining Supplies

As professionals, our participants mentioned that they had access to resources that were difficult for amateurs to come by or expensive to purchase in small quantities. PRO2, PRO3 and PRO5 have volunteered to order beer-making materials (e.g. hops and malts) for local amateurs through their wholesale distributor. It not only saved the amateurs money, but it also gave them access to a wider assortment of ingredients (as described by PRO5). Amateur brewer, AB4, also echoed the advantage of getting resources through the professional. He could reap the benefit of wholesale prices for his home brew because his home brew club had a close relationship with PRO5. In this way, he could afford to experiment with new or interesting ingredients.

CONCLUSION AND FUTURE WORK

Our participants' stories demonstrate that support from professionals facilitates the amateur's creativity in many ways. Non-experts are able to utilize connections to expand their crafting skills, are inspired by mentorship and training to experiment with new styles, and have increased chances to produce innovative products through procurement of affordable supplies. Technologies to support creativity should leverage the unique strengths and assets (e.g. their connections, mentorship, teaching, and supplying materials) of the professionals. Furthermore, we encourage designers to consider all possible roles that one can play within a creative domain of interest and how that role can be enhanced to support innovative crafting. In the future, we will further investigate creative support in other communities of practice to determine if these findings can support creativity in other domains.

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