Teen Content Creators: Experiences of Using Information to Learn

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Abstract

As access to networked digital communities increases, a growing number of teens participate in digital communities by creating and sharing a variety of content. The affordances of social media—ease of use, ubiquitous access, and communal nature—have made creating and sharing content an appealing process for teens. Teens primarily learn the practices of encountering and using information through social interaction and participation within digital communities. This article adopts the position that information literacy is the experience of using information to learn. It reports on an investigation into teens' experiences in the United States, as they use information to learn how to create content and participate within the context of social media. Teens that participate in sharing art on sites such as DeviantArt, website creation, blogging, and/or posing edited videos via YouTube and Vimeo, were interviewed. The interviews explored teens' information experiences within particular social and digital contexts. Teens discussed the information they used, how information was gathered and accessed, and explored the process of using that information to participate in the communities.

Introduction

The ability to create and share personal creations with a large digital community has become easier and more prevalent over the past decade. The availability of free, Web-based software that allows users to easily create and share content has contributed to digital participatory communities with thousands of participants, as well as to smaller niche communities driven by focused interests. American teens are active members of these communities, as evidenced by over half of teens surveyed participating

in a least one content creating and sharing activity (Lenhart & Madden, 2007, p. 4), such as blogging, creating and sharing videos, producing websites, or sharing artwork. Teen's content creating and sharing activities are often independent of school related activities and undertaken informally. In this article we seek to understand teens information literacy experience in this context, by exploring how they use information to learn as they engage in content creation. This provides insight into their information literacy experience in that context, when interpreting information literacy as using information to learn.

Information Literacy and Learning

We interpret information literacy as the experience of using information to learn (Bruce, 2008). This position constructs information literacy not as a set of generalizable skills or behaviors, but rather as different ways of engaging with information to learn. The position recognizes that information is broadly understood by users as being anything that is experienced as informing (Bruce, 2008). We recognize that information literacy is situated (Lloyd, 2006; Lupton & Bruce, 2010) within a community of practice, and engagement in the practices of that community involves learning. The act of learning is a natural, lifelong process of engaging with the world around us. Lave and Wenger (1991) adopted this position when they described learning as legitimate peripheral participation, as something that takes place through engagement in actions and interaction and situated in the social world (p. 35). We take the position that legitimate peripheral participation within a community of practice may also be said to involve interacting with the information of the community, including what Wenger describes as the social and historical context of the community (Wenger, 1998). From such a perspective, becoming a legitimate peripheral participant also involves information literacy as individuals use information to learn within their community.

Engaging with Information Practices to Learn

In the context of this research we explore how teens experience using information to learn as they become participants in a digital community. We explore their information practices to understand information literacy as a learning process in a specific context.

Information practices have been described as strongly rooted in context, socially constructed, and emphasizing information use and sharing (Savolainen, 2007). The word *practices* brings with it certain connotations including the notion of practice as an action but it is the context that gives meaning to the action (Wenger, 1998, p. 47). Practices are more than the visible enacted actions; they include the values, unarticulated roles, sensitivities, and worldviews of the context. In this article we define information practice as an action that requires interaction with the infor-

mation environment (Bruce, 2008, p. 8). Thus, engaging with information within a community can occur in a variety of ways including through practices such as observing, commenting, interacting, and creating. We will describe the engagement of a small group of teens within a digital participatory community, emphasizing the ways in which they experience information to learn to become participants in these communities. The practices of teen content creators are identified and described based on their discourse about their experience.

Methods of the Study

This investigation examined how teens experienced using information to learn as they created and shared content in digital participatory communities. Participants were identified through partnerships with local teachers who facilitated the connection between the teens and the interviewer. Data were collected through semistructured interviews as well as observation of the communities and the participant's actions within those communities. Questions invited teens to describe their day-to-day online experiences, the process of creating and sharing content, the community they participated in, and their role in that community. The final question explored the ways in which participants conceptualized learning.

Analysis involved use of grounded theory methods of constant comparison of coding, and returning to interviews and the participants' content to compare codes and examine assumptive positions (Charmaz, 2006). Theoretical memos were written and shared with participants throughout the analysis process. After an initial analysis, follow-up interviews were conducted with most of the teens. The follow-up interviews occurred through e-mail and/or face-to-face follow-up interviews. Follow-up interviews were designed to explore emerging themes and to present initial analysis for comment. The interviews, particularly the follow-up interviews, allowed for co-construction with participants of conceptualizations of information and its use in creating content.

The study reported here is part of a larger study in progress. As such, it reports on a subset of the larger study. Interpretive and grounded theory studies commonly rely on small numbers of participants. Charmaz stresses attending to type of data collected, considering the suitability and sufficiency of the data (2006). The interviews provided participant insight into the observable content, and the reviewing of content within context guided further data collection. Data were analyzed through constant comparison for theoretical saturation, and while the description of their practices was common among participants, further study of their experiences is planned, as well as interviews of additional participants.

Participants

The participants were four females and three males between the ages of fifteen and eighteen. They used a variety of tools to create content, including a blog, website, scanned visual art, videos, participation in forums that created stories, and programming. While some of the participants know one another there was little interaction between them at school or online. The teens live in an isolated rural county, although one of the teens lives in a more remote environment than the rest. This is significant because of the impact on access, the teen in the more remote environment does not have broadband access and the process of sharing material was more laborious and time consuming as a result. A wide range of socioeconomic backgrounds existed among participants, which impacted their access to tools, particularly hardware or specialized software. A few teens had older computers that impacted their experiences, while others had newer computers and a range of peripherals. Despite the different levels of access to digital communities, and types of tools available to them to create, they shared similar practices in creating differing content.

The teens (represented by pseudonyms) and their medium of content creation can be seen in table 1.

Information Practices in Content Sharing and Creation

The information practices that teens engaged in as they experienced using information to learn to participate in content creating communities are explored below. These practices were discerned from the data, they do not represent an attempt to identify elements from a preexisting set of practices. The key information practices were *gathering information, thinking about the information*, and *creating*. In gathering practices, teens used observation and participation, as well as traditional searching to gather information in a variety of forms, to help them learn to create and participate. In thinking practices, teens engaged information as they mused, considered, planned, and eventually reflected on the information and prepared to use it. In creating practices, teens copied information, modeled their compositions on others to explore personal aesthetics, and composed novel content. While their information practices are presented as a sequence of three they should not be conceived as a step-by-step process; rather they are iterative and embedded in one another.

Gathering Practices

Gathering practices include the range of processes teens used to gather information that assisted them in learning how to participate in digital communities. Information was gathered in ways that suggested intentionality, but it was also gathered in a less intentional manner. Gathering practices occurred throughout the thinking and creating practices, and

Table 1. Teens and Medium

Pseudonym	Primary Content Shared
Hannahsuzannah	Website (Moonfruit hosting service)
Xeda	Visual Art
Roni	Visual Art, Web Comic
Goku	Video
Robert	Video, Forums—story creation
Jack	Programming; Forums—beta testing
Loli	Blog

were often informed by the practices of the community. As teens gathered information they used that information to learn how to interact, as well as to learn about the expectations of a community, and the tools used for creating content. The social media community includes numerous outlets for sharing a variety of media. Sharing content requires that a participant choose a community, as well as a tool (software) to compose a creation and share that creation.

In this study participants usually became aware of content sharing communities through *serendipitous encounters* and connections made with other content creators, including close friends and family. For example, Hannahsuzannah learned of Moonfruit (a free Web hosting site), through a "friend of her mom" and Goku learned of Vimeo (a video sharing community) through his friend's brother. Roni learned of DeviantArt from a friend she met through a different content sharing community (fanart-central.net). In these instances information was gathered, and awareness of the communities was built, through interaction.

Sometimes a specific need for information predicated a *direct search* for a community. Xeda looked independently for a "place to get some feedback and see if I was going in the right direction." She used search engines to employ what could be considered a direct search for a community in which she could share art, searching simple terms such as "art hosting." Jack had a similar experience in finding a community that he participated in. While he was not looking specifically for a community to participate in he was trying to meet a need. He describes recognizing he needed information as part of gathering:

> I use the program and at first I really did not understand it because it was very complicated and it did incorporate a lot of pieces of the Windows operating system on top of a system that was completely different. And it produced lots of unexpected results. (Jack)

His search to understand the unexpected results took him to a community that shared information regarding the software, and he began to recognize his ability to contribute new knowledge to the community. In both Jack and Xeda's practices they were directly searching for information to

meet a specific need and discovered a community of which they became a contributing member.

Serendipitous Encountering
Serendipitous encountering was seen in the early stages of the process of learning how to create and share content within a selected community. The practice of gathering information was often unintentional and positioned information as inspiration. In initial questions—what information do you use to create content—the participant's answers focused on information they gathered from textual sources, citing Wikipedia or books they had read on a specific skill topic. However if a broader question was asked—where do you get your ideas—a wider definition and conceptualization of information emerged. "It is usually just compiled from everything I have experienced" said Roni, while Xeda listed books, television, comics, and favorite artists on DeviantArt. Robert talked about science fiction B movies as giving him ideas and Goku discussed watching movies to focus on camera angles and editing decisions. The information the participants were gathering became inspiration for their content and aesthetics.

Information experienced as inspiration was *encountered serendipitously*, or without intentional need. For instance, Goku described "playing" with Windows Movie Maker, which came preloaded on his computer as an entrée into video editing. In this sense he wasn't intentionally seeking software for editing but its availability generated interest and ideas in how to edit the movies he was already filming off-line. His choice of stop motion animation had similar origins:

> Originally I was watching videos on YouTube, just stumbling, bored just random stuff and I found stop motion. Which is where you take a picture of something, move it a little bit, like claymation. And I wanted to create one myself because I thought it was interesting.

In a different instance Hannahsuzannah overheard a conversation about the importance of "branding" that led her to her interest in a website. She was considering the concept as she prepared for college and the overheard conversation was the information she needed for inspiration to start her own website.

While each of the above instances led to a *type* of content creation, the practice of *serendipitous encountering* of information for creating was similar in regards to the *subject* of the content. For instance Loli and her friends found a fashion magazine that intrigued them. The magazine provided the inspiration behind her involvement in the Lolita fashion community, which eventually led to her writing a blog focused on Lolita fashion. Xeda described a similar practice of getting an idea:

> [I get ideas from] television and books pretty much. I spend almost my entire day from when I get home to when I go to bed in front of

the TV doing anything, homework, doing the dishes, drawing. And pretty much all I watch is cartoons so I get a lot of ideas from cartoons, and comic books, and other various, I read a lot of children's illustration books too because they're so much more interesting than a lot of novels out there.

Roni talked about compiling ideas for her Web comic "randomly," including what she "overhears at school." Jack got his ideas from "reading a lot" and described a practice of link surfing, most often when he was bored—describing a "tendency to get lost in [Wikipedia]" (Jack). One interesting source of information that led to creating was Robert's experiences with LARP (live action role playing), which led to content creation; a creative off-line expression finding its way into the digital world to expand the experience through the telling of stories.

The process of information gathering through serendipitous encountering was linked to an "a-ha" moment when a piece of information had emotional resonance with the participant. In these described instances there was an openness to the information. Openness allowed the information to not be filtered out by the participant as they navigated a barrage of daily input, even though they had not expressed a specific need. The information gathered became the inspiration for learning how to create as well as the content of the creation.

Focused Browsing
Focused browsing represented gathering practices that reflected a more intentional process, although not one yet characterized by a specific need. This was best represented in the use tools to browse for information as inspiration around a diffused but focused idea. Xeda's use of DeviantArt's favorite button and flow tools are an example of this process. She would browse galleries, get ideas, or find new artists who inspired her.

I usually just go to the feed of, like, what's being uploaded and just look at what is there because when you log in it is just the page with the feed and I'll sit there and watch the feed for a couple of minutes and just kind of look at things.

Xeda didn't have a specific need, but she spent time browsing to build a library of information that could be used to inspire her. Hannahsuzannah used websites she encountered as inspiration, looking for design that "speaks to [her]," and returning to them. Her specific example was characterized by her enthusiasm: "well, I Feel Fine [website], have you looked at that? Totally amazing!" This was a sentiment echoed by all of the other teens, the favorite-ing or returning to sites that "spoke to" them. The participants also employed specific tools that allowed for focused browsing such as Goku and Hannahsuzannah who had discovered Stumbleupon as a tool that led to interesting content used mostly "when I am bored." This

practice of focused browsing of information to be used as inspiration appeared to be guided by a diffused need, an interest in a topic or a tool but lacking a specific need or direction.

Direct Searching
Direct searching was used as participants moved through the process of content creating that found a need for skills, particularly the skills that were necessary to create content that "matched the pictures in my head" (Goku). In this sense information was conceptualized as skills, and the activities tended to be more concrete and visible. Furthermore, participants were most likely to recognize this as learning.

The need for skills was based on specific needs and the starting point was often social contacts. Direct searching was used by participants to gain specific information needed to use the tools to create and share. A variety of sources was used. For instance, Xeda relied on her mom for early technical support, "first I asked my mom because she knew a few technical things" but found at a certain point she needed to learn on her own. Hannahsuzannah described the process of learning html via her friends: "Like, learning to do colors and stuff was asking my friends." Goku learned about cameras from his uncle saying "we used to hang out and he'd bring his video camera and we'd make funny little movies and stuff." Robert often accessed a mentor, an older student who established expertise in his ability to assist Robert in using "an expensive and large camera." In all of these instances the facility with tools was learned gradually by application (doing) and assistance from a social contact.

Information was also gathered through direct searching using the tools and practices of a specific digital community. This was particularly true in information needed for technical purposes. Participants used online communities to gather specific information regarding technique and tools. "I use forums a lot, online forums that have to [do with] using online content [html, bb code]" (Xeda). Jack spoke of "trying to stay in the same forum because it was a reliable forum" while trying to answer a specific question he had with a technical computer problem. In other uses of digital communities for support Loli, Robert, and Goku described using "how to" videos on YouTube. "I would probably find a tutorial on YouTube" Loli said when asked about needing and finding specific technical information. Robert spoke to the need of specific version information in searching for "how to" videos on YouTube. Search engines beyond a specific community were also used to gather needed information. Xeda, Hannahsuzannah, and Loli used Google images to retrieve html codes, "it would pop up in Google images a trillion charts, color charts with all the numbers." Xeda went beyond digital sources by searching for books and other materials to help her learn additional technical skills, stating "there are a ton of books out there on html."

In summary, gathering practices allowed participants to encounter the information they engaged in order to learn, through thinking and creating practices.

THINKING PRACTICES

Thinking practices include the range of processes teens engaged in during and after gathering information. These practices demonstrated unconscious and conscious awareness of the experience of using information to learn. Each of these practices reflected subtle differences and included choosing, musing, considering, planning, and reflecting. Thinking practices reflected engagement with information, integrating information into existing knowledge so that it could be used in the creative process. The thinking practices could be considered learning, as the information impacts the process of teen's creating, as well as their knowledge base.

Choosing
The teen's choice of a community was an intentional and reflective choice guided by observing the particulars of the culture of the community before *choosing* to participate. In the process of looking for a community (either specifically or in a less intentional fashion) participants often employed criteria that defines a participatory culture; low barriers of access, strong support for sharing and mentorship. In particular the low barriers and strong support were important to the choice of the community. For instance, Hannahsuzannah mentioned the necessity of free hosting. Xeda, Roni, and Jack discussed the ease of use in regards to the tools— commenting that the directions for establishing an account and/or sharing content "seemed easy," a phrase employed by all three. These comments point to the importance of a low barrier (low cost, ease of use) to expression and engagement. They also looked for communities that were welcoming. Xeda, Loli, Roni, and Jack used the words "fun" and "friendly" to describe the sites they were most engaged in.

The participants also wanted communities that would support their development, such as Xeda who was looking for feedback. Roni choose DeviantArt because she felt it was more "open to original art." Loli chose Blogspot because of the connections she made through using the same blogging platform as other people with whom she wanted to connect, the fashion community of Lolitas. Loli's choice of tool for her platform was significant in understanding the intentional choices participants made since she hosted a second blog on a different platform (WordPress). Observation of those communities allowed teens to evaluate the communities based on their developed criteria, consistent with strong support for sharing, feedback, and encouragement. Jack, however, presented an interesting counterpoint. When discussing a site he remained a lurking

observer, rather than an active participant. He observed that "they eat newbies up." Jack seemed to lack the confidence to share the computer game he was developing off-line. He observed that within this particular community they had high standards regarding content.

> These hardcore developers, . . . if you suggest I am doing something and you make this grand extravagant plan you generally get laughed at, and I can completely understand that because there are a lot of people who are idealistic and don't really understand what they are saying and how difficult [creating a game] is.

In this latter case there was a high barrier to participation as there was not particularly strong support for creating or mentorship. However, by observing the community's interaction Jack evaluated and learned the cultural expectations of quality and made a decision regarding the level of his participation. He considered the experience beneficial, and a learning environment despite his reluctance to participate more actively.

Choosing a community to participate in often began with a silent period—a time of observation in which the participants familiarized themselves with the community, including the tenor of interactions, and the social mores of the community and evaluated their potential role in participating. Goku spoke of the interaction on YouTube citing "ignorant comments on YouTube," by which he meant not helpful, aggressive, and/or disparaging. This observation occurred over time and eventually led to the choice of a different sharing community (Vimeo). Two other participants in separate interviews spoke about the "art theft" and the community reaction on DeviantArt,

> because, especially with the more popular artists on that site, there is an issue with a thing called art theft. It's just really absurd because these people take the artwork of these people and claim it as their own. (Roni)

This was an issue that was currently a heated topic within the DeviantArt community, but not one that either Roni or Xeda had commented on within the community. However, their observation of the conversation impacted their understanding of how to act within the community. Jack spoke of being "overwhelmed" by an already established, healthy editing community on Wikipedia, which impressed him, but also left him less willing to participate because he was unsure of what he could add, and felt as if he was not entirely sure of all of the rules and expectations of the community.

Thus, in observing the social interaction of a community participants evaluated their potential role in the community and desire to participate. They used information to evaluate and choose the community based on the tools and content of the community, the ease of use, the social interaction between community members, and the purpose.

Evaluating

Participants also *evaluated* information based on a judgment of *authority*. In their use of information participants identified authoritative sources of information, or sources that they trusted as providing valued information to help improve their process. While for some participants authority was established through established markers, such as whether or not the information emanated from a professional source or was a teacher, more frequently teens relied on authority markers such as popularity within a community, self-confidence of the information provider, and whether or not the initial information provided was helpful in which case it was a source they would return to. Discussing using sources of information, Loli, Roni, and Xeda all discussed content creators that they were fans of, Roni specifically used the term "fangirling." These were people whose work they followed and that work influenced their own. Roni stated she could tell who she was "fangirling on at the time," Xeda favored artists so she could follow their work, and Loli daily followed blogs she admired.

They also referenced the popularity of the source:

> A few artists that you know, they've gotten extremely big over their time on DeviantArt and you can mention them and they already have, like, fan art on their site, like other people are copying their stuff cause its just that good, and like dedicating a picture to them. (Xeda)

> My friends started showing me these blogs there is two of them, golladarling [online identity] or Icing is her blog and dodeer [online identity], and they both big deals to me because they were these 2 kind of oddball girls that were really, and I think its one of the big things, this instant fame thing, its so easy to become famous in two seconds with the Internet, and these girls were doing it for the oddest reasons. (Loli)

While personal judgment played a role in determining "good," the popularity of the source within the community supported this judgment.

In some *evaluations* the self-confidence of the information provider was a factor. Jack discussed being "intimated" by the Wikipedia editing community, a sense that these "were serious people with a serious mission," indicating that he saw editors as authoritative. Goku, Loli, and Roni had experience with online comments on their work. Roni noted that "it doesn't happen very often" but that when she got a "massive critique. . . . I really, really appreciated it." Goku echoed this with a similar sentiment about a private message that helped him "make it better." In both these instances the commenter projected a sense of authority. And the information provided proved useful with future content creation. Observing the interaction on Loli's blog revealed that she received instructive comments later from the Lolita community, which she used to direct future posts, particularly when readers commented specifically on what they liked in regards to her posts.

Thus, while there was a response to established authorities such as di-

rectors, paid bloggers, and professional visual artists, authority was primarily established by the popularity of a source within a community, the confidence of the source, and the usefulness of the information, particularly if there was a personal aesthetic response to the information.

Musing
Musing is when the process of using information to create often begins. It is difficult to describe as it is a seemingly subconscious mental process that often begins simultaneously with a serendipitous gathering of information. Discussing how she used information she had gathered Roni stated that it "involves a lot of pondering." Xeda echoed Roni saying "I get an idea in my head" in discussing the start of her creative process. This sentiment is an oversimplification of the process, but the teens had a difficult time articulating the source of their creative ideas.

> I am actually doing a documentary on homeless in Arcata and I kind of had a dream of me interviewing homeless people and I remember the questions. I woke up at like two in the morning got a piece of paper and wrote all of the questions I was asking them in my dream and I wrote it down . . . and then I am out there making the video just like I saw in my head. (Goku)

Often they did not recognize the source of an idea, Hannahsuzannah shrugged off a question regarding the source of a piece of information as "something that was out there," and both Goku and Robert identified movies and videos that affected their work, but they only made the connection during specific questioning during the interview. Robert mentioned "emulat[ing] the editing style" of science fiction B movies, and Goku cited popular directors' work as his inspiration after a question that specifically asked "You stated you watch a lot of movies, do you get ideas from them?" This suggests that while taking in information they are not necessarily aware of the information until they think about its use in an intentional manner, and yet it appears that the information as inspiration is part of their subconscious until they are ready to use it in a more intentional manner.

Considering
Considering occurs when an idea moves from the background (musing) to the foreground. This is primarily related to intentionality regarding content, in which a choice is made regarding the style and focus of new content. Considering is underpinned by engaging with information for inspiration and to develop a personal aesthetic. For instance, Xeda said "I'll type in an image [into Google images] I want to see, I don't know, like flower or something." She explained doing this to study the various images in order to consider how to create her own. Roni admitted to knowing which artist she was "fangirling on" at the time of creating. This suggested

that the artist's work impacted her own, using her respect for an artist's work to think about work she wanted to do, "inspir[ing] her to make more complicated things." As she *considered* the artist's work she gathered more of the work, and thought intentionally about what she would use in her own work, including what she needed to learn. Hannahsuzannah described developing her personal aesthetic as "through experience, and interaction with other people's designs, and also through looking at stuff," which she then used to "think about how my web site will look." Loli used Bloglines to read blogs to collect ideas for her own blog, both through simply reading more famous blogs within her niche community (fashion) as well as responding through her own blog. In the instance of reading she was asking herself do I want to respond to this? Or do I want to emulate this blog?

The actions of participating in the community through favorite-ing or liking content and building a library can also be defined as *considering* as it helped define personal aesthetic and interest around the collected information. In considering, information is often conceptualized as inspiration but the source of the information is recognizable, and creators are aware of the source. Thus considering is most often related to teens determining what they know, and exploring information considered inspiration in more depth.

Planning

Planning demonstrates visible information use. Planning was the process of identifying what they would need, particularly what skills and tools would be necessary. Planning was occasionally concrete (i.e., thumbnail sketches), however, it was more often marked by a "conversation" or "pictures in my head." Roni's interaction with others was often part of her planning to create process, a chance to explore what she was considering. She discussed both "yammering on" with online acquaintances in regards to characters she used in Web comics and stories, as well as a more structured brainstorming with a collaborative partner, "I respond really well to encouragement and bouncing ideas off each other, it has become an exponential force."

In most instances planning was more individualized. Xeda and Hannahsuzannah's actions were more concrete. Xeda described "homework covered in doodles, and sometimes I take doodles home and do more to them." Hannahsuzannah employed the use of thumbnail sketches as draft, however this did not extend to the Web page, in which she was more likely to draft online, stating "it's a work in progress." The video creators were less likely to specifically draft, describing having a vague idea or "pictures in my head" before beginning creating, and primarily doing the work in the editing process. "I started to cut clips and put them together and it was a lot of fun seeing the story start to make sense and come to-

gether" (Robert). Goku said that "the picture in my head is pretty vague" although he detailed a collaborative process in which planning took place through conversation. Thus, planning varied between individuals and was not formalized, rather it was a thinking around what one would create, or discussing the idea in order to solidify the planned creation.

Reflecting

Reflecting processes occurred during the creating and use of information. As they created products teens gathered information about what they knew, and still needed to know, through *reflecting* on their process and the product. For instance, Goku described the process of a stop animation video he created:

> This was like 500 images of this shoe. So I had to throw them all into Windows MovieMaker, shorten them all to about a half a second,. . . . Then put them all next to each other, put my titles in, play it and realize half a second was too long and then I had to go through each image, every image and shorten it again until I figured out what made it right.

In this case, Goku engaged in an iterative interaction with information marked by trial and error. He received information from failing but was able to apply this information to a more successful creation through reflection. The problem solving necessary for the success of the first video had taught him about "patience," as well as the tools he was implementing at the time. Reflection on trial and error was seen in a number of students. Xeda stated, "I learn as I go" in response to learning a digital editing tool, and listed the pieces of the software she had mastered (filters and image editing, but not layers). Jack collaborated in testing software, as well as testing his own creations through trial and error. Hannahsuzannah suggested she used "guess and check" not only while accessing information but also in implementing online editing tools. Thus the teens engaged in *reflecting* on the process of using trial and error to master a tool, subsequently gaining additional information and learning from it.

CREATING PRACTICES

The process of creating and sharing in a digital community is the act of using a variety of information, both practical information regarding tools and inspirational information that is the genesis for creating. This occurs through participating as a member of a community to learn and understand the practices of the community. But more significantly it involves the practices of creating and sharing content, which can be defined as copying, modeling, and composing. In each instance the participants are contributing to the community, and learning from that contribution.

Participating

Participating demonstrates how teens used information to learn in the community context and the process of engagement within that community. Content creators choose to become more active within a specific community in two ways: (1) engaging in participation they began through commenting, and (2) collecting content for future use through "liking" something created by another member of the community. "Liking' is the physical act of rating—such as assigning a star rating (YouTube) or leaving emoticons (DeviantArt), or clicking a like button (Vimeo). As an actual process it builds a library of content to which they can refer and that is attached to their profile. Xeda engaged most strongly in this manner in her interactions in DeviantArt by frequent use of emoticons that indicated her feelings about content. On the other hand, Goku discussed his engagement in the negative commenting on YouTube as ultimately being a reason for seeking a different community that was more supportive, despite the fact that he had a library of videos built in YouTube through favoriteing and commenting, which he continued to access. Thus, *participating* provided information used for inspiration but also introduced content creators to the practices of the community.

Copying

Copying involved using information to learn specific skills. This was particularly true for the visual artists and blogger in which they copied information they considered inspirational in order to master the tools and techniques. This also provided physical information in terms of body control, which was particularly true of the visual artists. In the act of drawing Xeda stated she used information by "copy[ing] the pictures as many times as I can until I feel like I've gotten it close enough to what I want it to look like." Roni moved into the realm of visual art and sharing art online and receiving feedback through fan art, copying a character in her art, sharing it, and "yammering on" about the character in forums. Jack described "kind of screwing around, testing things" with a programming language as providing the information necessary to see how "fluent he was with the language." He copied code and applied it himself, testing how it worked before applying it in a different context. Thus, the process of *copying* art or style helped the creators develop the physical skills, learn software, and build their confidence as they interacted within a community.

Modeling

Modeling was the intermediate step between copying and the creation of more original content. Modeling involved applying a personal aesthetic to information being used as inspiration. In modeling the original information as inspiration is apparent, and the application of knowledge gained regarding the tools is explored. Hannahsuzannah emphasized this in designing her website, discussing sites that "spoke to" her as ones that were

"sleek and modern" and using that sensibility in her own website. Robert discussed the skills involved in editing and creating video as "mostly taking that that have been done before and rearranging them, or adding slight differences." He modeled his editing choices on observable choices in other videos, but applied them differently. This concept of old ideas in new ways also appeared with Roni. In regards to her Web comic she stated, "there is no such thing as an original idea." In a more direct example of modeling Loli used informal mentors, blogs she admired, as a guide and confidence builder for creating her own blog. She modeled the types of entries on blogs she admired, eventually evolving into her own aesthetic. Thus, the opportunity to model content on others provides the opportunity to learn, and build confidence.

Composing

Composing was also a representation of applied information, of knowledge. Unlike modeling, composing was marked by the resulting content not being obviously based on information as inspiration. However, participants were aware of the influences on their composing, and less likely to adopt a position that their work was truly original. For instance, Roni discussed originality, stating "there is no such thing as an original idea . . . that it's just how you put together all the other small ideas that come from other people." She went on to say:

> You know it's yours because it's like your child. You were there from the very beginning, working blood, sweat and tears into developing it into what it is. It's true that some fans put a lot of effort into making art for a particular work by someone else, but they know that it's not theirs. It's like they're good friends with the art.

Jack, in a discussion of knowing and originality in programming where coding is copied but applied in new ways said:

> The process of knowing information mostly consists of one's ability to process things or ideas that they are exposed to and compare them to what they already know. That person can then see how it is relevant to other pieces of information and extract meaning from the comparison.

In this sense for him *composing* was about "extracting meaning from comparison" of what he already knew and what he experienced in implementing new code in a program.

In composing teens become producers of knowledge they shared with their community. This had the potential to engage the community and lead to more information that can be used to continue to create and share content. Thus, composing demonstrates knowledge of skills and community practices, but it also demonstrates a creative engagement with information.

Informed Learning and Teen Content Creators

Understanding the context of becoming a participant in the online content creation community, and the information practices teens enact in that context, provides a rich picture of their information literacy experience. It contributes to our understandings of how teens experience information and use it to learn, participate, and create. The authors of "Informed Learning—Supporting Informed Learners in the 21st Century," published in this issue, argue that people's information experiences and information practices are grounded in context and that once learners become aware of how they experience and use information to learn within a context, they can become more effective within those contexts.

Teen's information experiences in digital participatory communities as described above can also be understood through the lens of the seven faces of informed learning. Bruce (2008) describes the seven faces as including information awareness, sources, process, control, knowledge construction, knowledge extension, and wisdom. The relevant faces will be defined and explored below as they relate to the information practices of teen content creators.

In gathering, teens experienced the information awareness and communication (ICT) face of informed learning. They were aware of the uses of ICT for gathering and communicating by employing tools to engage in *focused browsing* and *direct searching*. They visited online forums using search engines, participated in conversations, and interacted with the members of the community using the tools of the community. Specifically, they employed a *direct search* in YouTube and Google, as well as *browsing* official forums of a community, and using commenting tools and icons. They also attended to different types of sources available, which is seen in the second face, sourcing information. They preferred visual and social sources of information; friends and family often being the first information source they accessed, but also how to videos or images, and gathering inspiration from the world around them.

In the thinking practices the third and fourth faces of informed learning were experienced. In the third face, *information process*, the focus is on the processes teens are engaged in while using information. This is particularly clear as teens engaged in *planning* and *reflecting*. It is in these practices that teens *considered* what they knew, what they needed to know based on the application of their process. In *reflecting* on the process of what worked in both gathering and using practices teens transformed their processes by improving searching, or improving creating practices. This was clearly seen in Goku's stop motion experiences, Robert's searching process, and in Roni's, Loli's, and Hannahsuzannahs's development of their personal aesthetic after reviewing information that spoke to them. It was an implicit process that could be made explicit, if informed learning in teen content creators is to be truly realized. The fourth face of informed learning, the

information control experience, was also evident. Bruce states, "Information control begins when we recognize information encountered as particularly relevant" (2008, p. 47). This is echoed in the experience of information as inspiration. *Musing* and *considering* represent the fourth face, as information is recognized as having qualities needed for inspiration of the style and format of content. This is particularly clear during *considering* practices, while the conscious engagement with information is enacted.

In *creating practices* the fifth and sixth faces of informed learning are experienced. The fifth face, the *knowledge construction* experience, the focus is on coming to know and critical analysis in a central component (Bruce, 2008, p. 48). While "coming to know" may seem to be a thinking practice as the focus is on adopting a personal stance, it is visible in the creating process of modeling. *Modeling*, the application of personal aesthetic, is the building of a personal (creative) stance, or knowledge base. In the sixth face an informed learner extends his/her knowledge base (p. 50). It is the face most closely related with the creative process, and intuition is a key component (p. 50). *Composing* is the process of using knowledge to create new knowledge. As teens discussed their original compositions, they were often unable to fully articulate the sources of information in regards to how they created content, as they had evolved into creating novel content.

Conclusion

In 1989 ALA defined an information literate person as someone who has "learned how to learn" (American Library Association, 1989). While much of information literacy discussion and research has focused on the skills of information literacy, emerging understandings of information literacy understand that context influences the information literacy experience, and that information literacy can be interpreted as the critical understanding of how to use information within contexts (Bruce, 2000; Kimmo Tuominen, 2005; Lloyd, 2006; Lupton & Bruce, 2010; McTavish, 2009). The teen participants in this research provide a view of information literacy through the window of their experience of using information to learn in content creating communities. Using the faces of informed learning provided a framework for understanding teens' experiences as they used information and became legitimate peripheral participants in relation to wider informed learning experiences. This brief glimpse into their experiences helps us obtain a more holistic picture of information literacy, one that is situated and rooted in information practices in which people use information to learn.

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