

Value creation in online communities for educators

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Abstract

The popularity and pervasiveness of online communities have led researchers and practitioners alike to closely examine the utility of online communities for supporting and facilitating professional learning. As economic constraints leave fewer resources available for professional development, educators in particular are examining the potential of online communities to enhance and extend traditional professional development opportunities. Leveraging the potential of online communities requires an in-depth understanding of the value that members find through their participation. This study used Wenger, Trayner and de Laat's value creation framework to better understand cycles of value creation in online communities. Findings illuminate how members with varying perspectives and levels of expertise co-construct new forms of meaning and understanding in ways that are individually and collectively valuable, and how they apply that knowledge to their professional practice. Additionally, the study offers insight into the ways in which actions of community leaders and a sponsoring organization support and facilitate value creation through different types of activities, tools and interactions.

Introduction

Whether for information sharing and learning, support, companionship, or entertainment, online communities are among the most popular destinations on the Internet (Kraut & Resnick, 2011). Given their pervasiveness and popularity, researchers and practitioners alike have become increasingly interested in the interplay between learning, community and technology where the learning component is central (Wenger, White & Smith, 2009). In particular, educators are interested in the potential of online communities to provide informal professional learning opportunities as well as ongoing support for changes in professional practice. One of the critical factors in realizing the potential of online communities for educators is understanding the value that members find through their participation. The purpose of this study is to examine and illuminate how educators with varying perspectives and levels of expertise experience online communities, co-construct new forms of meaning and understanding in ways that are individually and collectively valuable, and apply that knowledge in their professional practice. Additionally, the study offers insight into how the actions of community leaders and sponsoring organizations support or facilitate value creation through different types of activities, tools and interactions.

Practitioner Notes

What is already known about this topic

- Online communities can provide a valuable form of professional learning and support for educators.
- Online communities enable teachers to gain equitable access to human and information resources that may not be available locally or that fiscal constraints might limit.
- Even when online communities are created with great care and planning, success is often elusive.

What this paper adds

- Careful analysis and description of the spectrum of value that educators find through the engagement in online communities, including the ways in which knowledge gained through participation in the community is applied and realized in practice.
- Insight into the types of activities, tools and interactions that lead to value creation.

Implications for practice

- As resources continue to flow into the development of online communities, researchers and practitioners alike want to better understand the ways in which online communities provide value to their members.
- For sponsoring organizations that invest money in the development and maintenance of online communities, it is important to be able to understand and document the return on investment.

Theoretical background and prior research

Building on Wenger's (1998) prior work, Wenger, Tayner and de Laat (2011) developed a framework for assessing value creation in online communities of practice. Distinct from a business perspective whereby communities create value in the form of improved organizational efficiency or financial gain (Mak, Williams & Mackness, 2010; Prahalad & Ramaswamy, 2004; Tsai & Ghoshal, 1998; Wise, 2013), the term "value creation" in the context of this research is viewed from the perspective of the participant and is defined as personal learning enabled through community involvement, knowledge sharing and networking (Wenger *et al*, 2011). As described in Wenger and colleagues' five cycles of value creation, the authors propose that community participation enables learning through accrued knowledge capital, which can be leveraged to improve practice and help educators' redefine successful practices.

While literature focusing on the *systematic analysis* of value creation in online communities is limited, prior research demonstrates that participation in online communities can be a satisfying experience and indeed lead to the acquisition of various forms of knowledge capital (eg, social, tangible and learning capital). Most prevalent is the finding that online communities can provide immediate value to teachers by offsetting the isolation they often feel in their classroom (Duncan-Howell, 2010; Gray, 2004; Hur & Brush, 2009; Vavasseur & MacGregor, 2008). Through their ongoing engagement in professional conversations, teachers enjoy a sense of camaraderie and belonging as they participate in online communities (Duncan-Howell, 2010). Participation in online communities provides opportunities to both give and receive support, encouragement and/or advice (Hur & Brush, 2009; Vavasseur & MacGregor, 2008). Less experienced teachers appreciate the opportunity to receive help or advice, whereas more experienced teachers who

empathize with their less-experienced peers view their knowledge-sharing contributions to the communities as an altruistic way of providing support (Gray, 2004; Hew & Hara, 2007).

Beyond the immediate value that teachers find through their engagement with colleagues in an online community, teachers can gain curriculum-based knowledge and enhanced self-efficacy with respect to implementing technology (Vavasseur & MacGregor, 2008). Storytelling and the development of a shared repertoire of stories and cases can function as a dynamic knowledge source for members of a community (Gray, 2004). Through the telling and retelling of stories, members of an online community may negotiate the meaning of their work, develop their collective knowledge and forge a group identity (Gray, 2004). Galyardt, Aleahmad, Fienberg, Junker and Hargadon (2009) investigated Classroom 2.0, a large and active community aimed at helping teachers incorporate technology into their classrooms, to better understand how educators use the community and the purpose of their interactions. Using Latent Dirichlet Allocation, a common model-based approach to unsupervised text analysis, the authors found common uses of the community included seeking technical or classroom support, sharing strategies and knowledge around classroom technologies, and soliciting other educators to collaborate on classroom initiatives.

Though less prevalent, the literature also suggests that participation in online communities can lead to positive changes in professional practice. In studying the potential of online communities to be a source of professional learning for teachers, Duncan-Howell (2010) was interested in knowing if teachers changed any of their teaching practices as a result of their participation in an online community. Seventy-seven percent of surveyed respondents indicated that they had been exposed to new ideas and resources which they subsequently used in the classrooms. Vavasseur and MacGregor's (2008) evaluation of the educational technology specialists at the state's educational technology center revealed that teachers' application of knowledge gained through their participation in the online community did lead to appropriate instructional applications of basic productivity, research and communication tools that were the focus of the professional development experience.

Purpose of study

The purpose of this study is to use the value creation framework developed by Wenger *et al* (2011) as an analytical tool for advancing a more detailed understanding of the value that educators find through their participation in online communities. By collecting value creation stories from members of online communities and analyzing them through the lens of five value creation cycles, the intent is to gain a deeper understanding of the spectrum of value that is produced through members' engagement in online communities and to gain insight into the activities and tools that support and facilitate value creation. The following research question frames the study: *In what ways do educators find value through their participation in online communities?* The discussion of study findings considers how the purpose and activities of the community, as well as the actions of the community leaders, influence the types of value that members receive from their participation.

Significance of study

As economic constraints continue to impact traditional professional learning opportunities, it is increasingly important to leverage technology in ways that facilitate and support new opportunities. Developing a better understanding of the value that educators currently find through their participation in online communities will enable researchers and practitioners alike to increase that value as new online communities are created and existing communities grow and evolve. For sponsoring organizations that invest money in the development and maintenance of online communities, it is important to be able to understand and document their return on investment. The stated purpose of the community often suggests the types of value that will be produced as

members engage in the community; however, the value that people actually get through their participation, the changes they make to practice and/or the ways in which that value is realized are an understudied topic in this domain.

Method

Approach

Wenger *et al* (2011) suggest that in order to appreciate the richness of the value created by communities, it is helpful to think about value creation in terms of cycles. In order to paint a more reliable picture of value creation in a community, the authors emphasize the need to examine value creation *across* cycles. “Value creation stories” provide accounts of the ways in which interactions and experiences in the community traverse multiple cycles. While the stories follow a specific format, they may or may not cover all five cycles. Value creation stories are told by the members of the community as the members are “both the carriers and witnesses of the process of value creation across cycles” (Wenger *et al*, 2011, p 34). This research followed a multiple case study approach and involved the collection of value creation stories from members of the following four online communities for educators: Center for Teaching Quality’s (CTQ) Teacher Leaders Network (TLN), National Science Teacher Association’s Learning Center (NSTA LC), Teach for America Net (TFANet) and English Companion Ning (ECN). The following operational criteria were developed whereby candidate communities were screened for inclusion as a case (Yin, 2009): the community was created to provide an ongoing form of support and/or professional learning for teachers; the community is “vibrant” as marked by members’ active participation in knowledge exchange activities (Ardichvili, 2008); participation in the community is voluntary; participation is not part of a structured course or workshop promising credit or certification; and participants are geographically distributed and not limited in affiliation to one school or district. While numerous online communities for educators fit these criteria, a convenience sample of four online communities was selected for inclusion in the study. The communities range in size from 1 200 members to over 100 000 members. The intention in looking at communities of varying sizes was to gain perspective about value creation at various degrees of scale. A comparison of the online communities is presented in Table 1.

Purposeful sampling (Merriam, 1997) was then used to select actively engaged members from each community to be interviewed. Community members who are actively engaged are more likely to have the ability to provide deeper insight about their engagement in the community than less active members.

Data sources and analysis

The primary method of data collection was semistructured interviews. The interview protocol (see Appendix) was based on Wenger *et al*’s (2011) framework for assessing value creation in communities and networks and was adapted from a template created for educators to capture the different cycles of value creation. Over a period of 6 months, in-depth interviews were conducted by phone with a total of 25 community members from the four different communities. The interview questions asked participants to describe specific events or moments of participation that were significant to them. Each interview lasted between 30 and 60 minutes. While the interviews were semistructured, consistent use of the interview protocol was employed to minimize interviewer bias.

Following the interviews, the accounts told by participants were “restored,” a process which involves analyzing the stories for key elements and crafting them into a chronological or more logical sequence (Creswell, 2012). The stories were then sent back to participants for review and feedback as a form of “member checking.” An *a priori* coding scheme, based on the five cycles of value creation, was applied to the data. The first four cycles are an adaptation of a model developed

Table 1: Online communities involved in the study

Community name	Sponsoring organization or person	Purpose	Year founded	Membership
TLN	Center for Teaching Quality	To promote the powerful potential of teacher leadership and to improve student learning by advancing the teaching profession	2003	~1200
NSTA LC	NSTA	To enhance the personal learning for teachers by providing a suite of tools, resources and opportunities to support their individual long-term professional growth based on their unique learning needs and preferences	2008	~100 000
ECN	Jim Burke	To provide an informal place where English teachers can share their wisdom and resources, offer advice and support, and enjoy the camaraderie of other English education professionals	2008	~30 000
TFANet	Teach for America	To provide a place for TFA corps members, alums and staff to connect, share best practices, give and receive advice, and access high-quality resources in order to accelerate their collective ability to improve student outcomes in low-income communities	2008	~65 000

ECN, English Companion Ning; NSTA LC, National Science Teacher Association's Learning Center; TFANet, Teach for America Net; TLN, Teacher Leaders Network.

by Kirkpatrick (1975) for the purposes of program and training evaluation. The fifth cycle was added by Wenger *et al* (2011) to specifically address value creation in communities and networks.

Cycle 1: Immediate value: activities and interactions produce value in and of themselves.

Cycle 2: Potential value: activities and interactions produce various forms of knowledge capital that have the potential to be realized later.

Cycle 3: Applied value: activities and interactions in which knowledge capital is leveraged lead to changes in practice.

Cycle 4: Realized value: application of knowledge capital results in performance improvement.

Cycle 5: Reframing value: social learning causes a reconsideration of the ways in which success is defined.

The a priori coding scheme was refined and expanded as interaction with the data progressed. Previously coded stories were recoded using the new scheme. The coded stories were then analyzed, illuminating patterns, or cycles, of value creation through the lens of individual experiences. Member checking was used to validate initial themes that emerged through data analysis. The process of collecting and analyzing the stories was not intended to predict or generalize the value that members find through their participation in online communities but rather to evoke vivid snapshots of the potential for learning and value creation within online communities.

Findings

Findings from the study suggest that the collection and analysis of value creation stories using the value creation framework provide a more detailed and nuanced understanding of the different types of value members found through their participation in the community than has previously been available. Within this section, findings are subdivided by the five cycles of value creation.

Immediate value

In telling their value creation stories, participants commented on the immediate value they found through their participation in the online communities. The most common sentiment across

communities was that they simply enjoyed engaging in conversations with other educators who shared their passions and challenges. Whether taking part in philosophical conversations about the bigger issues of teaching and learning, seeking advice from more experienced teachers, offering words of encouragement, or simply perusing the discussion forum to pick up ideas, participants frequently indicated that these types of interactions provided a means by which they could offset the isolation that they often felt at their school.

Potential value

As members continued to participate in meaningful conversations over time, access community resource repositories, expand their professional learning networks, pick up tips and ideas, and take part in a variety of professional development experiences, not only did they find immediate value through those interactions but they were also amassing knowledge capital. Wenger *et al* (2011) note that the value of intangible assets encompassed in the broader category of knowledge capital lies in their potential to be realized later. Various types of knowledge capital—*learning capital, human capital, social capital, reputational capital and tangible capital*—produced through members' participation were clearly discernible in each individual community.

Learning capital

Evidence of learning capital was most prevalent in TLN and NSTA LC. Members from both of these communities placed a high value on forms of collaborative learning offered through the community by the sponsoring organizations. For example, when TLN members spoke of the value they found through their engagement in perspective-broadening dialogue and receiving support or feedback for their work, they were often referencing their involvement in structured learning activities that followed the CTO's TeacherSolutions model. NSTA LC members also participated in a variety of structured learning opportunities. Among the community-sponsored learning opportunities were a wealth of seminars, online courses, face-to-face symposia and podcasts. Members' stories suggest that these forms of learning resulted in increased knowledge capital and, in some cases, increased social connections with other members of the community.

Human capital

The increased self-confidence and sense of professionalism that members of ECN and TLN experienced through their participation in the respective communities frequently emerged in the value creation stories that they told. In particular, ECN members tended to focus on the value of informal, yet in-depth, knowledge exchanges they engaged in through the community's different discussion forums. Several members commented that the intense discussions caused them to reflect more deeply on their practice. Thoughtfully articulating their position, while reflecting on the positions of others, increased their knowledge and confidence, broadened their perspectives and deepened their sense of professionalism. As TLN members gained new perspectives and deepened their knowledge of educational policy issues through their interactions with a diverse community of educators, the personal value of participating also manifested itself through increased self-confidence. Several members indicated that the knowledge they gained through participation in the community gave them confidence to share things they were learning in both formal and informal settings at their schools.

Social capital

Evidence of social capital was most prevalent in TLN and ECN, where members frequently mentioned the value they found through the social connections they had made in the community. Often, these connections led to friendships, both online and in face-to-face settings. TLN members who participated in the TeacherSolutions process not only found the focused, collaborative and social aspects of the process to be highly valuable, increasing their knowledge and strengthening their social connections, but their participation also deepened their trust in each other, as well as

their trust in CTQ as the sponsoring organization. For ECN members, because many of the intense discussions required such thoughtful articulation of ideas, participants indicated that the posts gave great insight into the credibility of members.

Stories from members of TLN, NSTA LC and ECN also revealed that having access to “experts” in the field was a valuable perk of being in the community. Considering the limited direct access that teachers typically have with nationally recognized authors and thought leaders, it is unsurprising that members particularly appreciated opportunities within their online communities to interact with “the experts.”

Reputational capital

Consistent with the overall mission and vision for TLN, members value the collective voice it provides them in national discussions of public policy. The stories of TLN members revealed that they take great pride in being a part of the community that has a respected presence at national and international conferences, a voice in state and federal legislative hearings, and a highly regarded reputation for opening the door to real schools and classrooms through authorship of articles, essays, blogs and books.

Tangible capital

Stories from members of the NSTA LC and TEANet frequently highlighted the value they found in the vast repositories of resources, tools and lesson plans available through their participation in the community. In particular, several NSTA LC members noted the ways in which the Portfolio Tool and the “Library Tool” enabled them to more effectively leverage growing knowledge capital. The Portfolio Tool allows teachers to create a personalized plan that outlines their professional development experiences over a period of time, describing how they will support increased student learning through increased knowledge and skills. It allows teachers to upload portfolio materials, such as samples of student work or augmented lesson plans, and generate written reflections that demonstrate and support their growth over time. Using the Library Tool, teachers can create collections of resources by topics and add personalized notes to each resource.

Applied value

Tangible and intangible assets are increased and leveraged through deliberate action (Allee, 2008, p 7). The stories of online community members often began with an event or interaction that was of immediate value. Their stories also described the production of potential value generated through new forms of learning, changed social relationships, increased confidence and reputational capital. However, as Wenger *et al* (2011) suggest, following value creation across multiple cycles creates a more complete picture of value creation within a community. The dialogue, support, encouragement and learning opportunities that members engaged in within their respective communities were then adapted and applied in various ways beyond the community.

Most frequently, engagement in the online community led to applications of knowledge capital in the classroom. K-12 TEANet and NSTA LC members frequently took lessons plans from resource repository, adapted them to fit their students’ needs, tried them out in the classroom and reported back to the community on how the lesson went. NSTA LC, ECN and TLN members who were university professors described the ways in which they used content from the community and discussion forums as part of the curriculum for preservice teachers. Additionally, ECN and TLN community members recounted the ways in which philosophical discussions within the online community led them to change classroom practice.

Beyond classroom applications, members also leveraged the immediate and potential value they gained through the community to take on leadership roles within their schools and districts, or within the community itself. TLN, for example, provided members with training to become online

moderators, as well as numerous opportunities to take on leadership roles within the community. Similarly, the NSTA LC also provided members with opportunities to take on leadership roles. One NSTA member who took on the official role of an online advisor noted that because the advisors start as community members, they have an in-depth knowledge of what members might need and want in the way of assistance. Members of the ECN, TLN and NSTA LC described how social connections made through the community eventually led to conference presentations and a variety of collaborations within and outside of the school environment.

Further, members from the online communities used their growing knowledge as inspiration for blogs, newspaper articles and journal articles. Several TLN members described how, at the start, their participation in the TLN online discussion forum was simply fun and inspiring. However, over time, through the process of social learning, their knowledge deepened and their confidence increased. This, in turn, led to opportunities to write for national newspapers and journals.

Realized value

When the application of knowledge capital results in improved performance, then the value of the activity or tool becomes “realized” (Wenger *et al.*, 2011). In telling their stories, participants were asked to reflect on the effects the application of knowledge capital was having on the achievement of what matters to them. For one NSTA LC member, strategic use of the robust tools offered through the learning community led to increased communication and collaboration among departments at her university. Often, the value of TLN members’ participation in the community was realized through the direct delivery of tangible knowledge products to national and international audiences of educators.

Reframing value

Reframing value is achieved when “success” is redefined through the process of social learning (Wenger *et al.*, 2011). Traces of reframing value, such as that exemplified in the quote below, could be identified in the stories of TLN, NSTA and ECN members.

The posts are inspirational. That people take the time to write them, it means a lot to me and makes me want to do better. I think when you write reflective blog posts or post on hot topic issues, you’re taking part in this global debate. These conversations can be very polarizing for a lot of people, and a lot of people just stay off of those posts; other people wade into the thick of those conversations and argue. I’m kind of an arguer, and a wader into the thick of things. I think that you, if you have opinions and a strong belief system, you share that with other teachers. Maybe you don’t change their minds, but you get them to articulate their own position more thoughtfully and to really be mindful of what they think. That level of discourse is important and changes how we think about education as educators, how we think about it as citizens. (ECN member)

Value creation across cycles

Although stories of value creation do not have to traverse cycles linearly, in some cases, the stories did illustrate a spectrum of value creation. Figure 1 below illustrates how the stories of two TLN members evidence multiple cycles of value creation including reframing value.

Chuck’s story begins with a recollection of the fun he had simply participating in online discussions. Over time, the knowledge capital that Chuck gained through his conversations about grading and assessments within the TLN community was not only valuable to him personally; the inspiration and growing knowledge he gained through those conversations prompted him to initiate professional learning opportunities for teachers within his own school. He initiated a book study at his school that involved 10 faculty members who focused on reading and understanding the ideas from five different books on assessment. As a result of the professional development that Chuck initiated, he and his fellow teachers began to change assessment practices in their classroom. The positive results they saw with students led them to rethink what it means to assess student learning. Chuck went on to blog about his experience within TLN. This, in turn, cycled back to create immediate value for other members of community.

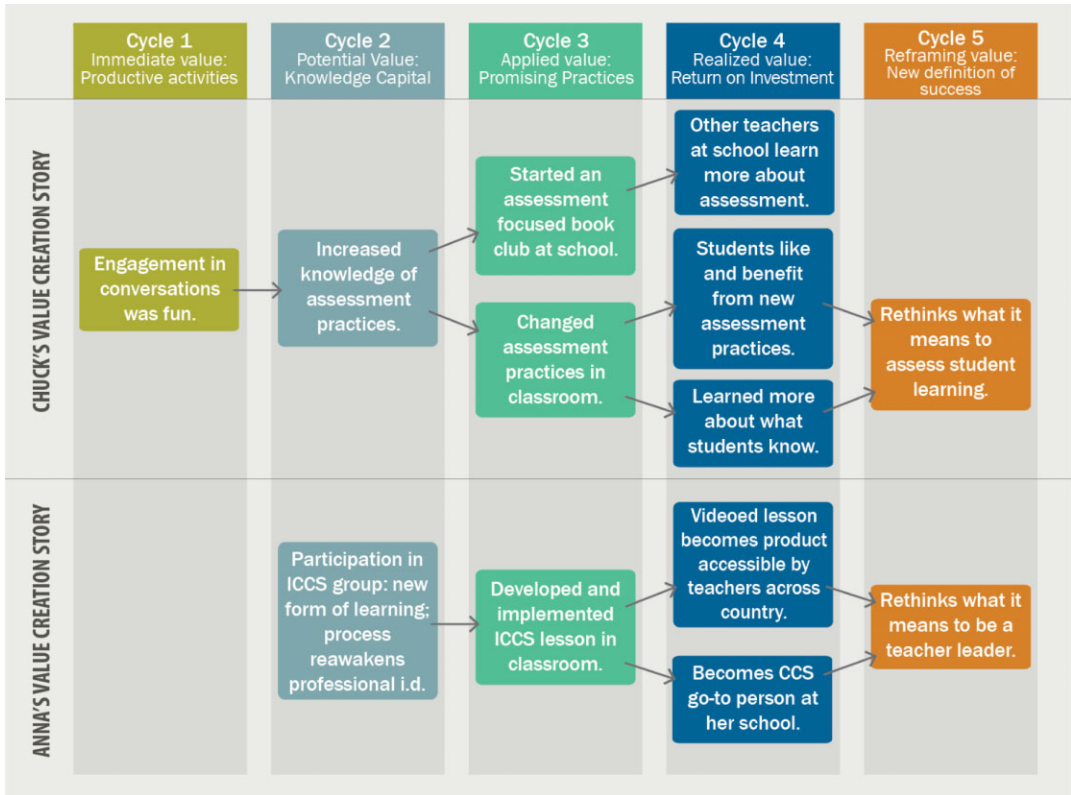


Figure 1: Value creation stories across cycles

Anna was invited to join the TLN community and take part in a TeacherSolutions group focused on Implementing the Common Core Standards (ICCS). During that time, Anna worked with her fellow participants in both face-to-face and online work sessions to develop an exemplary lesson based on the CCS. Members of the group created lessons and videoed themselves teaching the lessons. The lessons produced by the group were then made available through the online community as models for other teachers to use. As a result of her experience and increased knowledge about ICCS, Anna began to be seen by fellow teachers at her school as the CCS go-to person. Being revered as a professional within her school and within the online community reenergized her. She had a new verve in the classroom and a new energy in her desire to collaborate. Ultimately, the experience led Anna to rethink what it means to be a teacher leader within the school.

Discussion

Examining the stories of online community members through Wenger *et al's* (2011) conceptual framework illuminates a "spectrum of value creation" produced by members' engagement in the communities. Not surprisingly, the primary purpose of the community, as put forth by the sponsor, is closely tied to the value that members gain through their participation. TLN members have a strong sense of community through their focused collaborative work that elevates the voices of teachers in national discussions of policy. NSTA LC members value the robust tools, resources and support that enable them to advance their own professional learning. TEFANet members, as new teachers, value targeted rapid support and advice from experienced TEA mentors, and ECN members value the professional conversations and the camaraderie of other English teachers. However, in an effort to advance a fuller picture of value creation, it is useful

to examine the actions and mechanisms that served to facilitate the value creation. To this end, we reexamined the value creation stories of participants in an attempt to identify some of the activities or actions of the sponsoring organizations that contributed to the production of value among members. The discussion that follows highlights the results of this analysis.

Structured activities

Three of the communities—TLN, NSTA LC and ECN—offered structured activities for their members. In the context of this research, we define “structured activities” as those that begin with an overarching question or issue of focus, proceed according to a predetermined set of guidelines, are moderated and take place during a bounded time frame (Booth, 2011). Members from TLN, NSTA LC and ECN placed a high value on the structured learning opportunities offered through the community by the sponsoring organizations. For TLN members, the TeacherSolutions model provided structured activities for learning. For NSTA LC members, the various webinars and short courses provided a structured context for learning. For ECN members, participation in author-led book club discussions also provided a valuable form of structured learning. From a theoretical perspective, structured activities or conversations in online communities enable sustained mutual engagement around a practice, allowing members to explore good practice, articulate perspectives, accumulate knowledge and create a shared context for ongoing exchanges (Wenger *et al*, 2009). From a practical perspective, the combination of a limited time frame and a highly focused discussion around important problems or practice, with supporting resources and guidelines for participation, was appealing and valuable to busy educators.

For TLN members and NSTA LC members, the structured activities often included opportunities to work in small face-to-face groups. Prior research suggests that providing members of an online community with opportunities to meet and work together in face-to-face settings can help to cultivate trust (Ardichvili, 2008; Booth, 2011; Wasko & Faraj, 2005). CTQ provided members of TLN with opportunities to come together for face-to-face retreats and collaborate with other community members on specific policy issues or problems of practice. While opportunities for members to engage in face-to-face settings are not a necessary condition for success, in this case, members’ stories suggest that these opportunities to work in small face-to-face groups enabled them to form bonds and build trusting relationships that in turn facilitated learning together online.

Tangible products

For members of TLN, the end goal of the structured activities was to develop a tangible knowledge product. TLN members’ participation in the TeacherSolutions process not only afforded them with the multimedia products that were the result of their engagement in the process but also provided a tangible artifact that they could use in discussions of policy. Wenger *et al* (2009) posit that meaningful learning in social contexts requires not only direct engagement in activities, conversations and other forms of participation but also the production of physical and conceptual artifacts. They refer to the words, tools, concepts, methods, stories, documents, links to resources and the like as forms of “reification.”

Prior research (eg, Baker-Doyle & Yoon, 2010; Booth, 2012) has emphasized the importance of engaging members of a community in formalized knowledge exchange. This research further illuminates how the tangible results of a structured learning process extend the value of the process itself. Findings from this research suggest that the TeacherSolutions products created by teams of teachers within TLN were not just artifacts of teachers’ practice; they also served as “boundary objects” (Wenger, 1998) between communities of educators and communities of policy makers. As boundary objects, these products played a crucial role in connecting the practice of teachers with that of policy makers. Wenger (2010) suggests that, in larger social

systems, “boundaries” between communities are interesting places, rich with insights and opportunities for learning. In addition to serving as a community, TLN also acts as a “broker” between communities of teachers and communities of policy makers. Wenger notes that brokering knowledge at the boundaries of communities is a delicate process requiring “enough legitimacy to be listened to and enough distance to bring something really new” (p 128). As TLN members increased their knowledge of policy issues through their engagement in community, they gained legitimacy in the eyes of policy makers. Yet at the same time, their views and growing knowledge remained grounded in classroom practice providing them with the ability to bring new insights to policy debates.

Though the purpose of participating in ECN book club discussions was not specifically to create a knowledge product, the artifacts of the discussions did provide a form of reification that members could revisit. For members of NSTA LC, the creation of “collections”—though not always a collaborative activity—also resulted in tangible knowledge products that were shared with and used by others.

Leadership opportunities

The value creation stories from members of both TLN and the NSTA LC suggest that opportunities for leadership within the community were highly valued by members. For example, the CTQ’s “VOICE” leadership training was adapted for their online community and provided TLN members with opportunities to become online moderators, as well as numerous opportunities to take on leadership roles within the community. In addition to acquired social capital that eventually led to collaborations and conference presentations, the experience of serving as an online advisor provides an opportunity to become very familiar with the tools and content of the community and to further promote community resources. Taking on leadership roles encourages members to assume ownership of the community.

Resource repositories and robust tools

While the extensive collection of high-quality resources available through the learning center was a big draw for community members, the tools available for finding, grouping and using those resources were equally valuable. The Library Tool enabled members to organize resources into collections for their own use and for the use of other members. Similarly, the PD Plan/Portfolio Tool provided members with a place to “warehouse and showcase” their professional growth. In addition to providing efficient tagging systems and search engines for large repositories of resources, these stories suggest providing robust tools that enable members to better leverage and use the resources of the community may enhance and extend the community’s value.

Implications

One of the goals of this study was to determine the utility of collecting value creation stories, as well as the framework itself, in helping researchers, evaluators and community managers to better understand the value these communities create for practitioners. Findings from the literature have often touched upon related value creation indicators such as general satisfaction or acquired knowledge (Dawson, 2008; Galyardt *et al*, 2009; Wasko, Teigland & Faraj, 2009); however, these findings have often been only tangential to the primary research questions or focused on immediate outcomes. The value creation cycle is unique in that it attempts to trace the path educators take from the immediate value they receive from the community all the way to the impact participation has on their practice, organization and beliefs.

For researchers, this study demonstrates the use of qualitative inquiry to discover, capture and present the value of participation in online communities of practice in a detailed and nuanced way. For community managers, it offers a form of “developmental evaluation” for organizational learning (Patton, 2002) that community leaders can use to iteratively improve their community and to

determine aspects of the community that may warrant attention. Community leaders may want to consider collecting and publishing value creation stories within the community as a way of promoting value creation. Aside from highlighting the value of participation, Redmond and Lock (2006) state that elevating the actions taken by participants or representations of the acquired knowledge and skills leaves “a legacy . . . for future learners and educators to build on” (p 274).

While this study demonstrates the potential of the value creation framework for helping researchers and community managers to better understand the impact of participation in online communities of practice, it also revealed some challenges and limitations. The collection, analysis and presentation of these stories require time-intensive processes that may limit the potential for busy practitioners and researchers. A survey methods design was initially undertaken for this study as an attempt to pilot a more efficient approach that still fully captured participant stories of value creation, but a very low response rate and perfunctory responses on open-ended items made it difficult to adequately address the research question and fully describe how individuals might traverse through multiple cycles of value creation. In terms of analysis, the researchers in this study also had occasional difficulty in determining which cycle a particular story element may fall under, as in the case where immediate value seemed to overlap with potential value and applied value seemed to overlap with realized value. While the distinctions can easily be understood conceptually, teasing out these distinctions within stories occasionally proved challenging. Finally, the value creation stories were either not particularly effective at capturing realized and reframing value or these cycles may have been uncommon enough within the communities under study to be accurately represented by the selected sample.

These limitations suggest a need for both revisiting the interview protocol used in this study and for exploring additional methods for assessing value creation in online communities. Wenger *et al* (2011) have emphasized that value creation stories should be complemented with additional quantitative indicators, such as site analytics showing frequently viewed pages or social network analysis demonstrating the patterns of member interaction in discussion forums. These measures can ultimately enable community managers and researchers to build a broader picture of value creation within the community as a whole and can provide additional evidence to support self-report data such as participant stories.

Conclusion

This study illuminates specific ways that members find value through their participation in online communities. Examining stories of value creation through the lens of Wenger *et al's* (2011) value creation framework illustrates how individuals with varying perspectives and levels of expertise can co-construct new forms of meaning and understanding in ways that are individually and collectively valuable. It further illustrates how their participation in education-focused online communities can traverse multiple cycles of value creation. Analysis of these stories and of the actions of community leaders to facilitate value creation provides both a foundation and a compelling call for future research that examines specific design interventions developed to increase and support value creation among members of online communities.

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Appendix

Protocol for value-creation interviews

Hello, my name is Sherry Booth. I am a research associate at Friday Institute for Educational Innovation at North Carolina State University. Thank you for taking time to talk with me about your participation in the [name of community] online community. This research is part of a US Department of Education-funded Online Communities of Practice project. Through this project, we are hoping to deepen and refine knowledge related to the power and potential of online communities in education. In particular, we would like to learn more about the ways in which online communities provide value to their members. To this end, we are interviewing members from four different online communities. The purpose of the interview is to better understand how your participation in this community benefits you as an educator.

Introduction

Before we start, a few disclosures:

- Your participation in this study is voluntary. You have the right to be a part of this study, to choose not to participate or to stop participating at any time.
- This interview will be recorded in order to have a complete record of our discussion. Is that okay with you?

There are two main parts to the interview. In the first part of the interview, I will ask you questions aimed at gaining a better understanding your overall experience of participation in the community. In the second part of the interview, using guiding prompts, I will ask you to tell two specific stories of how your participation in this community has created value for you. The idea is to capture concrete anecdotes of what you mentioned in the first part of the interview. Do you have any questions before we begin?

What is your current role as an educator?

How long have you been a member of this community?

Overall experience

- 1 In what ways, if any, is your participation in [name of community] changing you as a teacher [or professional educator]?

A few questions to ask yourself:

- Have I acquired new skills or knowledge?
- Has my understanding of the domain or my perspective changed?
- Do I feel more inspired by the work I do?
- Have I gained confidence in my ability to engage in practice?

- 2 In what ways, if any, is your participation in the community affecting your social connections?

A few questions to ask yourself:

- What access to new people have I gained?
- Do I know them well enough to know what they can contribute to my learning?
- Do I trust them enough to turn to them for help?
- Do I feel less isolated?
- Am I gaining a reputation from my participation?

- 3 In what ways, if any, is your participation in the community helping your teaching practice [or work as a professional educator]?

A few questions to ask yourself:

- Do I have new tools, methods or processes?
- Do I have access to documents or sources of information I would not have otherwise?

4 In what ways, if any, is your participation in the community changing your ability to influence your world as a teacher [or professional educator]?

A few questions to ask yourself:

- Has the community changed the recognition of our expertise?
- Have we acquired a new voice through our collective learning?

Stories of value creation

Now I would like to talk about significant events, moments of participation and/or experiences you have had. In doing this, we will use a template for capturing specific examples of how your participation has created value.

A typical value-creation story has a sequence of four main steps:

1. the activity/event you participated in;
2. what you gained out of it;
3. how you applied it; and
4. what the outcome was.

Sometimes there is a Step 5. This is when an event or innovation changes the way that you define what matters, what consists of success and therefore what “value creation” is. For instance, if you are a teacher, a successful activity may redefine what grades should be about. This type of fundamental reconsideration does not happen very often, but if it does happen to you because of your participation in this online community, do include it in your story because these moments tend to be quite significant in our lives.

1. **Activity.** Describe a meaningful activity/event you participated in and your experience of it (eg, a webinar, a threaded conversation, live online chat).
2. **Output.** Describe a specific resource that this activity/event produced for you (eg, a new idea or document).
3. **Application.** Tell how you used this resource in your practice and what it enabled that would not have happened otherwise.
4. **Outcome.**
 - a. Personal. Explain how it affected your success (eg, being a better teacher, job satisfaction, student’s grade).
 - b. Organizational. Has your participation contributed to the success of your organization (eg, metrics they use)?
- 5 **New definition of success.** Sometimes, such a story changes your understanding of what success is. If it happened this time, please explain in what ways.

Wrap-up

A few final questions to wrap up our interview:

Are there any questions related to the value participation in this community creates for you that I should have asked you that I have not yet?