Resources and Tools for Evaluation of Online Communities of Practice

Successful management of online communities of practice can be greatly informed by strategic and ongoing evaluation practices. The purpose and orientation of the community will determine which evaluation strategies would be most effective. This brief provides

- An overview of the purposes and goals of community evaluation
- An overview of basic community evaluation approaches
- An overview of advanced community evaluation approaches

Purposes and Goals of Community Evaluation

Community leaders and key members can use the information gleaned from various evaluation approaches to cultivate and successfully sustain their online communities of practice in a variety of ways. Good evaluation can *save community leaders time*, help *gain additional resources* for their work, help *allocate time and other resources most effectively*, and, most important, enable the community to better engage members and provide resources and activities that best meet their needs. Community leaders and members are both encouraged to refer to the U.S. Department of Education draft report, *Connect and Inspire* (http://edcocp.org/report/), and associated online briefs (http://edcocp.org/briefs/), including Online Communities for Educators: Guidelines for Planning and Implementation and Technology for Online Communities of Practice, for guidance on important ideas and aspects associated with online communities as they begin to plan and develop their evaluation strategies. Specifically, targeted evaluation techniques allow leaders to accomplish the following:

- Gauge the health of their communities
- Determine what parts of their communities are functioning well and which are underperforming
- Learn how to meet the needs of different types of participants, and in the process, how to attract and retain more of them
- Track and report what is happening to their communities over time, including content, activities, and technical needs
- Demonstrate the impact of the community on attitudes, on practice, and on student learning

- Compare their communities to others reaching the same or similar audiences
- Make a better objective case of value for funders and sponsors

Once an online community of practice becomes active, leaders need to develop an evaluation plan to understand and document success in their community. In many contexts, evaluation approaches, which measure communities' activities and performance, are also referred to as ***metric analysis***—analyzing measures of success. The following are general questions for leaders to consider when selecting evaluation approaches for assessing the activities, content, and interactions in their online community. Evaluation plans should help community leaders and key members determine to what extent the following effects are evident:

- The community is serving its intended purpose and audience.
- Knowledge is shared around a domain and related practice emerging.
- Members' interactions have continuity and depth. (Are members engaged in productive, ongoing, interactions?)
- Collaborative activities are emerging.
- Documents, tools, resources, or other artifacts are created and utilized. (How are these useful to the members?)
- The community provides value for its sponsors.
- Participants' involvement in the community affects their professional practices and student learning. (This question goes beyond improving the community functioning to its external impact, so is generally not addressed until there is evidence that participants are actively engaged in the community's resources, activities, and interactions.)

In many cases, a *combination* of evaluation methods is warranted and required to get at answers to questions like these. For example, focus groups to uncover concerns or ideas to test, online surveys to more broadly test member attitudes about those concerns or ideas, and community content analysis to see whether community members' self-reported attitudes are reflected in their actual on-site behavior. The rest of this brief is dedicated to more fully describing and discussing these and other evaluation methodologies.

Basic Community Evaluation Approaches

This section outlines basic community evaluation approaches, such as **site analytics, online surveys,** and **focus groups**, for collecting and analyzing evaluation information to inform effective management and facilitation of online communities of practice. Specifically, the evaluation approaches described in this section can be used to answer basic questions, such as the following:

- What are members doing in the community?
- What are the popular trends in posts? Blogs? Forums?
- What resources are being used?
- What are the ongoing practices and processes that contribute to the "life" of the community and keep members engaged?
- How is knowledge being shared within the community? Beyond the community?
- Are leaders or roles emerging in the community? In what ways? How are they being cultivated?
- How are members being supported in the community?
- How are members contributing? Posting? Replying? (When? How often?)
- What are the prevalent patterns of interactions?
- How much of members' online time is spent connecting to others in the community (e.g., reading and/or posting in forums, attending webinars)?
- What are members' technical issues?
- What are members' FAQs?

Site Analytics

At the most basic level, community leaders should evaluate traffic and popularity trends in their online communities of practice. Many Web-based platforms have internal analytics capabilities and tools to accomplish this task. If not, there are several free site analytics applications such as Google Analytics, Crazy Egg, FireStats, and Yahoo! Web Analytics that community leaders can use for this purpose. In addition, site analytics provide an extended picture of trends in the community *over time*. This information assists community leaders in anticipating members' use and demands along with shifts in their viewing and posting behavior. For example, leaders in the Teach for America online community use Google Analytics to identify the number of teachers participating by region and then send that specific information to the regional leaders so they can then pursue local strategies to increase community engagement with their teachers.

Community platforms themselves and their component parts (forums, blogs, etc.) contain a variety of raw metrics for use in evaluation, many of which analytics programs can be configured to capture as well, if they do not capture it directly. For example**:**

- Total number of topics created (if the community has forums)
- Total number of blog posts (if the community supports blogs)
- Total number of photos or videos uploaded (if the community supports this function)
- Total number of messages posted (across all forms of messaging the community supports—forums, blog comments, video comments, etc.)
- Total quantities of other forms of user-generated content (bookmarks, lesson plans, reading lists, etc.)
- Total participation in site polls and surveys

In addition, site analytics program can provide some potentially useful *overall* information about the community site:

- *Total visits*—the total number of times the site has been accessed or visited
- *Unique visitors*—the total number of different visitors the community has had, subject to some measurement limitations
- *Repeat visitors, percentage of repeat visitors*—the number or proportion of visitors who have visited the site more than once (ever, or over some period of time)
- Number of registered participants/members
- *Conversion rate*—the percentage of unique visitors who become registered members
- *Total page views*—the total number of pages (broadly defined, no longer limited to HTML pages in many analytics programs) at the site that visitors have accessed
- *Average page views per visit*—a simple metric for the depth of engagement a site is providing
- *Average time per visit or session*—also called average hold time, particularly useful for measuring engagement in sites that rely on elements that do not generate page views as they are used
- *Top landing pages, most requested pages, top paths*—Top landing pages are the most popular places for participants to enter the site, “most requested” are the most popular pages in the site overall, “top paths” indicate visitors’ most frequent click paths or page sequences. All can be used to help optimize site

navigation, prioritize development, or determine sections in need of change, pruning, or deletion.

- *Bounce and exit rates*—Bounce rates tell leaders how many participants come to their site and exit after viewing only a single page. Exit rates tell how many leave the site after visiting a particular page. High bounce and exit rates can be indicators of design problems, though this is not always the case.
- *Top and total referrers*—Top referrers tells leaders where their site's traffic is coming from, which can be useful in determining relationship with other sites.

Finally, evaluation of community *momentum* is easy to evaluate with community or site analytics. Community leaders can answer questions about their community's performance ***over time***, such as the following:

- What is the average number of *new* topics (where "new"= last 30–90 days)? Average number of *new* blog posts created, average number of comments? Average number of downloads and uploads (video, audio, lesson plan, etc.)?
- What is the proportion of *new* topics that get *10+ replies*? The percentage of new blogs that get 10+ comments? The percentage of (video, audio, lesson plan, etc.) uploads that get 100+ downloads or 10+ comments?
- What proportions of new topics or new blog posts are un-responded to or uncommented on (an important measure of the *responsiveness* of the community, which in turn affects key factors like trust, especially for educators)?
- Are the numbers of participants in new site polls or surveys growing?
- What is the average *new* (topics, replies, blog posts) created *per member?*

In cases where communities, by default, display content that has been most recently added to/commented on ("latest activity"), it often makes sense to look at active topics or the most popular topics as well, not just to look at how the community responds to the latest topics created. For communities that allow the creation of groups, metrics like median group size, proportion of groups posted (or not posted) to in the last month/three months/six months, and proportion of groups with fewer than 10 (or 5) members should be regularly monitored to see whether tighter management of group creation or group consolidation is needed.

Managing Evaluation Approaches

It is easy to get overwhelmed with the variety of evaluation approaches and metrics available. One key is not to try to measure everything. Every community has—or should have—one or several primary forms of interaction or activities—for example, its forums, its blogs, its multimedia libraries. In general, the primary interactions or activities should be the focus of any evaluation approach. A secondary focus should be on tracking new community features/sections that have just been launched to make sure they are getting traction. Other interactions and activities can be monitored more periodically for example, to determine whether there are underperforming features that should be addressed, pruned, or eliminated.

A second key to keeping things manageable is to measure and review at intervals of time, not continuously. A monthly snapshot of activity is generally enough, and most site analytics programs are set up to provide monthly measures (in addition to total measures), for example visits per month, page views per month, page views or visits this month. These types of monthly snapshots are also great ways to benchmark and track a community's progress over time.

Online Surveys

Online surveys can simply and inexpensively query large numbers of community members about their feelings, opinions, experiences, and technical needs. Some of the advantages of online surveys include the following:

- ***Direct query***—Online surveys can allow leaders to ask participants more directly about issues and opportunities and get more direct evaluations of the community than site or community analytics can provide.
- ***Segmentation***—Online surveys can enable leaders to learn what is important, what is working and what is not, for *different types of participants* in their population.
- ***Broader reach***—Online surveys can be used not only to learn what *community participants* want and need, but also to find out what potential domain participants who are *not yet part* of the community might want and need.
- ***Anonymity***—Participants in online surveys may be more likely to tell leaders things they would not say in the community itself or in phone or in-person interviews.

Many community platforms have built-in tools that can be used to administer online surveys. If not, community leaders can choose among several free sites, such as Google Forms, Kwik Surveys, and QuestionPro to conduct online surveys. Other providers, like Survey Monkey and Survey Gizmo, offer a reasonable depth of survey functionality at relatively low cost (and often have free levels or free trials). There are also "low impact," more versatile options like KISSInsights that allow you to ask a single question associated with or about each site page, and services like UserVoice and IdeaScale that let your members survey each other, proposing and voting on each others' ideas for site improvements.

Here are some examples of the types of questions that online surveys can help answer:

- What new features, functions, or activities would be of greatest interest to community members?
- How has the community helped members solve problems of practice?
- How can the community attract new members and encourage existing members to participate more actively?
- What are the strengths and weaknesses of the community for different types of participants (e.g., participants with different demographics, different educational roles, different community roles—*influencers*, *producers*, *raters/reviewers*, *networkers, lurkers*)? What changes would have the greatest potential impact on each?
- What technical difficulties or issues are members experiencing?

Some tips on developing and executing effective online surveys**:**

- ***Survey length***—Without additional incentives, most online surveys should not take respondents more than about 5 to 10 minutes to finish, and it is a good idea to test how long it really takes to complete by having a few colleagues take it before the survey is launched.
- ***Setting expectations***—An online survey should always tell respondents up front how long it's likely to take to complete, and provide some form of resident progress meter on every screen so respondents can track how far they have gotten, and how much more they need to complete.
- ***Varying question types***—A good way to avoid respondent fatigue is to use a variety of question styles throughout the survey instrument.
- ***Multipoint scales***–Asking a series of related questions, each of which asks the respondent to rate something (or their agreement with a statement) on a 1–5 or 1–10 scale, is often a great way to collect a lot of useful data in a brief amount of time.

- ***Skip logic***—Skip logic, which automatically routes specific respondents past questions that don't apply to them (on the basis of the way they answered previous questions), is a great way to increase the scope and depth of what a community survey can cover (as well as avoid annoying respondents with questions that are irrelevant to them).
- ***Randomization***—Randomizing the order of responses/choices a respondent sees for each question is often an important way to reduce order bias, although there are cases where a fixed order of responses is more appropriate.
- ***Choices + "other" vs. open-end***—The number of open-ended, essay-type questions in an online survey should be used judiciously. Although they can be useful to generate direct quotes that add resonance and additional dimension to quantitative results, open-ended questions limit how many questions the community can be asked. (Because they take longer for participants to complete—in fact, many participants, particularly less committed participants, will not respond to open-ended questions or will even drop out unless allowed to skip them.) If one is unsure of the possible responses or options to offer respondents to a particular question, leaders should consider brainstorming options with trusted members of their communities. When there is concern that a choice has been missed, consider including an open-ended "other (please specify)" option.
- ***Soliciting interest in follow-up surveys***—At the end of the survey, it is usually a good idea to ask respondents if they would be willing to be part of a follow-up survey or become part of an ongoing online panel for the community. And collect their e-mail addresses for this purpose (with a very prominent link to the community's privacy policy on the screen). This can help enable communities to better conduct longitudinal surveys that track changes over time, provided response rates remain high.
- ***Providing incentives***—Providing a small reward of some kind is often an effective way to increase response rates, particularly to long surveys, and to increase the likelihood that a community member will participate. Small rewards often are more effective than one might expect. Consider awarding each survey respondent community points or badges that hold significance within their community. Or, if feasible, making respondents eligible to be randomly selected to receive a small prize (under $10 in value), such as a gift certificate for a widely used online vendor.
- ***Number of respondents***—The larger the number of participants, the easier it is to compare findings from subsets of the respondents and draw reliable conclusions about different groups.
- ***Representativeness***—Surveys often begin with *screeners* that ensure that respondents meet certain minimum requirements to participate. With some additional programming, screeners can also be used to ensure that a sample is

demographically representative or representative in other ways. Including questions about demography, educational role, community role, and community use to see how different kinds of members answer other survey questions is important. Among other things, this will allow leaders to get an accurate picture of how their members as a whole—not just its most active members (who are usually the most likely to participate in evaluations)—really feel about the community.

Sample Size

Do community leaders really have to look at every topic, every member profile, even all the content in their site to get at evaluation measures like the percentage of posts unresponded to or average number of replies per topic? The short answer is no. In general, community leaders can get reasonable approximations for these and other measures by taking *random* samples from their communities.

What is a reasonable number of items? In general, looking at, for example, 50–100 topics, or 50–100 profiles, or 50–100 messages or posts, ideally per month, should provide a manager with potentially useful information. A couple of more specific examples: Leaders might look at 50–100 topics to get a better sense of "hot topics." Knowing the hot topics would then enable leaders to set up webinars or engage experts from the field to come into the community and generate some form of structured conversations that would enable members to increase their knowledge about these topics.

Another example: A scan of member profiles could help leaders determine how much information members are currently sharing that allows fellow members to know more about their areas of expertise. If members have not revealed much about themselves, the community manager might design some online events that provide opportunities for members to get to know one another better (e.g., creating opportunities for online collaboration to help increase expertise transparency).

Focus Groups

For focus groups, selected community members are invited to freely interact with other members around certain questions, resources, or activities. Focus groups create a permissive atmosphere where participants are encouraged to provide personal and conflicting viewpoints on their experience in the community. Focus groups help community leaders get a handle on members' perceptions, beliefs, and attitudes, enabling them to gain better insight to members' opinions, rationales, and experiences that are not easily captured in site analytics or online surveys. When well moderated, focus groups can lead to information that is greater than the sum of the individual contributions. For example, group interactions may reveal reasons that members choose not to post or reply in the community, and other issues or concerns may surface during the focus group discussion.

Since online communities of practice members may reside all over the globe, conducting online, as opposed to face-to-face, focus groups is highly recommended. There are several easy ways to carry out online focus groups. For example, many community platforms may offer chat or voice-over Internet protocol (VOIP) features that could facilitate focus groups. If not, community leaders can choose among several free sites, such as or DimDim or Mikogo to conduct online focus groups in virtual meeting rooms. Another alternative is a telephone conference call using a free tool like FreeConferenceCall or Skype. Questions similar to the ones suggested above for online surveys may be used to guide focus group' discussion. Focus groups can also be asked to review prototype activities, draft resources, or other materials and respond about their value, ease of use, and other technical needs.

Here are some tips on creating and running effective focus groups:

- ***The moderator is key***—The moderator should be experienced at running these types of groups and ideally be independent of the community—though with at least some subject knowledge of what the community covers—so that the moderator has no inclination to push the discussion in any specific direction, but rather to encourage the focus group participants to convey all their relevant thoughts and recommendations.
- ***Preparation is important***—Valuable free-flowing conversations in focus groups are often the result of substantial advance planning by the moderator and the community team, who typically develop multiple iterations of a "moderator's guide" in advance of the sessions.
- ***Be mindful of the makeup of the focus group***—In some cases, as the goal of the group dictates, it can be very important to have a group that is fairly homogeneous in role and experience (e.g., a group of principals) so that their insights can be more likely to build on one other; in other cases, more heterogeneous groups are more useful.
- ***Careful attention to group dynamics is needed***—To ensure that the discussion is a group process, care must be taken to enable everyone in the group to be an active participant (to the extent this is reasonable and possible) and that particular individuals do not dominate, steer, or run away with the conversation.

- ***It can be an interactive process***—Moderators and community leaders should plan the timing of focus groups so that there is enough time to debrief between them and make adjustments from group to group—it is not necessary that each group cover the same ground in the same way.

So far, the least costly and most basic of evaluation approaches have been discussed. The next section of this document, Advanced Community Evaluation Approaches, provides a number of ideas for more complex evaluation strategies.

Privacy and Data Collection

Conducting evaluation of online communities of practice raises issues of privacy for community leaders to carefully consider. Who will see this information? How will it be used? Does it protect against individuals information and contributions being identifiable? Does it help cultivate the community or does it create distinctions among members? Most of the basic evaluation approaches discussed in this brief are voluntarily and/or do not involve members' identifiable information (e.g. aggregate site analytics). However, community leaders should have a clear and prominent privacy policy and terms of use/service agreement (e.g., that members agree to when signing up) within the community. Some sample privacy policy and terms of service agreements can be found here. In general, community leaders should do the following:

Use numerical averages or aggregates wherever possible (e.g. "the average topic in our forum gets x replies", "10% of the posts have [characteristic]");

Avoid quoting directly from community content (e.g., from a members' post) or from individually identifiable survey or focus group responses in any report, unless specific permission has been obtained from the community contributor.

Leaders of communities that include K–12 students and/or display their work should be aware that there are strict regulations on collecting personally identifiable data of any kind from children under 13 (see How to Comply with COPPA and the Department of Education's Family Policy Compliance Office for more information).

Advanced Community Evaluation Approaches

Basic metrics and methodologies can only answer questions to a certain degree. For example, simple measures like page views/visit or hold times can be strong indicators of member engagement, but can also be an artifact of poor or confusing site design. Determining engagement more definitively often requires more sophisticated tools. This section provides advanced evaluation approaches that can be used to answer more in-depth questions such as:

How well is the community doing *as a community*? Which dimensions of a successful community are being achieved in the eyes of members (such as reducing feelings of isolation)?

What is each community element contributing to the community as a whole?

How is design of the community impacting member use and participation?

What are the emerging benefits of the community for members?

What are the emerging cultural norms or themes of the community?

What kinds of questions are being asked during synchronous activities (e.g., webinars)?

By their nature, online communities provide extraordinarily rich sources of data. A great deal of the data that online communities generate is publicly available, meaning that conclusions drawn from one can be relatively easy to verify by others, and that community leaders can often easily compare how they're doing with other communities.

Evaluation of Impact on Practice

Some forms of impact are easier to measure than others. Leaders can measure/demonstrate *dissemination impact*, the impact of their community on other communities, for example, by:

- Tracking in-bound links (using standard site analytic tools like Google Analytics)
- Tracking aggregate outbound 'sharing' activities (such as 'send to a friend' or 'share on Facebook') of community content by community members.

- Doing global searches on phrases contained in its most popular pieces of content to see how many other sites have "picked them up." Services like Social Mention and Addict-o-matic can also help with this, as well as potentially help leaders understand how others perceive their community.

In the end, at least some effort should be made, if possible, to evaluate *impact on actual educator practice and/or on student learning*. Some of this can be done through online surveys that query community members about:

- Changes in practice or student performance since they started using the community;
- Attribution of practice changes to the community.

Impact on practice can also be assessed through longitudinal surveys where a group of community participants is queried periodically over time about practice and student performance. Because proving these impacts can be difficult and expensive, leaders who really want and have the means to definitively measure impact on practice and student learning, should, in most cases, focus in on one or two indicators/results that:

- Can most clearly be tracked back to the community;
- If proven, imply a number of other potential impacts;
- Allow for meaningful quantifications of impact when applied to the community as a whole.

If at all possible, the study should include a *control group* of educators who have never used the community (and agree not to throughout the study).

Leaders who lack the resources to carry out such research may find it useful to review research literature looking for studies that show the impact of specific online communities that they can relate back to their own communities and experiences (See *For More Information* section).

Benchmarking

How is a community progressing over time? How is it doing as compared to other communities? Because the development of the Internet and online communities is so dynamic, evaluation approaches are still being codified and standardized, and funders/sponsors are still making up their minds about what criteria are most important, the answer in many cases at this point is: "it depends." But there are still several ways to use evaluation approaches to get a better sense of how a community is doing:

Benchmarking against self—Taking monthly snapshots of the user base and their rates of activity provides a natural way for leaders to track performance over time, show growth and progress, and flag potential problems before they become serious.

Benchmarking against others—Much of the data about a community (e.g., registered participants, number of topics, number of replies/topic) is often available about other communities, provided they are not closed to outsiders. It often makes sense to pick 2–3 other communities that might be considered comparable in purpose or audience and do at least some of the same monthly measures on them for purposes of ongoing comparison.

In addition, at least some site analytics programs (e.g., Google Analytics) now provide benchmarking tools that allow community leaders to compare their performance in a variety of areas to all others of the same size and/or category using the program. Services like Compete and Alexa can help make at least some high-level comparisons as well. Websitegrader uses Alexa and other resources to grade sites (and their competitors) on a variety of more granular parameters (e.g., readability, image use, metadata).

Evaluation of Community Cohesion and Connectedness

More ambitious community leaders can move beyond basic evaluation approaches to more complex *social network analysis*, which can reveal important facets of the community. The purposes of social network analysis include describing the interactions and relations among participating members, identifying the patterns of interactions, and tracing how information flows within the community. Community leaders could use computer log files and forum discussion posts along with an easy to learn social network analysis tool such as NodeXL, developed by the *Social Media Research Foundation*, to visualize interaction patterns of social processes experienced by community participants. A list and description of other leading social network analysis software packages can be found here.

The value of a social network analysis approach is the ability leaders have to ask and answer questions that focus on community relationships. Statistics about community participation can provide important insights about the engagement of a community, but can say little about the connections between community members. Social network analysis can help explain important social phenomena such as group formation, group cohesion, social roles, personal influence, and overall community health.

These can be particular key measures of the present and future health of a community, particularly one made up of front-line educators, who want, need, and expect communities to reduce isolation and disconnectedness and/or to receive quick responses to their questions. Community leaders can use social network analysis to answer questions such as:

- What is the average number of “friends” or “colleagues” that community members list or have collected in/on their member profile pages?
- What is the community’s network density? (e.g., the number of “friends” or “colleagues” each member has as a function of the total size of the community).
- What are the patterns of interaction among the community’s members?
- Who are the important members in the community?
- Who are the important member sub-groups in the community?

Evaluation of Community Ownership, Quality, & Trust

Community leaders can use various evaluation approaches to “take the temperature” of desirable community dimensions, such as *ownership, quality (*e.g., community content and dialogue*),* and *trust*.

Community Ownership. Online community veterans have found that a time when its members “take over” and “make the community their own” is a key landmark in the long-term community development process. Depending on how a community is configured, it should be possible to evaluate “participant ownership” by taking samples of its membership to determine:

- The proportion of members who have made return visits to the community;
- The proportion of members who have make five or more return visits/month;
- The proportion of members who have contributed content to the community;

- The proportion of members who have engaged in collaborative community activities;
- The proportion of members who have taken on leadership responsibilities of some kind within the community, which can range from management or moderation to (informally) regularly responding to queries related to an area of expertise.

Community leaders should be able to use their community's site analytics to capture the information for the first two bullets. For the remainder, gauging the proportion of members who've contributed content (and to some extent, the proportion that have assumed leadership responsibilities) is clearly easier for communities that allow content searches by username.

Community Quality. As communities strive to demonstrate impact on practice, evaluation of community *quality* becomes increasingly important. Community leaders may find it useful to attempt to measure:

- The proportion of topics or replies that specifically relate to *practice;*
- The proportion of replies where links to potentially helpful resources or other referrals are provided;
- The proportion of replies to a post in which helpful or constructive advice is *directly* provided;
- The proportion of replies that build on previous posts (as opposed to just responding to the original poster);
- The proportion of replies that contain offers of collaboration or introductions to potential collaborators;
- The proportion of replies that contain creative, novel, or innovative ideas;
- The proportions of replies that summarize, distill, or synthesize prior posts/replies.
- For ambitious community leaders, there are a wide variety of advanced evaluation approaches when looking at quality, such as online content analysis methodologies like the Interaction Analysis Model (IAM) (see For More Information section). Community leaders may want to initially use more general content analysis tools such as Wordle, Leximancer, and/or Tagul.

The Importance of User Content Rating Tools

One simple way to measure community quality is by user content ratings. A user content rating tool can:

Be a practical approach in helping community leaders decide what content and/or activities to continue with and what content is beneficial to their membership

Give educators who are not comfortable with posting or writing a simple way to contribute to the community.

Motivate more quality contributions from top contributors, particularly if average ratings for each contributor are used to help determine their status in the community in some way (see e.g. "Recognizing and Rewarding Individual and Team Contributions," p. 18 in Connected and Inspired).

Given how busy educators are, getting content consistently and appropriately rated in most education communities is likely to also require implementing reputation and recognition systems for critics/raters (like Amazon's "Top Reviewer" system).

Community Trust. Members of an online community need to feel safe. To the extent that members trust in the community as an institution and trust in individual members of the community directly impacts their willingness to engage in knowledge sharing interactions. Trust is complex and difficult to measure under any circumstances. That said, by taking 'core samples' from their community's discussions, it is possible for community leaders to develop useful evaluation approaches to approximate the level of trust in their communities. For example, community manager may look at:

- The proportion of posts in which community members show or express *vulnerability*, such as a lack of domain knowledge.
- The proportion of posts in which community members share *personal stories*;
- The proportion of posts in which community members are (emotionally) supportive or helpful to other members.

Findings from these types of evaluation approaches, when combined with others (such as focus groups), can aid community leaders in building and maintaining trust in their community.

Sharing Metrics: A Vision

Like online communities themselves, community evaluation is still at an early stage of development. One possibility to advance the field: an online repository and distillery for metrics research, both inside and outside education, in which community leaders and professional researchers would work together to:

- Collect, aggregate, and synthesize online community data (leaders would collect/submit, researchers would aggregate and synthesize).
- Iteratively develop and refine (through cycles of use and feedback) metrics appropriate for community leaders to use.
- Develop, from aggregate data, real-time benchmarks in a variety of areas for community leaders to measure their own performance.
- Create regularly updated briefs, using aggregate data and developing metrics that point to new community innovations and more effective ways to address online community tensions and issues.

In the interim, community leaders should consider sharing their findings with each other to the extent to which they're comfortable doing so. There's a lot of potentially vital information to be collected, and given the diversity of communities and information collected, what's put together and analyzed is likely to be much greater than the proverbial sum of the parts.

Summary

In summary, the extent which formative evaluation results are collected, distilled and acted upon by community mangers may determine the sustained success of their online community of practice. Ongoing evaluation helps community leaders take targeted actions to increase cycles of participation and contribution to collaborative learning and knowledge sharing activities by members. Ultimately, effective evaluation followed by responsive management can help community members transform their practice.

For more information on online communities, and recommendations on how to make them more effective, see the other Connected Online Communities of Practice briefs, including:

Connect and Inspire: Online Communities of Practice in Education

Online Communities for Educators: Guidelines for Planning and Implementation

Technology for Online Communities of Practice

And be sure to visit and contribute to Connected Online Communities of Practice, the website and community for education/educator communities of practice.

For More Information

Assembled below are annotated bibliographies of resources that may be of value to community leaders when developing and planning evaluation strategies for their community.

Ardichvili, A. (2008). Learning and knowledge sharing in virtual communities of practice: Motivators, barriers, and enablers. *Advances in Developing Human Resources, 10*(4), 541–554.

This article includes an extensive review of online learning, knowledge management, and online communication literature. The author proposes a framework for understanding motivators, barriers, and enablers for successful online knowledge sharing and learning; the framework includes key motivational factors, barriers to online knowledge sharing, and enablers for knowledge sharing. The article concludes with specific recommendations for developing and sustaining a vibrant and productive online community of practice.

Barbour, Rosaline S. (2008). Doing focus online groups. Thousand Oaks, *CA: SAGE Publications.*

This book provides the reader with practical advice on planning and organizing successful focus groups. The author discusses the advantages and limitations of using focus groups and outlines effective methods for collecting and evaluating the findings.

De Wever, B., Schellens, T., Valcke, M., & Van Keer, H. (2006). Content analysis schemes to analyze transcripts of online asynchronous discussion groups: A review. *Computers & Education 46*(1), 6-28. doi:10.1016/j.compedu.2005.04.005

This article presents an overview of different content analysis instruments. The authors discuss 15 instruments and provide critical conclusions based on comparing them. The authors suggest that there is a need to improve the theoretical underpinnings of existing content analysis instruments in order to provide evaluators the ability to reliably analyze online discussions.

Duncan-Howell, Jennifer A.(2008) Graphically mapping electronic discussions: understanding online conversational dynamics. *E-Learning*, *5*(3), pp. 324-337.

This article highlights how graphically mapping electronic discussions helps to create a clearer understanding of the dynamics of electronic discussions. The author presents the findings of a study that was conducted on three online communities for teachers. The transcripts of electronic discussions were collected and examined via conversational analysis. The article offers further insight into the nature of online discussions that can help community leaders better understand online conversational dynamics.

Farooq, U., Schank, P., Harris, A., Fusco, J., & Schlager, M. (2007). Sustaining a community computing Infrastructure for online teacher professional development: A case study of designing Tapped In. Retrieved from http://tappedin.org/tappedin/web/papers/

This article explores many of the pitfalls experienced by burgeoning online communities of practice. The authors discuss how many online communities fail due to: underlying community infrastructure that does not meet members' requirements; the community is unable to maintain a critical mass of participants consistently over time; and/or the community is unable to leverage social capital within the community that better supports ongoing contributions by members. Based on more than nine years of design experience with Tapped In, an online community of practice for education professionals, the authors present a case study that discusses four design interventions that have supported the Tapped In infrastructure and its community. These interventions represent broader design strategies for developing online environments for professional communities of practice.

Gunawardena, C. N., Lowe, C., & Anderson, T. (1997). Analysis of global online debate at the development of an interaction analysis model for examining social construction of knowledge in computer conferencing. *Journal of Educational Computing Research, 17*(4), 397–431.

This article proposes a theoretical framework as a foundation for building online communities of practice. The authors draw on research on communities of practice, relevant theories of learning, and the authors' own action research experience in collaborative knowledge creation utilizing Web 2.0 tools. This paper discusses how an online communities move through a spiraling process from members' discourse, action, reflection, and reorganization toward socially mediated metacognition.

Hansen, D. L., Shneiderman, B., & Smith, M. A. (2011). *Analyzing social media networks with NodeXL: Insights from a connected world.* New York: Morgan Kaufmann.

This book helps the reader begin to understand what information visualization is. Information visualization is an emerging important evaluation approach that utilizes graphics, scientific databases, and human-computer interactions to create visualizations. This book offers practical ideas for using Network Overview Discovery Exploration for Excel, aka, NodeXL. NodeXL is a free and open Excel 2007 add-in that contains a library of tools for social network analysis and visualization.

Marra, R. M., Moore, J. L., & Klimczak, A. K. (2004). ETR&D, *52*(2), 23–40. Retrieved from http://www.bahankuliah.info/content-analysis-of-online-discussion-forums—a-comparative

This article presents a study that compared the application of two content analysis protocols for online discussion boards. Only recently have researchers developed protocols for conducting meaningful evaluation of online discussion forums. The authors provide a full description of how to use both protocols. They also evaluate each protocol for its strengths and weaknesses with the goal of providing educators and researchers with valid tools for assessing discussion forum content.

Neuendorf, K. A. (2002). *The content analysis guidebook*. Thousand Oaks, CA: SAGE Publications.

This book provides the reader with step-by-step instructions and practical advice that helps to unravel the complicated aspects of content analysis. The author traces several paths of conducting content analysis as well providing numerous examples of application of this evaluation technique across the social sciences.

Preece, J., & Shneiderman, B. (2009). The reader-to-leader framework: Motivating Technology-mediated social participation. *AIS Transactions on Human-Computer Interaction, 1*(1), 13–32.

In this article, the authors offer the Reader-to-Leader Framework with the goal of helping researchers, designers, and community leaders understand what motivates technology-mediated social participation. This will enable them to improve the design and social support for their communities and/or organizations. These improvements could reduce the number of failed projects, while accelerating the application of social media for national priorities such as healthcare, energy sustainability, emergency response, economic development, education, and more.

Porter, J. (2008). *Designing for the social web*. Berkeley, CA: New Riders Press.

This book introduces the reader to accessible and useful design framework for encouraging communication between participants in online environment. The author offers practical advice, ranging from user-interface design guidelines to a selective offering of insights from social psychology and communication studies. This book is useful for the community manager who wants to design their community to allow for the optimum social interaction among its members.

Sue, Valarie M., & Ritter, Lois A. (2007). *Conducting online surveys.* Thousand Oaks, CA: SAGE Publications.

This book provides the reader with a basic introduction to online survey creation. The author also includes sections on selecting software, planning, writing Web-based questionnaires, sampling from online populations, ethics, and evaluation of findings. This book provides the reader with the vocabulary to then interface with vendors (e.g., Survey Monkey) to assist in the online survey designing process.