Virtual Communities of Practice in Child Welfare

A Review of the Literature

Evaluation of the Capacity Building Collaborative | Children's Bureau

Introduction

Communities of practice (CoP) are groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly (Wenger, McDermott, & Snyder, 2002).

CoP offer professional development opportunities through structures that promote peer learning. They bring together members who are interested in a topic area and want information to improve their practice. Members exchange information and help each other learn and develop new skills. Though specific definitions and terms may differ, several well-known and useful frameworks conceptualize similar components to describe the formation, functioning, and goals of CoP (e.g., Wenger, Trayner, & De Laat, 2011; Dubé, Bourhis, Jacob, & Koohang, 2006).

The work of child welfare is complex and demanding. Professionals are faced with complicated problems that lack clear answers, and their decisions have significant consequences for children and families. Repeated exposure to cases of child maltreatment, negative public perception, and a high-risk environment can be isolating and emotionally stressful. Professionals may need to quickly shift practices to meet emerging social issues, new regulations, and local crises. These conditions may contribute to professionals facing challenges in evaluating information, making decisions, and determining actions (Jansen, 2018).



Research-informed and evidence-based practices are sought to improve child welfare practices. Child welfare administrators, managers, and front-line staff are aware of the importance of using research to inform their practice (Buckley,

Tonmyr, Lewig, & Jack, 2014), though evidence-based practices are not always available. Professionals may prefer to obtain this information from coworkers, rather than in professional journals (Sichling & O'Brien, 2019). When evidence-based interventions in child welfare are not available, developing and testing new research-informed practices may be facilitated by working with peers (Cook-Craig & Sabah, 2009).

Peer groups can help child welfare professionals learn new information and improve their practice.

Engaging with colleagues can reduce isolation, help reflect on skills, recognize abilities, and identify learning needs (Dempsey & Halton, 2017). Peer groups can provide an environment that facilitates adult learning, offering opportunities to seek information of immediate value and interact with others who share a common interest.

Key Components of CoP

Domain. Members share interest, competence, and commitment to a specific topic.

Intentionality. Specific structures and strategies are used to encourage involvement, including regular facilitated meetings.

Community. Members share and learn from each other by engaging in joint activities and discussion.

Practice. Members develop a shared repertoire of resources and methods to address work-related challenges.

Virtual Communities of Practice

Virtual communities of practice (VCoP) are CoP but

use technology to interact and exchange information. VCoP increase access for members who may be geographically dispersed. They are not constrained by locality and can include members with interest and expertise in specific topics. A range of technological tools are used to communicate, such as email, instant messaging, and discussion boards. Interactions may be in person, but primary communication methods are remote.

Characteristics of VCoP vary. They may organically emerge or form deliberately. They can be small or large, open-ended, or timelimited and have fixed or rotating leadership. They may be newly formed or established communities.

VCoP are offered by the Children's Bureau Child Welfare Capacity Building

Collaborative. Constituency Groups are comprised of child welfare agency and court professionals which are structured to address focused topics. As is typical, their structure and activities vary. Some are facilitated by Center staff. Others are member-led. They meet routinely, but how often varies. All are focused on topics that are important to child welfare professionals.

Common Activities of VCoP

Synchronous. In-person, conference call, or web-based "live" group meetings typically have a structured agenda and may be led by a facilitator or by peers from within the group.

Asynchronous. Activities that do not require an immediate response and can include ways to disseminate information (i.e., listservs) or tools (i.e., discussion boards) for members to communicate with each other

Resource repository. Materials are gathered and stored and can be accessed by members.

Exhibit 1. Examples of VCoP Offered by the Children's Bureau Capacity Building Collaborative

Center	Constituency group	Structure and topic	
Capacity Building Center for Tribes	Trauma and Resiliency in Tribal Child Welfare	Tribal child welfare professionals whose purpose is to support participant work toward creating a resilient-and trauma-informed child welfare program	
Capacity Building Center for Courts	Hearing Quality	Court Improvement Program (CIP) directors and staff whose goal is to connect and share knowledge to help improve timely, quality hearings in child abuse and neglect cases	
Capacity Building Center for States	Child Welfare State Training Directors	Group members who provide education and training to child welfare professionals and whose purpose is to enhance child welfare training and education experiences	

Purpose and Scope of the Literature Review

We used research to identify outcomes and components of successful VCoP. Theoretical frameworks and practice recommendations have been developed by scholars and practitioners to conceptualize how CoP and VCoP can be designed and implemented (e.g., Wenger et al., 2002). To identify key outcomes of interest reported in the literature, we focused on research studies and the factors influencing the outcomes. Study findings were synthesized to describe components of VCoP that may be associated with positive outcomes and results suggesting strategies useful to strengthen functioning and increase the likelihood of success of VCoP.

Research on Virtual Communities of Practice

The VCoP literature reveals gaps in evidence for how these communities function and what outcomes can be expected, particularly as applied to child welfare. First, there are few studies of CoP and VCoP in child welfare. To understand more about their potential application, extending the literature search by drawing on studies from other fields, such as health, education and elearning, and digital media is necessary. Second, available studies often focus on asynchronous activities, such as online discussion boards, rather than synchronous activities. A plausible explanation for this may be it is easier to design studies of activities yielding archives of text ready for content analysis. A third limitation is available study research designs often lack rigor; researchers have typically relied on case studies or descriptions of implementation of VCoP (Adedoyin, 2016).

In light of these limitations, to build understanding of how virtual communities have been evaluated our review was expanded to include studies of *Communities of Inquiry* (CoI): A framework used in education to describe and evaluate online learning and applicable to social work education (Micsky & Foels, 2019). A CoI is defined as "a group of individuals who collaboratively engage in purposeful critical discourse and reflection to construct personal meaning and confirm mutual understanding" (Garrison, 2011, p. 15). In the CoI framework, learning occurs in the community through the interaction of three elements:

- **Cognitive** presence—the extent to which Col participants are able to construct meaning and achieve understanding through sustained communication (Garrison, Anderson, & Archer, 2001)
- **Social presence**—the ability of learners to project their personal characteristics into the Col and present themselves as "real people" (Rourke, Anderson, Garrison, & Archer, 2001)
- Teaching presence—the design, facilitation, and direction of cognitive and social processes for the purpose of creating personally meaningful and educationally valuable learning outcomes (Anderson, Rourke, Garrison, & Archer, 2001)

These interactive elements surface as a result of the relationships and communications between and among students and their on-line teachers as learning activities are developed, facilitated, and guided for the CoI (Anderson et al., 2001).

Studies of CoI can inform understanding of VCoP because both types of communities offer online learning through facilitated discussions. Studies of CoI also use a relatively wide variety of research methods, so their inclusion is an opportunity to examine the use of methods and measures that might be applicable to the study of VCoP. Key differences between the two are that CoI are typically organized around curriculum-based learning goals, community members (i.e. students) are motivated to participate by grades or course credit, and the role of the instructor and his/her relationship to CoI participants is different than the professional role of a facilitator in VCoP.

What Has Been Studied?

The reviewed studies of VCoP and CoI sought to better understand participant engagement in critical thinking and reflective processes, the importance of feelings of community and social presence, learning outcomes, and participant retention and growth of the community.

Many researchers have examined the development of critical thinking and reflective processes among VCoP and Col participants. For example, Olesova, Slavin, and Lim (2016) explored the effects of assigning participants to specific roles (i.e., conversation starter, skeptic, or wrapper) in asynchronous online discussions. They evaluated whether role-based discussion could be an effective strategy to facilitate development of cognitive presence among participants, evidenced by language indicating the exploration of new ideas, brainstorming, convergence of ideas and opinions among group members, and problem solving. In a study of the development of indicators of cognitive presence among teacher trainees participating in a facilitated online discussion forum, Redmond (2014) used validated Col coding protocols to analyze the posts for language indicating critical thinking, reflection, and integration of new information.

Others have looked at the importance of social presence in virtual communities. Attention has been paid to the importance of feelings of community, affective expression, and development of social presence among participants in online communities. In a study of online learners, Boston et al. (2009) examined how learners projected themselves socially and emotionally, enabling participants to perceive each other as "real people" and to develop a sense of group cohesion. These social processes are believed to be key to learning (Newman et al., 2011) and are particularly important in the absence of nonverbal cues, such as facial expressions and eye contact, available in face-to-face interactions (Rourke et al., 2001).

Among participants in VCoP and CoI, there is a growing body of evidence of learning outcomes. Many researchers have moved beyond the study of social and cognitive processes in virtual communities to include measurement of perceived and actual learning outcomes. In a small study of students in online and blended graduate courses, Akyol and Garrison (2011) measured student perceptions of learning as a function of cognitive presence developed in the course. In larger studies, Arbaugh (2008) and Rockinson-Szapkiw, Wednt, Wighting, and Nisbet (2016) measured the effects of teaching presence, social presence, and cognitive presence on perceived learning and course grades received by students in online courses. Research by Neufeld, Fang, and Wan (2013) examined how learning outcomes among students were associated with key characteristics of their CoP: a shared repertoire among the students (e.g., studying a common field, sharing common terminologies and concepts); feelings of joint enterprise (i.e., a sense of identification with and belongingness to the group); and frequent, mutual engagement among the students.

Researchers have built a base of evidence for how virtual communities grow. Some studies have focused on retention of VCoP or Col participants. For example, Boston et al. (2009) studied the effects of social presence, teaching presence, and cognitive presence on the likelihood of a student remaining enrolled in an online program. Others have looked at community growth along with retention. Cheung and Lee (2009) modelled the effects satisfaction with a virtual community, commitment to it, and group norms have on participant intentions to continue in the community and to recommend it to others. Antonacci, Colladon, Stefanini, and Gloor (2017) studied what facilitates or hinders virtual community building, focusing on the effects of the language used in the posts and community leadership and structure.

What Methods Were Used?

The reviewed studies used a variety of methodological approaches to assess VCoP and Col structures, functioning, and outcomes.

Content analysis is a powerful method for understanding VCoP and Col, particularly for asynchronous activities. The analysis of archived content from discussion boards is a common approach. For example, in a study of the factors influencing growth of VCoP in healthcare, Antonacci et al. (2017) analyzed 7 years of communications among 14,000 members of healthcare VCoP who were using a common web forum. The researchers assessed the content of the discussion records for sentiment, emotionality, and complexity of language. In other studies, content analysis was used to look for indicators of cognitive presence (e.g., understanding the nature of the problem, integrating new information, developing a solution) in online discussions. Redmond (2014) analyzed the content of the archived posts of teacher trainees who used an online discussion board as a component of their coursework. In a study of whether Col can create cognitive presence that supports higher-order learning processes and outcomes, Akyol & Garrison (2011) analyzed content from graduate

students who were required to participate in weekly online discussions as part of the coursework. In addition, Olesova et al. (2016) analyzed the content of discussion posts of college students who were assigned different roles in the discussion group and were responding to different types of discussion prompts.

Social network analysis is commonly used to study connectivity among VCoP or Col members. The degree of connectivity among community members reflects the social structure of the group. Antonacci et al. (2017) used social network analysis metrics to understand the extent to which there were particularly well-connected and influential members among participants in a healthcare VCoP. The analyses allowed the authors to understand how information or knowledge was shared within the community by measuring which members interacted directly with each other, how frequently, and the role that leaders played in the communication flow. As part of an evaluation of a VCoP of teachers, De Marisco, Limongelli, Sciarrone, Sterbini & Termperini (2014) used social network analysis to examine the dynamics of the relationships among the members. This method enabled them to determine member participation in online group activities (e.g., contributing to the VCoP forum), friendship relationships among members, and exchange of messages for knowledge sharing—revealing the social structure of the community and how information flowed within it.

Many studies include survey methods to better understand the experiences of VCoP or Col members. For example, Cheung and Lee (2009) sought to understand what helps members of a virtual community to continue participating and recommend the community to others. They surveyed members to measure how they used the virtual community, satisfaction with and commitment to it, and perception of its value. Boston et al. (2009) explored retention in an online educational program by surveying students about their perceptions of indicators of teaching presence (e.g., course organization and facilitation), social presence (e.g., affective expression and open communication among participants), and cognitive presence (e.g., exploration of problems and integration of new material) in their online educational experience. Responding to a dearth of validated instruments for measuring predictors of learning in CoP, Neufeld et al. (2013) developed a survey to measure the CoP concepts of shared repertoire, joint enterprise, and mutual engagement (referred to in the previous section), and assessed the survey's psychometric properties.

Case studies and implementation evaluations are common methods for describing the functioning of communities. In a study of evaluation capacity building among a cohort of social service agencies, Wade, Kallemeyn, Ensminger, Baltman, and Rempert (2016) used a case study approach to describe how they evaluated a project that combined a CoP approach with evaluation coaching to help agencies work collaboratively and with their funder to increase agency evaluation capacity. The case study approach enabled the researchers to present detailed information about different phases of program implementation and to describe processes key to program success. In another study, Bosco-Ruggiero, Strand, Kollar, and Leake (2015) conducted a developmental

evaluation of an online peer network for social work students participating in a traineeship. The authors evaluated the use and quality of activities intended to engage the students and support professional development and considered how their findings could inform program improvements.

What Are the Components of Successful Virtual Communities of Practice?

Thoughtful design and implementation of VCoP activities can help members access and create information and learn and apply new practices.

For each component below, key findings from the literature are presented. Indicators that studies have used to evaluate the presence of components are listed in sidebars. Exhibits present facilitators identified in the research, and strategies that may support strengthening the component.

Membership

The VCoP needs to be an important source of information. If members do not think the VCoP presents relevant information or addresses their concerns, they may not participate and communities may fail (Akkerman, Petter, & de Laat, 2008). Members who expect involvement will improve job functioning and benefit their careers are more likely to participate (Zboralski, 2009).

Members should want to be part of the community. Members are likely to attach first to the "group" rather than "individuals" in the group; it is important that they quickly identify with the community. When potential members see current members as having similar values and interests as they do, communities may more effectively attract them (Cheung & Lee, 2009). Communities who can increase the status of members and whose members want the acceptance of others, may recruit and retain more effectively (Cheung & Lee, 2009). Members who are more comfortable engaging socially online and believe they can form an impression of others are more likely to be retained (Boston et al., 2009). Those that have positive experiences, such as receiving and providing support, can be motivated to continue membership in the community (Hong & Lee, 2009; Xing & Gao, 2018).

Established communities with active participation are likely to attract new members. New members are apt to join when a community is larger and more established because it has greater visibility and size (Nistor et al., 2014). Communities with "rotating leadership," members who shift from being in central positions to the periphery, could suggest the presence of more experts, which may attract new members (Antonacci et al., 2017). Satisfaction of current members may support the recruitment of new ones. When users are satisfied, they are likely to recommend the community to others (Cheung & Lee, 2009). This allows for retaining and increasing the number of members with expertise.

Indicators of Membership

- Size of group
- Retention
- New members
- Length of membership

Exhibit 2. Support Recruitment and Retention of Members

	Facilitators	Strategies
	opic is aligned with nember concerns	Jointly develop purpose and goals with the community; survey or conduct assessments to identify group needs
V	values and interest	Clearly articulate and announce the purpose, topic, and membership eligibility of the community
ır	n a topic	Recruit members who are similar to form homogeneous communities
	Members identify with the community	Conduct activities that help members see similarities with other members
S	Members gain tatus by joining the community	Increase community status by bringing recognized experts to facilitate, recruiting members with expertise, or inviting guests to present information

Participation

Members that are invested will engage in community activities. Level of participation can indicate commitment and interest. Reviewing the types of activities that are most frequently used can show "where the group goes" for information and may indicate where members find the most value (Bosco-Ruggiero et al., 2015). Zboralski (2009) found that member reports of intention to participate did not predict actual participation; participation should be evaluated using measures reflecting actual access and use. When there is a lack of participation, improvement efforts can explore engagement issues and address them (Bosco-Ruggiero et al., 2015).

Child welfare professionals will use both "real time" and "at their convenience" activities to exchange information. Child welfare professionals obtain information from a variety of sources, such as emails from colleagues and training events (Child Welfare Information Gateway, 2020). This suggests that both "live" communication activities, and communication activities that are used as

time allows, are valuable. Real-time communication can help build connections and encourage information sharing among members. Asynchronous modalities, such as discussion boards, can help child welfare professionals participate in extended dialogues in the community when they have the time and opportunity to do so.

Social interaction and activities that can build connections with other members are valued. Child welfare professionals prefer in-person training to virtual (Child Welfare Information Gateway, 2020). This may be due to an increased opportunity to interact socially with other professionals. Studies suggest members who successfully interact

Indicators of Participation

- Participation in the community (e.g., number of log-ons, date of last logon, how often members access platform)
- Participation in specific activities (e.g., attendance at events, using platform communication features)
- Posts and responses (e.g., on forums, discussion boards, blogs and replies, age of posts)
- Patterns of interactions of members that show frequency and the number of connections among members

socially online and are in a collaborative, cohesive environment may be more satisfied receiving course content remotely (Arbaugh, 2008). If communities cannot meet in-person, building social connections through other "live" synchronous activities such as chats or video calls and events may be helpful. These activities can be structured to maximize interaction opportunities for members, which can be facilitated through software with features such as live polling and chat boxes.

There can be disparity in participation among members. Some members become more central and active in the community, which reinforces their expertise (Nistor et al., 2014). Smaller numbers of members may contribute at higher levels of frequency and are connected to more members (Teo, Johri, & Lohani, 2017). There may be "lurkers" in the community, who either participate infrequently or not at all. Preece, Nonnecke, and Andrews (2004) found in comparison to lurkers, members who contributed posts found more benefit and felt a greater sense of membership. Participation can be depressed when content is not useful, such as information that lacks cultural relevancy (Hamel, 2009). Engagement can be discouraged by a lack of time (Barnett et al., 2014) and discomfort with technology (Nistor et al., 2014; Hew & Hara, 2006). "Reputational feedback," which gives members information on the value and creativity of their ideas, can increase the quality and number of suggestions (Hung, Durcikova, Lai, & Lin, 2011).

Exhibit 3. Increase Participation

Facilitators	Strategies
Technology is easy	Select platforms that are user-friendly and easy to learn
 Information is relevant and valuable 	 Offer activities that are "synchronous" and can build social connections, such as video conference calls
	Use technology that supports interactions, such as polling features
Social interactions	Ask specific members to contribute to discussions
between membersMembers think	Structure and facilitate activities to promote social interactions among members
their contributions are valued	Use smaller workgroups or subgroups to gather members with specific areas of interests
	Use technology to reward contributions, such as identifying number of member posts, voting for most useful posts
	Offer communication activities members can access at their convenience
	 Use technology that can help members "get to know each other" via member profiles that include pictures and information about interests and expertise
	Gather, store, and disseminate information and materials relevant to member work context and interests

Knowledge Management and Creation

VCoP members want easy and timely access to information. When child welfare professionals need information, they want to access it quickly when they need it but may be overwhelmed by the amount of information available, have little time to look for information, and cannot find what they need easily (Child Welfare Information Gateway, 2020). Communities that can store relevant information, and help members find what they need, offer child welfare professionals a valuable resource.

Managing information well helps generate new information in the community. VCoP acquire informational and material resources from inside and outside the community. These include digital records of member discussions and materials and resources brought to and shared with other members. Mardani, Nikoosokhan, Moradi, and Doustar (2018) found organizational ability to acquire, store, disseminate, and apply information was associated with increases in the number, speed, and quality of practice innovations. This suggests management and sharing of information in a VCoP may create an environment that encourages information to be absorbed and translated into practice improvements.

Collaboration and trust in the community may encourage members to cocreate new

knowledge. Lee and Choi (2003) studied factors that might support the ability of organizations to create knowledge. Knowledge creation was associated with a community culture that features collaboration, trust, and learning. This may promote knowledge creation because members may be more creative in this type of environment (Lee & Choi, 2003). Knowledge creation could be negatively impacted by a centralized leadership structure, and may be supported by a more democratic, member-led structure (Probst & Borzillo, 2008). Leaders of successful CoP noted some structural components helped communities test and apply new processes. These included creating a "risk-free" environment and building in measurement of CoP success. A community that is made up of members who do not identify with it, lacks a core group, and is not collaborative will find generating knowledge difficult (Probst & Borzillo, 2008).

Members of online communities may value and seek opportunities to cocreate ideas with others. Xing and Gao (2018) found members were more likely to remain in the community when they were exposed to discussions that implied interaction, such as members suggesting alternatives indicating agreement or presenting arguments. Teo et al. (2017) explored discussion patterns reflecting interactions that expanded community information. Longer discussion threads were associated with more references to specific community members and were more apt to attract a greater number of participants. This could reflect the social nature of problem solving that can occur in online communities. Strong associations were found between topic length and the use of professional terms, which suggested the community focus was on advancing ideas and the group was actively engaged in the creation of knowledge.

Indicators of Knowledge Management and Creation

- The VCoP collect and store information that is contributed to and accessed by members
- Discussions reflect sustained interactions among members
- Member interactions suggest ideas are generated, adapted, and adjusted
- Member discussions indicate they are testing ideas and reporting the results back to the community

Exhibit 4. Foster Knowledge Management and Creation

Facilitators	Strategies
Easy access to relevant	Use software with filtering and sorting features to help members easily find what they are looking for
information	Use platforms that allow members to upload and download materials
 Collaborative environment 	Structure information online by storing it in categories so members know where to look
Group problem solving	Use technology that notifies members that topics in which they are interested have been posted
	Plan activities centered on problem-solving and generating solutions by the community
	Encourage members to ask one another questions about practices and processes
	Help members connect with others with the same areas of interest
	Introduce members with topical experience to those seeking information
	Model nonjudgmental and supportive responses

Learning

Members who participate in VCoP can learn and increase their expertise. There is a body of research addressing student learning in online higher education, including online peer discussions and the instructor's role in facilitating. These studies may be useful to understand how facilitators could support online peer learning processes and to consider measurement strategies in VCoP. Research has explored the ways individuals identify problems, brainstorm, synthesize, and test new ideas in the community (Olesova et al., 2016). Assigning students roles that include responsibilities for tasks such as initiating or summarizing discussions can help them engage in higher level cognitive processes such as synthesizing ideas and integrating information (Olesova et al., 2016). Online learning environments featuring higher level cognitive processes and interactions with the instructor are associated with higher student course scores (Rockinson-Szapkiw et al., 2016).

Facilitators of discussions can help members learn. Studies of online learning in education have found the instructor can help build the community and create an environment where students are free to participate (Rockinson-Szapkiw et al., 2016).

Instructors can use prompts to encourage students to consider material more thoughtfully (Olesova et al., 2016). Arbaugh (2008) found an instructor's organization and facilitation skills and a higher level of student discussions were strong predictors of perceived learning. Rockinson-Szapkiw et al. (2016) also found the influence of the instructor was associated with higher perceived learning and higher student grades.

Indicators of Learning

- Discussions indicate higher level cognitive processes
- Perceived learning
- Tests of content knowledge

Exhibit 5. Facilitate Learning

Facilitators		Strategies	
Active engagement and facilitation by instructor		Respond to posts by members	
	instructor	Set structures for meetings	
Comfort interacting values in online environment	•	Ask members to take specific roles in facilitating group discussions	
	•	Ask probing questions and those that promote reflection	
Social connections among community members		Encourage members to ask each other questions	
	•	Bring in outside experts to address member concerns	

Practice

Members join VCoP to improve their practice. By interacting with the community, members learn new information which can be applied to the job (Neufield et al., 2013). Hew and Hara (2006) reported that posts in online discussions rarely addressed facts or "book" learning but were most often practice related. Facts or documented materials are easier to share than information gained through experience. The sharing of expertise/experience/practice must be articulated in a concrete and understandable manner (Probst & Barzillo, 2008). Practice knowledge can be transferred through reflection and discussion. Information shared in the community can be evaluated by members using their own professional experience and background to assess whether the information is useful and applicable.

There is little research on whether membership in VCoP results in practice changes. Social workers often identified their coworkers as important sources of information that influenced their practice (Sichling & Obrien, 2009). Trust, Krutka, and Carpenter (2016) surveyed educational professionals in online learning networks. Teachers reported participation increased their enthusiasm for teaching, reduced isolation, increased knowledge base, and changed practices in the classroom. Teachers also noted students benefited from the practice changes, reporting they were more enthusiastic during learning, formed better relationships with classmates, and improved test scores. The authors noted "in many ways, the changes teachers reported in their students' learning mirrored the affective, social, and cognitive aspects of growth that our teachers reported through their Practice Learning Network" (p. 26).

Indicators of Practice

- Members test new practices and post their experiences
- Members report information from the community has changed their practice
- Members implement new processes and practices in their workplace
- Members report implementing improved practices have positively influenced the experiences of families

Members of VCoP can bring changes in processes and practice to the workplace, which can contribute to improved organizational capacity.

Wade, Kallemeyn, Ensminger, Baltman, and Rempert (2016) reported on efforts to help grant-awarded child abuse prevention and treatment organizations improve evaluation capacity. Agencies participated in CoP, and some received additional evaluation coaching. Organizations participating in CoP reported critical reflection opportunities with their peers helped them when considering which tools and processes to use to evaluate their activities. These opportunities ultimately led to improvements which strengthened their evaluations.

Exhibit 6. Encourage Practice Changes

	Facilitators		Strategies
•	Members articulate	•	Ask members to describe their practices and related benefits and challenges
•	current practice Members apply	•	Facilitate discussions that help members identify goals, and how to assess if they have achieved them
•	 Members develop new processes for organizations 	•	Build structures that continue to encourage members to report progress in their practice goals
		•	Encourage members to identify barriers in work processes that may impact services, and ask the community for successful tools and strategies
		•	Create a "lessons learned" story board to highlight examples of changes and results
		•	Foster conversations and generate ideas on organizational barriers and how to overcome them
		•	Ask members who have accessed tools from the website to share whether they have been used
		•	Store and disseminate tools and materials which may be useful to members and their organizations

Conclusion and Recommendations

Studies of VCoP in related fields describe similar aims and activities. Online peer discussions used in higher education to promote critical thinking of students reflect similar learning processes as those of the child welfare staff in peer-exchange formats. Child welfare professionals in VCoP seek practices that will help to improve services for children and families, a goal shared by education and healthcare professionals. VCoP in business promote knowledge sharing by staff to develop new practices and processes, similar to the efforts of child welfare VCoP to build the knowledge base. Across all fields the role of the facilitator is described as important in developing and maintaining VCoP. These studies suggest practice strategies and research methods that may be useful to child welfare VCoP.

Developing and Maintaining Virtual Communities

Personalizing information to meet member needs is critical. The match between information offered and the needs of members is critical in designing and maintaining communities. Increasing the "personalization" of information, tailoring it to match needs, should be done for both synchronous and asynchronous activities. Involving members in creating an agenda for phone call and web

meetings helps to align information offered with member concerns. Asynchronous activities can utilize technology to flag content based on specific member interests. VCoP facilitators can seek and disseminate information that is important to individual members or the group as a whole.

A supportive community culture is key to member participation and learning. Studies of online learning, business information management, and VCoP in related fields often stress the importance of a community environment where members can freely engage with each other. This sense of community can be nurtured by increasing connections by well-facilitated discussions that point to member similarities. Recruiting members who have existing relationships with other members can help the community develop bonds. Using technology to identify member profiles can help announce their unique interests and expertise. This can facilitate connections with those with similar interests and those wishing to increase their knowledge in topic areas. Profiles can also help individual members to be perceived as unique and become known to the community, which can encourage contributing their knowledge to the community.

Nurturing New Communities

Pay careful attention to identifying the need, purpose, and goals of a new VCoP. Child welfare professionals do not have enough time and have too many informational resources from which to choose. If the VCoP does not meet their immediate needs, they are unlikely to engage with the community. Assessing needs and having conversations about the goals can engage members and make the VCoP more relevant and powerful. Disseminate the community vision and emphasize its purpose. Highlight the similarity of members when announcing the formation of the community, so potential members can quickly grasp its relevance and their interest.

Technology is the backbone for communicating and exchanging information. Selecting web-based platforms and software to engage members during live interactions is critical. For asynchronous activities, software can feed relevant information. Automatic reminders provide quick access and can notify members when information of interest is posted. Resources should be budgeted to provide a high-quality experience. If the VCoP can make recent and relevant information easy to obtain, members should respond with enthusiasm.

Maintaining Established Communities

Encourage practice development and dissemination. Structure activities to encourage learning and application of information. Encourage testing strategies, debrief strategies, and documenting results to share with others. Communities with active and committed members can be an important source of information to each other and outside professionals. If the VCoP has developed expertise in areas, encourage presenting and disseminating information. This could be through conferences or by virtual "meetups" with other VCoP or professional groups.

Future Research and Evaluation of VCoP

There is little information on VCoP in child welfare. The review was expanded to studies of similar activities. Studies of active VCoP in child welfare that explore member learning and practice development would be useful for the field.

Consider new approaches to evaluate VCoP. Studies of online learning and business knowledge management suggest new approaches for research and evaluation of VCoP. Using Social Network Analysis may help assess the breadth and depth of group interactions. Content analysis of online discussions could shed light on whether, and how, the community is sharing and developing knowledge. Automated content analysis may decrease the burden of coding, though this requires technological capacity. For communities consisting of members with specific practice improvement goals, measures could be considered to explore connections between participation in the CoP and practice changes. To move beyond self-report, measures of performance that collect information from supervisors or peers could help assess practice changes.

For active VCoP with members working on specific practices and processes, consider evaluating practice changes. Trust et al. (2016) used open-ended questions in a large-scale survey to investigate whether and how teacher participation in VCoP led to practice changes. Teachers reported implementing teaching strategies that changed their practice and also noted changes in student classroom experience. Research on VCoP consisting of professionals working directly with families in child welfare may wish to investigate the relationship between professional development, practice change, and child and family experiences.

There is little information on whether the experience of professionals in VCoP differs based on gender, race, or ethnicity. Kalla, Rosenbluth, and Teele (2018) suggest there may be different levels of access to professional development opportunities. However, we found

Facilitators Can Nurture and Sustain VCoP

- When a community is launched, facilitators can encourage participation individually and in group settings.
- Facilitators can foster community by continuing to create opportunities for members to get to know each other, through structuring discussions during live meetings or by posing questions to the community in asynchronous communications.
- In established communities with high participation and engagement, facilitators can focus on creating structures to promote analysis and synthesis of information, cocreation of ideas, and testing new practices.

only one dissertation centered on VCoP participation in underrepresented groups. There is little knowledge about whether, and how, the experience of professionals in VCoP may vary by demographic features such as language or race/ethnicity.

References

- Adedoyin, A. C. A. (2016). Deploying virtual communities of practice as a digital tool in social work: A rapid review and critique of the literature. *Social Work Education*, *35*(3), 357–370.
- Akkerman, S., Petter, C., & de Laat, M. (2008). Organising communities-of-practice: Facilitating emergence. *Journal of Workplace Learning*, *20*(6), 383–399
- Akyol, Z., & Garrison, D. R. (2011). Understanding cognitive presence in an online and blended community of inquiry: Assessing outcomes and processes for deep approaches to learning. *British Journal of Educational Technology*, *42*(2), 233–250.
- Anderson, T., Rourke, L., Garrison, D. R., & Archer, W. (2001). Assessing teaching presence in a computer conference environment. *Journal of Asynchronous Learning Networks*, *5*(2), 1–17.
- Antonacci, G., Colladon, A. F., Stefanini, A., & Gloor, P. (2017). It is rotating leaders who build the swarm: Social network determinants of growth for healthcare virtual communities of practice. *Journal of Knowledge Management*, *21*(5), 1218–1239.
- Arbaugh, J. B. (2008). Does the community of inquiry framework predict outcomes in online MBA courses? *The International Review of Research in Open and Distributed Learning*, 9(2),1–21.
- Bosco-Ruggiero, S., Strand, V. C., Kollar, S., & Leake, R. (2015). Supporting child welfare traineeship students through an online peer network. *Advances in Social Work, 16*(1), 170–183.
- Boston, W., Díaz, S. R., Gibson, A. M., Ice, P., Richardson, J., & Swan, K. (2009). An exploration of the relationship between indicators of the community of inquiry framework and retention in online programs. *Journal of Asynchronous Learning Networks*, *13*(3), 67–83.
- Buckley, H., Tonmyr, L., Lewig, K., & Jack, S. (2014). Factors influencing the uptake of research evidence in child welfare: A synthesis of findings from Australia, Canada and Ireland. *Child Abuse Review*, 23(1), 5–16.
- Cheung, C. M., & Lee, M. K. (2009). Understanding the sustainability of a virtual community: Model development and empirical test. *Journal of Information Science*, *35*(3), 279–298.
- Child Welfare Information Gateway (2020). How child welfare professionals access, use, and share information: Results from the National Child Welfare Information Study. Washington, DC: Children's Bureau, Administration for Children and Families, U.S. Department of Health and Human Services
- Cook-Craig, P. G., & Sabah, Y. (2009). The role of virtual communities of practice in supporting collaborative learning among social workers. *British Journal of Social Work, 39*(4), 725–739.
- De Marisco, M., Limongelli, C., Sciarrone, F., Sterbini, A., & Temperini, M. (2014). Social network analysis and evaluation of communities of practice of teachers: A case study. *Proceedings of 2014 International Conference on Web-Based Learning: New Horizons in Web Based Learning,* 3–12.
- Dempsey, M., & Halton, C. (2017). Construction of peer support groups in child protection social work: Negotiating practicalities to enhance the professional self. *Journal of Social Work Practice*, *31(1)*, 3–19.
- Dubé, L., Bourhis, A., Jacob, R., & Koohang, A. (2006). Towards a typology of virtual communities of practice. *Interdisciplinary Journal of Information, Knowledge & Management, 1*, 69–93
- Garrison, D. R., Anderson, T., & Archer, W. (2001). Critical thinking, cognitive presence, and computer conferencing in distance education. *American Journal of Distance Education*, *15*(1), 7–23.

- Garrison, D. R. (2011). *E-learning in the 21st century: A framework for research and practice*. Taylor & Francis
- Hamel, C. (2009). *Determinants of participation in an online community of practice* (OCoP) (Unpublished doctoral dissertation). University of Ottawa, Canada.
- Hew, K. F., & Hara, N. (2006). Identifying factors that encourage and hinder knowledge sharing in a longstanding online community of practice. *Journal of Interactive Online Learning*, *5*(3), 297–316.
- Hung, S. Y., Durcikova, A., Lai, H. M., & Lin, W. M. (2011). The influence of intrinsic and extrinsic motivation on individuals' knowledge sharing behavior. *International Journal of Human-Computer Studies*, 69(6), 415–427.
- Jansen, A. (2018). 'It's so complex!': Understanding the challenges of child protection work as experienced by newly graduated professionals. *The British Journal of Social Work, 48*(6), 1524–1540.
- Kalla, J., Rosenbluth, F., & Teele, D. L. (2018). Are you my mentor? A field experiment on gender, ethnicity, and political self-starters. *The Journal of Politics*, *80*(1), 337–341.
- Lee, H., & Choi, B. (2003). Knowledge management enablers, processes, and organizational performance: An integrative view and empirical examination. *Journal of Management Information Systems*, 20(1), 179–228.
- Mardani, A., Nikoosokhan, S., Moradi, M., & Doustar, M. (2018). The relationship between knowledge management and innovation performance. *The Journal of High Technology Management Research*, 29(1), 12–26.
- Micsky, T., & Foels, L. (2019). Community of inquiry (CoI): A framework for social work distance educators. *Journal of Teaching in Social Work*, 39(4-5), 293–307.
- Neufeld, D., Fang, Y., & Wan, Z. (2013). Community of practice behaviors and individual learning outcomes. *Group Decision and Negotiation*, 22(4), 617–639.
- Newman, T., Olle, M., Bradley, C. (2011). Social interaction as a contributor to significant learning outcomes in online instruction. *International Journal of Instructional Technology and Distance Learning*, *8*(11), 79–85.
- Nistor, N., Baltes, B., Dascălu, M., Mihăilă, D., Smeaton, G., & Trăuşan-Matu, Ş. (2014). Participation in virtual academic communities of practice under the influence of technology acceptance and community factors. A learning analytics application. *Computers in Human Behavior*, 34, 339–344.
- Olesova, L., Slavin, M., & Lim, J. (2016). Exploring the Effect of Scripted Roles on Cognitive Presence in Asynchronous Online Discussions. *Online Learning*, *20*(4), 34–53.
- Preece, J., Nonnecke, B., & Andrews, D. (2004). The top five reasons for lurking: Improving community experiences for everyone. *Computers in Human Behavior*, *20*(2), 201–223.
- Probst, G., & Borzillo, S. (2008). Why communities of practice succeed and why they fail. *European Management Journal*, 26(5), 335–347.
- Redmond, P. (2014). Reflection as an indicator of cognitive presence. *E-Learning and Digital Media*, 11(1), 46–58.
- Rockinson-Szapkiw, A. J., Wendt, J., Whighting, M., & Nisbet, D. (2016). The predictive relationship among the community of inquiry framework, perceived learning and online, and graduate students' course grades in online synchronous and asynchronous courses. *International Review of Research in Open and Distributed Learning*, 17(3), 18–35.

- Rourke, L., Anderson, T., Garrison, D. R. & Archer, W. (2001). Assessing social presence in asynchronous, text-based computer conferencing. *Journal of Distance Education*, *14*(3), 51–70.
- Sichling, D., O'Brien, D. B. (2019). Knowledge That Changes Social Work Practice: An Exploration of its Sources and Content. *Social Work Practice and Research*, *19*(2), 383–396.
- Teo, H. J., Johri, A., & Lohani, V. (2017). Analytics and patterns of knowledge creation: Experts at work in an online engineering community. *Computers & Education, 112*, 18–36.
- Trust, T., Krutka, D. G., & Carpenter, J. P. (2016). "Together we are better": Professional learning networks for teachers. *Computers & education*, *102*, 15–34.
- Wade, J., Kallemeyn, L., Ensminger, D., Baltman, M., & Rempert, T. (2016). The Unified Outcomes Project: Evaluation capacity building, communities of practice, and evaluation coaching. *The Foundation Review*, 8(1).
- Wenger, E., McDermott, R. A., & Snyder, W. (2002). *Cultivating communities of practice: A guide to managing knowledge*. Harvard Business Press.
- Wenger, E., Trayner, B., & De Laat, M. (2011). Promoting and assessing value creation in communities and networks: A conceptual framework. *The Netherlands: Ruud de Moor Centrum, 20*, 2010–2011.
- Xing, W., & Gao, F. (2018). Exploring the relationship between online discourse and commitment in Twitter professional learning communities. *Computers & Education*, *126*, 388–398.
- Zboralski, K. (2009). Antecedents of knowledge sharing in communities of practice. *Journal of knowledge management*, *13*(3), 90–101.

Submitted to

Chereese Phillips, Ph.D.
Child Welfare Program Specialist
Children's Bureau
Administration for Children and Families
U.S. Department of Health and Human Services
Contract Number: HHSP-2332015001331

Authors

Tammy Richards, M.Ed., and Heidi Melz, Ph.D., James Bell Associates

Prepared by

James Bell Associates 3033 Wilson Boulevard, Suite 650 Arlington, VA 22201 (703) 528-3230 www.jbassoc.com

James DeSantis, Ph.D. Project Director

This report is in the public domain. Permission to reproduce is not necessary. Suggested citation: Richards, T., & Melz, H. (2020). *Virtual communities of practice in child welfare: A review of the literature*. Children's Bureau, U.S. Department of Health and Human Services.

Disclaimer

The views expressed in this publication do not necessarily reflect the views or policies of the Children's Bureau, the Administration for Children and Families, or the U.S. Department of Health and Human Services. For more information, please visit the Children's Bureau website at https://www.acf.hhs.gov/cb.



