# Interplay of coordination, co-creation and community building: examining interprofessional collaboration in workplace development efforts in health care

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## Abstract

**Purpose** – Interprofessional collaboration (IPC) is increasingly important in work and workplace learning. The purpose of this paper is to investigate the characteristics of IPC that are relevant for learning and developing at work.

**Design/methodology/approach** – We examine IPC in the discussion data of health care professionals when designing, implementing and evaluating developmental tasks. Qualitative content analysis is carried out on temporally sequential task trajectories, considering IPC from the perspective of the objects and goals of IPC task activity in developmental efforts.

**Findings** – The developmentally relevant characteristics of IPC are crystallized in the concepts of coordination, co-creation and community building, which play different, interdependent roles in development efforts. We show their interplay and how they complement each other in practice.

**Research limitations/implications** – Our findings regarding IPC characteristics are to be interpreted as working hypotheses and resources for further research.

**Practical implications** – Understanding the dynamics of IPC is useful for renewing work practices. Attention to the interplay and complementarity of IPC characteristics may help in the design and implementation of effective and sustained development efforts.

**Originality/value** – The dynamics of IPC in developmental settings have not been sufficiently studied. This paper proposes three developmentally relevant and intertwined characteristics of IPC for scholars of workplace learning.

**Keywords** Activity theory, Co-creation, Community building, Coordination, Developmental intervention, Developmental task, Health care, Interprofessional collaboration

**Paper type** Research paper

## Introduction
It is widely acknowledged that interprofessional or interdisciplinary collaboration (IPC) is increasingly important for the networked, digitalized future of work as well as for workplace learning (Engeström *et al.*, 2015; Gerdes *et al.*, 2020; Reeves *et al.*, 2018). IPC is especially required when change efforts' resources are limited.

IPC refers to a client-centred, holistic process in which professionals from diverse disciplines and units work together to provide care services. The literature on IPC is extensive and varied, but it lacks a practice-based understanding of the dynamics of IPC in participatory, developmental settings.

This study qualitatively investigates IPC when health care professionals design, implement and evaluate developmental tasks to improve their work. The developmental interventions form arenas or "sites of intersecting practices" (Edwards, 2017, p. 7), in which professionals take the initiative to improve their own and their collective work. The study's practical interest lies in the nature of IPC when workplaces or developers want to advance or change their services in a way that considers the quality of work for both employees and clients. Theoretically, this paper contributes to studies of workplace learning by suggesting coordination, co-creation and community building as conceptual tools for understanding the dynamic interplay of IPC in development efforts.

IPC is a complex process that is not necessarily accessible to observers (Gerdes *et al.*, 2020) but can be identified through its manifestations. The research question of the study is as follows:

*RQ1.* How is IPC manifested in discussions on developmental tasks?

Based on both empirical data and the literature, we investigate the developmentally relevant characteristics of IPC.

Next, we look at some of the literature relevant to IPC and describe the theoretical approach of the study. After this we describe the empirical case and two trajectories of developmental tasks to reveal the practical contexts of the study. In the Methods section, we describe the data and the analysis of IPC characteristics. The findings provide a description and elaboration of IPC characteristics and their interplay. Before concluding, we discuss the IPC findings in the light of activity and action (Leont'ev, 1978) and social forms of organization (Fichtner, 1984) and present their practical implications. We argue that it is useful for scholars and developers of workplace learning to be sensitive to the objects and goals (Engeström, 2008; Leont'ev, 1978) of developmental IPC activities.

## Interprofessional collaboration

IPC can be categorized in many ways. Boundaries and boundary crossing are implicit in the very notion of the collaboration being *interprofessional* (Akkerman and Bakker, 2011; Schot *et al.*, 2019). IPC can be placed on a continuum, ranging from loose connections to integrated forms of co-work between organizations or professionals (Gerdes *et al.*, 2020). Spatial distance, levels of knowledge sharing and identity (Gerdes *et al.*, 2020; Reeves *et al.*, 2018) have also been suggested as dimensions that characterize different IPC categories.

We consider it necessary to include in the analysis the reasons for why IPC is needed overall. According to a contingency approach suggested by Reeves *et al.* (2018), rather than a linear judgement of forms of collaboration, the design of the collaboration needs to be matched to its functional purposes to serve the local needs of patients or clients. In this paper, we use the activity theoretical notion of the *object* of activity (Engeström, 2008) to understand these purposes and collective motives. Activity theory sees human conduct as object-oriented activity in which an object is transformed, both materially and discursively, into an outcome or product. The object includes the culturally formed collective and societal aim of an activity and is similar to Karin Knorr-Cetina's (1997, p. 9) notion in which "objects serve as centering and integrating devices for regimes of expertise". In this study, the unit of analysis is the interprofessional collaborative activity in cancer patient care that develops in professionals' tasks. This means that the focus moves from present (implicitly including its history) to future IPC activity. Like all activities, IPC task activity also consists of a system made up of subjects, tools, community, rules and the division of labour, but in this paper, for simplicity, we focus on its objects and goals.

Activity theory and the contingency approach understand collaborative activities as being dynamic, constantly evolving in time. There is no universal solution to the challenges of different kinds of collaboration (Engeström *et al.*, 2015). Therefore, the aim of this paper is not to form a novel, fixed category of IPC, but to find concepts that might help us understand the dynamics of IPC and perhaps enhance it, in learning and development efforts at workplaces.

In his theory of the development of subject relations, Bernd Fichtner (1984) determined three types of social forms of organization that have been relevant in workplace learning theories such as activity theory: coordination, cooperation and communication. Coordination means that actors follow their scripts (that is, the rules or "manuscript" that underlies the activity), concentrating on the successful performance of their assigned actions (Engeström, 2008). Each person performs one's own duties separately and see the object (such as a patient) from the perspective of one's own work only. In cooperation in turn, actors focus on a shared problem-object and try to find mutually acceptable ways in which to conceptualize and solve it. The participants may discuss the script, but they do not question or reconceptualize it. Finally, communication refers to reflexiveness in which a subject is conscious of the sum of their own actions as well as their co-operating partner's actions. The actors focus on reconceptualizing their own organization and interaction in relation to the shared object. These three types form the starting point in this study's analysis of IPC. Before moving on to the analysis, we present the empirical case with its two interventions and describe two trajectories of how the making of the developmental tasks evolved.

## Interventions in an emerging regional cancer centre

The empirical case originates from a developmental research project [1] that investigated and enhanced employees' IPC and empowerment in cancer care. The research site was a regional cancer centre in Finland (regional FICAN) and its three hospital districts. The project included two synchronized developmental interventions with the intent to enhance

professionals' IPC and empowerment in the development of the regional FICAN. The *Job Crafting* intervention aimed to promote participants' work engagement (Hakanen *et al.,* 2008; Wrzesniewski and Dutton, 2001). It was carried out separately in each hospital district. The *Liaison Building* intervention, following the activity theoretical methodology of a Change Workshop (Ala-Laurinaho *et al.,* 2017), aimed to develop interprofessional practices based on patient needs in the recently introduced field of palliative care. It was carried out in cooperation with participants from all three hospital districts. Both interventions engaged the participants in designing, implementing and evaluating *developmental tasks* of their own choice, which could be either small or more ambitious new practices or tools that they wanted to pursue or use in their work.

The intervention workshops were held both face-to-face and via video conference between October 2018 and May 2019. The 41 participants included nurses, radiographers, specialist physicians (6), social workers (3) and other professionals (3). Managers, leaders and HR specialists were also invited to the evaluation workshops. The interventions are described in Table 1.

The Liaison Building and Job Crafting interventions created new practices and enhanced both IPC and professionals' empowerment. Before turning to the methods and analysis of IPC, we present stories of the two trajectories of developmental tasks as contexts for IPC.

### Two task trajectories
*Compiling guidelines for palliative care (Guidelines task)*
At the start of the Liaison Building intervention, a shared understanding of current and possible future operations was stimulated by examining a real, challenging patient case together. Four participants, two nurses and two physicians chose to compile instructions on palliative care to help all staff in their hospital identify patients who needed palliative care and to form fluent processes between palliative and other services. We call this task *Guidelines*.

A major theme discussed in the Guidelines group was the practical steps in preparing the guidelines. Until then, an individual physician had planned the guidelines alone, "the right side of the head posing a question and the left side responding to it". The task group believed that one person planning alone was not sufficient and discussed how to prepare the guidelines in interdisciplinary collaboration. The participants suggested trusted colleagues both inside and outside their own units and turned to hospital managers for their acceptance of the guidelines. The facilitator of the workshop suggested another group of collaborators: the potential guideline users, that is, the professionals who actually or potentially refer patients to palliative care.

**Table 1.**
The practical execution of the project composed of partly synchronized, developmental Job Crafting and Liaison Building interventions

| Job Crafting in Hospital District 1 | Job Crafting in Hospital District 2 | Job Crafting in Hospital District 3 | Liaison Building, common to all three hospital districts |
|---|---|---|---|
| First workshop Second workshop | First workshop **Second workshop** | First workshop Second workshop | First workshop Second workshop **Third workshop** |
| | Preparing the tasks in practice | | |
| | **Common evaluation workshop to all** | | |
| | **Common evaluation workshop to three Job Crafting interventions** | | **Evaluation workshop to Liaison Building intervention** |

**Note:** Data for the IPC analysis consist of audiotaped discussions of the bolded five workshops

In the evaluation phase, the task participants recognized that IPC was important for creating new ideas and were jointly committed to continuing to prepare the Guidelines. After the project, the task expanded to jointly designing the guidelines for all three hospital districts of the regional FICAN.

*Collaboration between two outpatient clinics (Community task)*
At the start of the Job Crafting intervention, the participants were encouraged to reflect on their sources of worry and inspiration as bases for designing developmental tasks. One of the task ideas, proposed by two nurses, was to enhance the IPC between their clinics. The nurse participants felt that, despite having common patients, collaboration was insufficient. They decided to improve the community spirit and to clarify the processes and care responsibilities of the clinics. The object of improving the sense of community between the two clinics was regularly referred to along this task trajectory.

The participants of the Community task had suggested to their managers that their task theme be discussed in a developmental meeting of the hospital department. Professionals of both clinics were given the opportunity to write down their ideas on yellow stickers in their coffee room. This generated many ideas, which the managers promised would be discussed in the meeting. Disappointingly, due to information gaps, the ideas were not discussed. However, the two nurses decided to continue with the task and expressed individual commitment to enhance positive discussion on collaboration between the clinics.

Later, the Community task received support in another hospital department's developmental meeting. The professionals of the two clinics were encouraged to inform each other and flexibly discuss patients' changing situations with the other clinic's staff. By the evaluation phase, the Community task had resulted in common training events and visits between the two clinics. Next, we turn to the data and methods of analysis.

## Data and methods
The primary data consisted of 11 audiotaped workshop discussions. The last five workshop discussions (altogether 8 h and 40 min, see Table 1) were selected for the analysis because they addressed the themes of the developmental tasks. The average length of the workshop data was 1 h and 44 min.

Qualitative content analysis was conducted by reiterating data reading in conjunction with literature and the unfolding findings were put into dialogue with theoretical IPC concepts. After transcribing the selected audiotaped data verbatim, we used ATLAS.ti software to identify and code the developmental tasks from the data. This resulted in 253 task-related data segments that contained both talk in the small groups of developmental tasks and presentation and discussion among all workshop participants. The set of temporally sequential segments dealing with a particular developmental task was grouped into a task trajectory, which formed the context for identifying and analysing IPC. We identified nine separate task trajectories. In addition to the two trajectories presented as stories above, they dealt with developing collaborative processes and individual mindfulness, aligning new services with old ones and reducing interruptions at work. All the trajectories included IPC.

The Guidelines and Community tasks were selected for careful contextual analysis because they were lengthy, included many sequences with IPC and represented both the Job Crafting and Liaison Building interventions. Nineteen codes with IPC characteristics were inductively identified from their data segments. In the first round, the IPC codes included crossing spatial and administrative borders, forms of interaction and communication and organizing actions and division of labour. In the second round, the IPC found was

interpreted using Fichtner's (1984) social forms of interaction. Through various reiterations and discussions between three of the authors, many of the IPC codes were generalized under concepts of coordination and co-creation. Excerpt 1, at the start of the Guidelines task, shows how the coordination type of IPC strived for organizational formality or stabilization.

Excerpt 1. Representative of palliative care: *[. . .} We probably first need to stabilize the functions [of palliative care]. The very basic things, how the referral comes and everybody knowing about it.*

Co-creation in turn was a bundle label for talk that created novel ideas. Excerpt 2 shows how a participant, in the evaluation phase, describes the usefulness of co-creation in the Guidelines task.

Excerpt 2. Nurse 1: *Well at least in [our hospital], being in a group, like [a physician of the task group] said, when you're alone, it feels like you have no ideas, but when you have a group, you always get at least one idea. [. . .] The ideas don't come if you're alone, you need a team and this interprofessional team is a guarantee that new things will emerge.*

In the third round of the analysis, we distinguished a qualitatively different third category – community building. In this, solidarity or team spirit is taken as the object of the developmental effort. In Excerpt 3, the nurse is explaining the developmental Community task to other workshop participants.

Excerpt 3. Nurse 2: *I wrote [our task] like this: lifting our community spirit and we could think about how to get an atmosphere of working together, like look at the other, the cytostat side would look at the working conditions in the radiotherapy side and would feel solidarity and also the other way round, that community spirit.*

After finalizing the analysis in the two trajectories, we examined the three IPC characteristics in the remaining seven task trajectories to test their validity in the whole transcribed data.

## IPC in the task trajectories

Coordination, co-creation and community building were present in all nine task trajectories, but because of the word limit of the paper, we concentrate on describing the IPC characteristics using examples from the Guidelines and Community task trajectories presented above.

### Coordination

The object of the Guidelines task was designing and stabilizing new work processes among the hospital personnel, which is *coordination*-related IPC. The participants suggested that trusted colleagues both inside and outside their own units be involved. This shows how informal hierarchy, meaning person-dependent social relationships (Diefenbach and Sillince, 2011), was at play. According to Edwards (2017, p. 8), professionals may be good at working relationally with old friendships and existing trust, but these relationships may not be the most relevant for tackling a new problem. The task group also turned to hospital managers to obtain their acceptance of the guidelines, which manifests formal hierarchy. Formal hierarchy refers to the vertical integration of official positions within an organization. Formal and informal hierarchy are both at play and equally legitimated in professional organizations such as hospitals (Diefenbach and Sillince, 2011). We see the aim of stabilization as a central feature of coordination.

The Community task, with its object of community spirit, also aimed to clarify the processes and responsibilities of the clinics and their professionals. As these are basically stabilizing operations, we interpret them as coordination. Organising common training and visits between the clinics were also stabilizing efforts that manifested coordination.

*Co-creation*
In the Guidelines task, the participants envisioned that the differing viewpoints and
perspectives of both the physicians and nurses across the hierarchical levels should be
included in the planning process of the guidelines. A conscious effort was made to benefit
from interprofessionality. Through this co-creation, the group innovated a new
interprofessional operation model in which to prepare the guidelines. This new model of
action was an innovative outcome of the group's co-creation.

In the Community task, the participants and their colleagues were advised to flexibly
discuss patients' changing situations with the other clinic's staff. These informal
discussions manifest co-creation, as professionals share their important knowledge and
perspectives to advance good solutions.

The flexible ways of interaction manifested in the examples above are typical in co-
creation, during which complex, open-ended or evolving objects are worked on (Spinuzzi,
2015). Co-creation means that professionals, sometimes together with their clients, jointly
develop or create new solutions, ideas or practices by advancing and building on insights
brought in by other participants (Edwards, 2017; Singh, 2017). Co-creation implies
instability by promoting change and novelty.

*Community building*
The object of the Community task was to organize and strengthen personal, collective
human relations and collegiality at the workplace and to develop a community spirit and
feeling of togetherness and psychological safety among professionals. This is crucial in the
community building characteristic of IPC. A sense of integration into the community is a
source of learning (Lave and Wenger, 1991) and identity (Gerdes *et al.*, 2020). Table 2
condenses the main features of coordination, co-creation and community building.

*Interplay of IPC characteristics*
Although the Guidelines task manifested coordination, considerable co-creation still took
place by forming a novel, interprofessional and collaborative operation model for planning
the guidelines. The trajectory of the Guidelines task above shows how the idea of preparing

| Type of features | Coordination | Co-creation | Community building |
|---|---|---|---|
| **Aims** | Stabilization, establishment of clear responsibilities and division of labour | Novel aim-orientated ideas or solutions | Community spirit, solidarity and working as one team |
| **Communication** | Taking or accommodating hierarchical positions in interaction and communication | Peer-like, diverse sharing of knowledge | Giving positive feedback to build trust and mutual respect |
| **Work-related empowerment (outcome)** | Clear responsibilities and division of labour | Participation, proactiveness | Enthusiasm, psychological safety, well-being |
| **Main form of hierarchy** | Both formal and informal | Dynamic hierarchy according to novel goals | Informal |
| **Process** | First vertical hierarchical approval from management before horizontal development, linear view of development | Open-ended, flexible and synchronous | Emerging, no definite beginning or end |

Table 2.
Features of
coordination, co-
creation and
community building
as developmental
characteristics of IPC

guidelines developed from the existing individual effort into future collaborative endeavour. This co-creation was a necessary step to support the coordinative object of the task.

The object of the Community task was community spirit, but as described above, the task also included coordination and co-creation. The Community task also aimed to clarify and stabilize the processes and responsibilities of the clinics, which we interpret as coordination. Here, coordination was a means to pursue the object of community spirit. Coordination was manifested through organizing and stabilizing common training and visits between the units. Co-creation to support community building took place in, for example, the patient negotiations between the outpatient clinics, as encouraged by managers in the second developmental meeting.

These examples show the different interplay between coordination, co-creation and community building in the different task trajectories. Efforts towards a coordinative object required co-creation. Pursuing a community spirit object required both coordination and co-creation. But how should this interplay be theoretically and generally understood? Next, we discuss this.

## Discussion

As activities "live" within work and collaboration, they are never totally fixed or stable. We argue that in workplace development efforts, IPC is manifested in qualitatively different forms that accommodate to the situations and objects of work activities in meaningful ways. Our findings suggest that more important than searching for universal laws is the examination of the contextual dynamics of IPC characteristics.

On the basis of the writings of Leont'ev (1978), later applied by various scholars in activity theory (Engeström, 2008; Spinuzzi, 2015), we differentiate between long-term, collective objects of activity and more specific goals of actions to which individuals or groups aspire. The objects that provide interprofessional learning and development efforts with collective motives are pursued with the help of various actions, each having goals that may manifest different IPC characteristics than the long-term object. Table 3 shows the main findings of the interplay between IPC characteristics.

We found that a coordinative object of the guidelines task was pursued by co-creating a new operation model. The object of community task was hard to pursue without tangible coordinative or co-creative goal-oriented actions.

Because motivation is key in enhancing workplace learning, it is useful for developers to be sensitive to the long-term objects that professionals want to pursue in their future work. People learn because they face challenges and solve problems that are vital to their activity (Toiviainen, 2003). In the interventions of our study, participants' object constructions were facilitated by stimulating reflection (Akkerman and Bakker, 2011) on their sources of worry and inspiration (in the Job Crafting intervention) and on practices from curative to novel

| | Objects of IPC activity | To compile new guidelines | To improve the community spirit |
|---|---|---|---|
| **Table 3.** Objects and goals of developmental tasks as manifestations of the interplay between coordination, co-creation and community building | Coordinative goals of IPC actions | Asking managers' acceptance of the developmental task | Clarifying and stabilizing processes and care responsibilities Organizing common training and visits |
| | Co-creative goals of IPC actions Community building goals of IPC actions | Creating a new interprofessional operation model | Flexibly negotiating common patients' care with the other unit's staff Enhancing individually positive discussion on collaboration |

palliative care (in the Liaison Building intervention). The latter also helped the participants identify the existing boundaries between professions and functions (ibid.). Despite these stimulations, participants were free to pursue the tasks of their choice.

The interplay between coordination, co-creation and community building may partly open up the dynamics and contingency of IPC (Reeves *et al.*, 2018). The shared objects seem to shape the interplay of IPC characteristics, which suggests that contingency is not totally arbitrary.

Coordination reveals how social and hierarchical structures are an internal part of IPC. Although hierarchy and authority are often considered harmful for learning and IPC (Bunderson and Reagans, 2011; Claramita *et al.*, 2019), this study finds that hierarchical coordination can be a necessary part of IPC. Coordination in this study may be similar to routinization (Akkerman and Bakker, 2011) but differs from the ideas of Fichtner (1984) and Engeström (2008) about informal and formal hierarchy and stabilization.

Co-creation in this study resembles Fichtner's (1984) notion of communication in which both objects and scripts are transformed. The Guidelines task above is indeed an example of Fichtner's (1984) communication. However, in the co-creation of this study, the script does not always change. In addition to activity theory, our understanding of co-creation has been influenced by its conceptualization in Finnish R&D of working life. We emphasize open-ended, emergent objects, collaborative interaction and the proactiveness of actors as features of co-creation (Table 2; Seppänen *et al.*, 2021). Professionals and developers need to pay attention to the extent to which objects are shared: if the assumed existence of a shared object is false, co-creation may fail (Singh, 2017). The notion of *relational expertise* (Edwards, 2017), which focuses on how IPC is shaped by and co-evolves together with objects (that is, the "what matters" of professionals), exemplifies one mechanism of co-creation. Together, coordination and co-creation imply a dynamic between stabilization and transformation (Akkerman and Bakker, 2011).

Communities bring identity (Gerdes *et al.*, 2020) to employees and help them form common sense through mutual engagement. Because of its enthusiasm (Table 2), community building as a characteristic of IPC can be weak in reflexiveness, which is central in Fichtner's (1984) communication. As an IPC characteristic, community building came as a surprise to the authors in the empirical data. Engeström *et al.* (2010) insightfully contrast community building with managerial process efficiency approaches – "when a community is built, it eventually has to turn its attention to its processes" (ibid,. 2010, p. 24). It is challenging for formal hierarchy to encourage and legitimize community building. The interplay of IPC characteristics studied here may help us better understand the relation between process efficiency and community building orientations. Rather than fixed, exclusionary categories, these characteristics should be considered working hypotheses, to be tested, refined and expanded in further research.

## Conclusion

Workplaces' learning and development efforts present a specific context for IPC. This study is a qualitative investigation of IPC in the discussion data of cancer care professionals when designing, implementing and evaluating developmental tasks to improve their work. The examination of IPC in these task trajectories condensed the characteristics of IPC as coordination, co-creation and community building. Coordination refers to stabilizing efforts that lean on informal and formal hierarchies. Co-creation is a peer-like interaction that jointly develops novel solutions to identified problems. Community building means developing a community spirit and a feeling of togetherness and belonging among professionals. The study offers theoretical insights into the dynamics of IPC in the practice of workplace development efforts. The characteristics acquire contextually different relative

functions, are of qualitative importance and take seriously the evolving objects and goals of IPC.

## Note

1. The project was called "The Future Magnetic Cancer Center" (VETÄVÄ [2017–2020], funded by the Finnish Work Environment Fund). In addition to this qualitative study, IPC and work empowerment were also investigated quantitatively (Moilanen *et al*., 2019; Peltonen *et al*., 2020).

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