

Articulation work is a practice where actors use verbal and non-verbal communication to document what they are doing, what they understand about that, and how this relates to others. It is the work necessary to join one actor's sense of a situation with another's, so their flows of activities can be allocated, coordinated, and dovetailed. It is necessary to identify constraints, pitfalls and strategic positions in the field of work. Doing so consists of the work needed to coordinate tasks, jointly recover from errors, and assemble resources, both shared and individual. This includes tasks that allocate, schedule, interrelate, divide respective activities in relation to the information. Articulation work in large-scale settings has a dual character: the articulation activities internally in arranging local work and the articulation activities between two (or more) different locals. Building a collaborative information management system around only information flows and not the articulation work necessary to align how users make sense and make decisions with that information flow can lead to serious ethical, legal and social issues.

Guiding Questions

How might it be possible to be aware of others' actions, intentions, and activity flows within a common information space in order to support dovetailing, without infringing upon privacy?

Is it necessary to negotiate tasks in order to support workflow?

How might it be possible for users to see relevant information to enable a cooperative working division of labour? Can this be done without information overload?

What kinds of controls exist for users to manage the dissemination of their own information?

Further Information

Mechanisms of interaction such as plans, standards, schedules, maps, standard operating procedures, incident command systems, taxonomies and definitions of common terms play an important role in collaboration and coordination. However, they also require a certain level of articulation to make sure everyone is on the same page: they do not speak for themselves. While articulation work is extraneous to the central activity of moving information from one place to another, it is vital to coordinating and collaborating around that information.

Efficient and effective sharing needs this awareness between actors, and doing so requires a certain amount of context. This is because experts gain a sense of disciplinary context over

time that makes it possible for them to think about the bigger picture. Doing so helps them build a frame of what is familiar within which to identify relevant data and relevant interpretations of that data. In order to share that understanding, that context also needs to be able to be articulated, in order to explain one's role and legitimacy of decisions but also to negotiate how that relates to what others are doing in turn. One way to help is to provide the larger repertoire of patterns seen by one actor in order to help another actor gain insight into their practices of situational awareness. This also allows for anticipation of what's to come, which is important for planning purposes. Otherwise, within the collaboration, all actors become novices, unable to situate their actions and ways of looking within the collaborative context, making looking forward and reacting flexibly not really possible. Moreover, without understandings of the different context in which the measurements are taken, the reasons they are gathered, the goals for their use, and the different problem solving and decision making strategies to which they get put to use, it is difficult to produce lessons learned or descriptive details that have "shared" meaning despite shared acceptance of categories to which they speak. Fragmentation, not collaboration, can result from a lack of awareness of the various user goals and needs.

Examples

Simone et al. (1999) studied two different groups of workers in a German ministry that shared a workspace and worked cooperatively in order to examine the challenges with articulation work. One was made of typists who make electronic versions of documents, the other was ministry members who conduct writing based activities like giving speeches or answering citizen queries. They found that one of the major challenges to articulation work is variations in how individuals structure the information they receive. They wrote:

The writing office members organise documents according to a scheme which is logical for their work process: documents are sorted by the name of the document owner and date of creation, in a two-level hierarchy. In contrast, the unit members structure their documents according to their work processes, in rather deep multi-level structures, an organisation which is logical for them. To the typists, accessing a document by the owner makes much more sense to them than accessing a document by the subject which has little meaning to them. To the unit members, accessing a document by its subject has semantic meaning for them, e.g. a speech on a senior citizen initiative. The dates of the documents have less meaning for them, since they may work on multiple projects within the same time frame. (p. 2).

As a result, ministry members lost time finding documents that had been filed by the typists,

whose practice structure the file storage system. Simone et al continue:

Each employee, depending on their work role, has a need for a different form of awareness information. For the typist, it is a benefit that a message is sent to the owners informing them when she places finished documents in the shared folder. For the unit members, automatic outgoing messages have less value, but notifications of finished texts have benefits for them. For the unit leader, he has a distinct requirement in his management function; he would like to ascertain who had made changes to, and who possesses a shared document. Some unit members would like to have information about the events and activities that occur in parts of the shared workspace; other unit members see it as an information overload. (p. 2)

Articulation work is necessary so that workers do not expect the same awareness from others as they have. It does not mean less awareness, just different, and those differences need to be articulated in order for them to be managed and not become overhead. Articulation work is about establishing conventions, in this case classification schemes, which organize information according to specific relations and govern how people can act on that information. Simone et al. propose the need for a reconciler interface that can promote individual and collaborative learning about the work practices in order to better align them and support the identification of congruency problems.

Resources

Malakis, S., & Kontogiannis, T. (2013). A sensemaking perspective on framing the mental picture of air traffic controllers. *Applied Ergonomics*, 44(2), 327-339.

Bannon, L. and Bødker, S. (1997). Constructing Common Information Spaces. In J. Hughes (Ed.), *Proceedings of the Fifth European Conference on Computer Supported Cooperative Work* (pp. 81-96). Kluwer. [\[Link\]](#)

Færgemann, L., Schilder-Knudsen, T., and Carstensen, P. (2005). The Duality of Articulation Work in Large Heterogeneous Settings - a Study in Health Care. In H. Gellersen et al. (eds.), *ECSCW 2005: Proceedings of the Ninth European Conference on Computer-Supported Cooperative Work*, 18-22 September, Paris, France, 163-183.

Rolland, K., Hepso, V., & Monteiro, E. (2006). Conceptualizing Common Information Spaces Across Heterogeneous Contexts: Mutable Mobiles and Sideeffects of Integration. *CSCW '06 Proceedings of the 2006 20th Anniversary Conference on Computer Supported Cooperative*

Work, 493-500.

Schmidt, K., & Bannon, L. J. (1992). Taking CSCW seriously. *Computer Supported Cooperative Work*, 1(1), 7-40. [\[DOI\]](#)

Simone, C., Mark, G., Guibbillei, D. (1999) In D. Georgakopoulos, W. Prinz, and A Wolf (eds.) *Proceedings of ACM Conference on Work Activities Coordination and Collaboration (WACC'99)*, ACM Press: 22-25 February, San Francisco.