

“Learning from each other”.

The transmission of knowledge as a form of high-level collaboration

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The first results presented are part of our nation-wide research project “Interprofessional Collaboration: How do health professionals interact with each other in collaborative practice situations?” funded by the Swiss National Science Foundation (Staffoni *et al.*, 2016-2018)⁴. Starting from the idea that knowledge transmission is of crucial importance within interprofessional collaborative practices, the analyses presented here draw on examples of such processes taken from interviews and video-recordings in various health institutions from all three linguistic regions of Switzerland.

1. Data

This research is based on 28 focus groups and individual interviews conducted with 158 health professionals⁵ (21 interviews) and educators (7 interviews) in 21 different institutions. In addition, we have filmed 65 hours of interprofessional collaborative practices (Staffoni *et al.* 2017), which comprise 123 situations of different kinds: interprofessional meetings, medical visits, joint therapy sessions, instructional sessions, informal discussions. Video-recordings have been collected in 10 different healthcare institutions ranging from acute, chronic, and rehabilitation care, to nursing homes and medico-pedagogic institutions.

2. Knowledge transmission in the IPC literature

Interprofessional collaboration (IPC) is often considered as requiring the ability to share and transmit knowledge. D’Amour and Oandasan (2005) distinguish “interdisciplinarity” from what they call “interprofessionality”, and define the latter as a process of reconciliation of professional differences and contrasting views, which necessitates “continuous interactions and knowledge sharing between professionals”. The official guidelines regarding IPC also mention the notion of knowledge transmission, captured in CAIPE’s definition: “Interprofessional health care occurs when various professions learn from and about each other to improve collaboration and the quality of care” (Barr *et al.* 2017). The World Health Organisation also recommends that professionals know the “expertise” of others (WHO 2010). The Canadian Interprofessional Health Collaborative guidelines define IPC as “recognizing and

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⁵ Interviewed health professionals are : physicians (various specialisations, including psychiatry), nurses, caregivers, midwives, psychologists, physiotherapists, occupational therapists, speech therapists, dieticians, radiology technicians, social educators, specialist teachers, social workers.

respecting the diversity of [...] competencies” and as “accessing others’ skills and knowledge appropriately through consultation” (CICH 2010). Finally, the IPEC’s guidelines recommends to “integrate the knowledge and experience of other professions [...] to inform care decisions” (IPEC 2011).

In their literature review, D’Amour *et al.* (2005, 120) argue that “deliberate exchange of knowledge, skills and expertise” characterizes “transdisciplinary” work, often considered as more thoroughly collaborative than “interdisciplinary” work (which includes “integration of the knowledge and expertise of each professional”) and “multidisciplinary” work, considered to be a “juxtaposition of various professionals and competencies”. Therefore, knowledge transmission can be considered as a “high-level” form of collaboration⁶, together with other processes such as shared decision-making or shared leadership (WHO 2010; IPEC 2011; Barr *et al.* 2017; CICH 2010). Knowledge is to be understood as professional specific expertise, which includes “substantive knowledge”, “skills” and “techniques” (Freidson 2001, 25-26), rather than mainly information (e.g. about patients). Practices of information sharing or task assistance could therefore be considered as “low-level” collaboration.

3. Concepts

Eliot Freidson, a leading author in the sociology of the professions, relevantly indicates that “an adequate sociology of work [...] must also be a sociology of knowledge” (Freidson 2001). In order to perform their work, health care workers use knowledge, which can be referred to as “working knowledge”. It includes skills, which are techniques that make it possible to use or apply substantive knowledge, and are a capacity to employ knowledge in order to arrive at an acceptable solution within work. Freidson shows that this working knowledge, with its substantive and skill parts, is formed of three different kinds of knowledge.

The first category is *institutionalized knowledge*, which Higgs and Titchen (1995), in the field of health care specifically, refer to as “propositional knowledge”⁷. It consists in bodies of information and ideas organised by theories and abstract concepts. The term “institutionalized” implies that it is organized in disciplines, and produced, preserved, transmitted, debated and revised by intellectual workers (academics) who embody the authority of these disciplines. Part of this knowledge is taught to new entrants in the professions. As this type of knowledge is abstract and general, it cannot be applied directly to problems in work. It even partly consists in reflexions that are made as ends in themselves, and not directed to practical applications. In health institutions (as in other worlds), it is the type of knowledge to which the largest value is attributed (Higgs *et Titchen* 1995).

The second form is *practical knowledge*, a prevalent form within working knowledge. This kind of knowledge is free of formal concepts and theories. It is instrumental and aims at performing concrete tasks in practice settings. It is strongly linked to activities and practical purposes, and functions to achieve these goals. It is greatly, but not only, learned by experience, situationally. It is very variable from one individual to another. In Higgs & Titchen’s typology, this knowledge is called “professional craft knowledge”.

The third category is *everyday knowledge* (or “personal knowledge”, see Higgs & Titchen, 1995). It is used in work contexts but not specific to it. Most of healthy adults can possess it and have potentially learned it at some point in their lives: knowing how to brush your teeth, to clean a floor, to dig a hole, or to drive a car. There are different ways of performing these activities and an unequal distribution of this knowledge, depending on age, gender, or socioeconomic status. Although some of it is taught formally in schools (and by medias) - such as reading, writing or counting -, much of it is tacit, learned informally and unconsciously. Higgs and Titchen (1995) note that, in the “health care field particularly, [...] personal knowledge plays a large part in identifying individual needs and understanding individual

⁶ According to organisation studies, collaboration can reach various stages of development (Frey, Lohmeier, Lee, & Tollefson, 2006; Gajda, 2004).

⁷ They define it more precisely as: “Propositional knowledge is derived through research and scholarship, with an attempt to generalize findings”, consisting in “knowing that”, as opposed to “knowing how” (Higgs *et Titchen* 1995, 526).

behaviour” (p. 522). All kinds of professionals use everyday knowledge, including those with the highest levels of qualification.

Finally, practical and everyday knowledge can be *formal*: codified in texts, or at least described clearly and systematically within training. However, they are also frequently *tacit*: not explicitly taught in classrooms but learned unconsciously during the course of life or of working.

4. Results

The analysis of the data regarding knowledge in collaborative practices situations revealed two main types of transmission. Firstly, knowledge transmission can consist, for a professional, in knowing (and recognizing) what the knowledge of others is, how it is organized, its limits. This implies knowing sufficiently *about* the others’ knowledge. Secondly, it can be, more thoroughly, knowing (or learning) to do what the other does. This second process implies knowing *how* the other does what he or she does, being able to do it, learning from him or her.

4.1. Knowing about the other’s knowledge

The literature about IPC very often stresses the fact that a better collaboration requires a knowledge of what the expertise, the knowledge of other health professionals consists in. As an educator puts it in one of our interviews: “If you don’t know the skills of the people you work with, you cannot use them” (Physician). It does not necessarily imply learning to do what the other does, but is a fundamental basis for identifying competencies⁸.

A first example can be cited to explore the role and effects of this type of knowledge transmission: the case of interprofessional collaboration between physicians and paramedics in the domain of first aid and emergency assistance. Formal practical knowledge of paramedics relies on protocols with various steps (e.g. injection of glucose), which must be applied in a specific order. Medical knowledge relies more on clinical signs and clues (combining formal knowledge with a great deal of practical knowledge). Paramedics’ protocols are based on medical knowledge, and have been elaborated by physicians. But if physicians collaborating with paramedics do not know that the latter rely on these protocols, they will be reluctant for example to inject glucose if they identify the clinical signs of a stroke. This might especially be the case with junior doctors, who are often working in this area of practice. This example, taken from an interview with a former head of a paramedics school, shows that interprofessional collaboration does not necessarily require professionals to know the content of the other’s knowledge, or not only (in this case physicians know the data on which protocols are based). Professionals need to understand the way knowledge is organized and its limits.

Learning what the knowledge of another professional consists in can also help professionals embracing their own role. A physician specialized in palliative care explains in an interview how he relied on the knowledge of a nurse regarding wound dressing, saying that she “knew very well about dressings and how to apply them, and had experienced the evolution of dressings during the last 20 years”. This practical knowledge, partly formal, is specific to the nurse. However, the physician decided at some point to look at the nurse applying it, which led him to a better understanding about when to prescribe this type of dressing. This example, as the previous one, indicates that knowing the other’s knowledge does not always aim at being able to use it directly. This other case shows that it can help other professionals applying their own knowledge and fulfilling their own responsibilities. Learning from the nurse helps the physician knowing about the purpose of a specific dressing and the requirements for the nurse to be able to use it.

A last example of the importance of knowing *about* the other’s knowledge can be found in a situation we have filmed in an acute care unit. An interprofessional meeting (see picture below) was held with two physicians, one physiotherapist and two nurses. In this sequence, a female nurse (RNF) and a senior

⁸ See SAMW Charter, Article 2.

physician (SP) are joking about how much physical exercise physiotherapists ask patients to do, and how hard it would be for themselves if they had to do these exercises. Then, the senior physician tells which exercise she would agree to do (see transcript).

Transcript

<i>Original discussion</i>	<i>English translation</i>	<i>Image description</i>
SP : <i>Moi je veux le truc que tu donnes toujours à la... où tu fais comme ça !</i>	SP: I personally want to train with the thing you always give to... The one you do like this.	<i>SP imitates the use of the handcrank which brings PHY to say this word.</i>
PHY : <i>La manivelle.</i>	PHY: The handcrank.	
SP : <i>J'ai jamais compris à quoi ça servait à part à brasser de l'air !</i>	SP: I've never understood what for it was used, apart from turning the air...	
PHY : <i>Il y a des études qui montrent qu'on peut arriver avec les membres supérieurs jusqu'à 60% de l'effort...</i>	PHY: Studies show that the use of the upper limbs can result in 60% of the effort...	
SP : <i>Oui, si tu fais des mouvements comme ça. Mais si tu fais ça...</i>	SP: Yes, if you move like this. But like that...	<i>SP shows a larger arms movement (which would be performed by patients without the handcrank).</i>
PHY : <i>Ben on met [ensemble avec RNM] de la résistance !</i>	PHY: But we add [together with the RNM] resistance.	
RNM : <i>ça bosse hein !</i>	RNM: It makes you work!	
PHY : <i>Hé !</i>	PHY: Yes!	
SP : <i>Alors elle avait pas l'air très résistante la fille qui faisait ça !</i>	SP: The girl who did it did not look that resistant...	
PHY : <i>On met de la résistance. Non, non. On fait aussi les...</i>	PHY: We add resistance. We do. We also do the...	<i>PHY shows the larger arms movement.</i>
SP : <i>Ah oui, ça c'est mieux ! Non mais moi c'est ça qui... ça c'est fantastique.</i>	SP: Yes, that's better ! But this... It's fantastic [irony about the handcrank].	

The joke made by the senior physician might be seen as an implicit critique, questioning the effectiveness of the physiotherapist's work. The latter decides to justify and explain his professional reasoning. To do that, he refers to institutionalized knowledge. The study he quotes from his domain is used as a justification tool that is consistent with the empirico-analytical paradigm to which medical knowledge belongs to, mostly based on quantitative data (Higgs & Titchen, 1995, p. 523). One interesting thing about this knowledge display is that it is not linked to decision-making or to a specific patient: it derives from a challenge coming from the physician. Underlying this exchange might be disagreement about patient care on this specific matter (what type of physical activity is advisable). In this context, knowledge transmission primarily aims to justify a practice, not to transmit a skill to the doctor. The physiotherapist verbalizes the knowledge that underlies a practice, whereas it usually remain tacit or implicit. In this situation, the male nurse makes an alliance with the physiotherapist, not based on scientific knowledge, but confirming that there is also practical knowledge involved: the need and possibility to add a certain degree of resistance to the device. In the end of the discussion, however, the transmission of knowledge seems, here, to have no effect on the physician's position: she continues to orient to her own understanding of the situation and does not align with the physiotherapist's one.

4.2. Knowing each other's knowledge

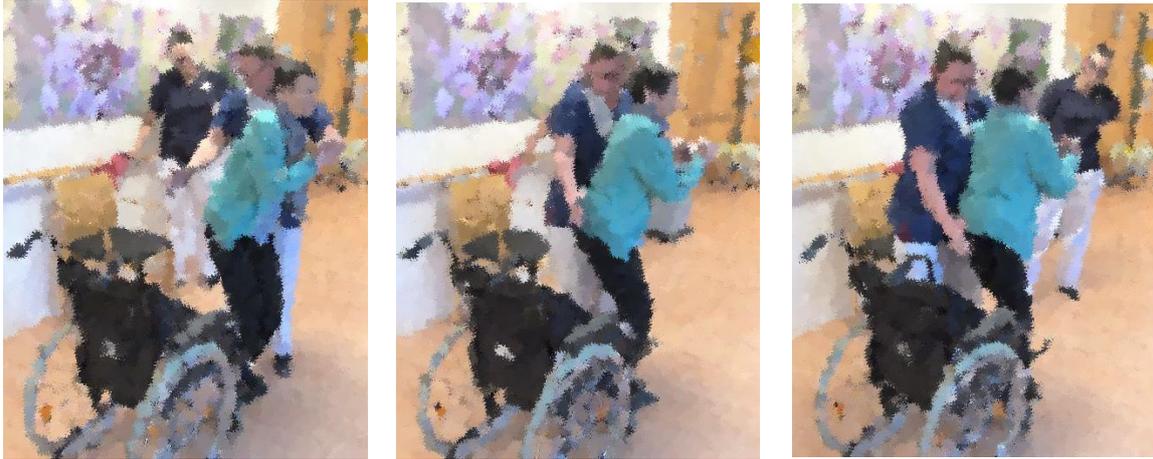
Knowing what the other knows can imply more thoroughly learning to do what he or she does, learning to apply the other's knowledge.

In some contexts, knowledge is transmitted with the purpose of delegating or sharing tasks. For example, in the field of neurological rehabilitation, physiotherapists teach caregivers in long-term medico-pedagogic institutions how to position children in mobility devices adapted to their needs. Another example is when occupational therapists teach educators how to help children eating (using adaptive devices). A physiotherapist states in an interview that teaching caregivers can help them save a great deal of time. In rehabilitation settings with shorter length of stay, physiotherapists often teach registered nurses and other care staff how to support or stimulate patients during transfers and while walking. In these situations, the reason for this knowledge transmission is not only to save time, but also to maximize the effectiveness of the rehabilitation process. Knowledge learned from each other can increase the patient's rehabilitative potential, as nurses can take a more active part in the therapeutic process. This transmission of knowledge can be both informal, when physiotherapists or occupational therapists come across colleagues in the corridors, or formal. In many neurorehabilitation institutions, training sessions are indeed organised by physiotherapists to teach nurses about transfers and mobility issues. Nurses reported in our interviews that they appreciate to learn this additional knowledge as it makes it possible for them to take an important role during the rehabilitation process.

An element that is crucial to stress regarding knowledge transmission is the necessity to be conscious of one's own knowledge. In a videotaped sequence in a rehabilitation hospital, we can see a physiotherapist teaching a caregiver how to carry out a transfer with a blind woman. The physiotherapist first shows the caregiver how to proceed. In doing so, she firmly touches the patient's buttock to make her straighten up (see pictures below).



This is a common technique for physiotherapists, part of their practical knowledge, based on formal knowledge about transfer techniques. It aims at stimulating the patient in order for her to straighten up. The physiotherapist also uses verbal instructions, by asking the patient to stretch out. In the subsequent episode, the video shows that, despite the fact that the caregiver repeats what the physiotherapist says and tries to imitate the same gestures, she does not perform the same moves: she does not touch the patient's buttocks (see pictures on next page).



We can assume that the caregiver might be more aware of the intimate character of this particular body part. For this reason, she does not put her hand on the buttock. This example illustrates that the physiotherapist's knowledge in this situation remains tacit: she is not conscious about this gesture and therefore cannot properly teach this knowledge. It is one of the properties of tacit knowledge: as Freidson (2001) puts it, it can be "unverbalized, perhaps even unverbalizable". On the contrary, what the physiotherapist says is repeated carefully by the caregiver: this knowledge is verbalized, and can therefore be transmitted.

5. Conclusions and lessons learned

Learning what the other knows in the first sense (without being able to do it) is a form of transmission of knowledge *about* the others' knowledge. In the examples discussed here, this type of knowledge transmission results in: helping not to misjudge what the other does by knowing how his knowledge is organized (and its limits); better performing one's own role (like prescribing treatments); justifying and explaining to other what a professional does. The knowledge transmitted is often practical in nature, but can also be institutionalized. In the cases presented, professionals might get a better understanding about what the other professional does⁹ by learning what the underlying knowledge is.

Our interviews further indicate that professionals perceive that knowledge transmission mostly aims, in the end, at making decisions about patient care. However, learning what the other knows in the second sense (being able to do it) can have a larger set of consequences: saving time (and money) by teaching less qualified staff; improving healthcare efficiency; increasing professionals' job satisfaction. This knowledge transmission might be achieved more easily when there are overlapping tasks between professions or when one profession is in a position of prescribing tasks to another (physicians to other health professionals; qualified professionals to semi-qualified professionals).

Finally, knowledge transmission requires professionals to be conscious of what their knowledge entails (tacit knowledge is difficult to transmit); to see other professionals as allies rather than as competitors; to admit the limits of their own knowledge, as well as to recognise underdeveloped or hidden skills in certain area.

This empirical study, which includes a large set of data collected in various regions of Switzerland, offers a deeper conceptualization and understanding of the roles of knowledge transmission in interprofessional collaborative practices. Therefore, it helps developing better skills, knowledge and attitudes for IPC.

⁹ See SAMW Charter, Article 2.

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