Received 22 January 2016
Revised 30 March 2016
Accepted 30 March 2016

Theorizing about practice: story telling and practical knowledge in cancer diagnoses

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Abstract

Purpose – This paper aims to analyze the organization of storytelling and its role in creating and sharing practical knowledge for cancer diagnosis in a medical community in Italy.

Design/methodology/approach – The qualitative analysis draws upon different interactional data sets: naturally occurring diagnostic conversations among physicians in the ward, research interviews, video-based sessions in which physicians watch and discuss their diagnostic work.

Findings – The results highlight: the specific organization of storytelling practices in medical diagnostic work; three main functions that such storytelling practices play in supporting collaborative diagnostic work in the community of our study; and how storytelling practices are resources on which participants rely across settings, including *ad hoc* reflexive meetings.

Originality/value – This paper aims to contribute to the understanding of the role that storytelling plays in the diagnostic work in an understudied and yet life-saving site such as oncology.

Keywords Storytelling, Communities of practice, Practical knowledge, Diagnostic work, Oncology

Paper type Research paper

Introduction

Our article stands at the intersection of storytelling, practical knowledge and diagnostic work by analyzing how cancer diagnoses are accomplished in a medical community in Italy.

Oncology is a particularly interesting context for analyzing diagnostic work due to its complexity and uncertainty that are related to:

(1) the multi-causality, contingency, reciprocity of factors influencing the illness and its response to treatments (Han *et al.*, 2011);

(2) the indeterminacy of future outcomes and cancer recurrence (Montgomery and Harris-Braun, 2008); and

(3) the ambiguity due to insufficient or unclear diagnostic test outcomes (Epstein *et al.*, 2010).

We aim to contribute to the literature by analyzing the role played by storytelling in creating and sharing practical knowledge during medical diagnosis in an understudied and yet life-saving site such as oncology. We rely on different qualitative data: naturally occurring diagnostic conversations between physicians in the ward, qualitative research interviews, video-based sessions in which physicians watch and discuss their diagnostic work.

Journal of Workplace Learning
Vol. 28 No. 4, 2016
pp. 174-187

1366-5626
DOI 10.1108/JWL-01-2016-0006

Our research questions are the following:

RQ1. Which functions does storytelling play in the accomplishment of the daily diagnostic work in the hospital wards well as in *ad hoc* reflexive sessions?

RQ2. How is such a storytelling organized?

RQ3. How does storytelling foster practitioners' learning of practical knowledge?

Before empirically answering these questions, we outline the relevant literature and the theoretical background of the study.

Theoretical background

In this article, we refer to medical diagnostic work as a locally situated accomplished practice.

This perspective has a key defining characteristic in its reference to the concept of practice. Whereas practice-based approaches share family resemblances, "there is no unified practice approach" (Schatzki *et al.*, 2001, p. 11), nor is there agreement on what counts as a practice (Nicolini, 2012).

Within the classical tradition (Bernstein as cited in Miettinen *et al.*, 2012), cultural–historical activity theory (Engeström *et al.*, 1999) and a sociocultural perspective on practice (Chaiklin and Lave, 1993) have focused, among other things, on work conceived as an important human activity in which people "simultaneously create both themselves and their material culture" (Miettinen *et al.*, 2012, p. 346).

We refer here to "practices" as "a set of actions" (Schatzki *et al.*, 2001, p. 56) through which doctors make diagnoses in a system of specialized medical activity such as oncology. We consider this set of actions to be situated, mediated and dependent upon the constraints and resources of the local domain of activity (i.e. oncology) (Cole, 1996; Lave, 1988).

In medical contexts, there are not "typical" cases to be diagnosed, but situations that resemble one another only partially (Toulmin, 1996). Doctors then need to consider the *family resemblances* among the varied patients' conditions, which extends beyond what was called a "theory of illness". In this light, the doctors follow a situated rationality that enables them to deal with the complexity and local specificities of their diagnostic work. This interplay among general guidelines and practical experience in medical diagnostic work is clearly stated by one of the doctors involved in our research:

> I notice when I don't know something, I go to check it, because I will be sure not to miss it […] in my opinion the good medicine is not when you are sure not to miss, when you are sure it's fine that is good medicine […] I mean when you know things so well that you don't need guidelines […] you have in mind and in practice all the possible exceptions to it, the guideline offers only a very general picture (int.1,555).

During some of the first ethnographies of medical activities, Cicourel (1985, 2002) also described the discursive strategies with which more or less experienced doctors combine formalized medical knowledge with tacit, procedural knowledge and adjust them to the patient's case (Polanyi, 1969).

In the analysis of diagnostic decision-making in routinely informal conversations among oncologists, Alby *et al.*, (2015) shows how the doctors rely on collaborative and situated practices (interpretation of the medical case at hand, generation and validation of hypotheses, postponing the diagnostic decision) for jointly managing the complexity

of their diagnostic work and avoiding or limiting errors in it. These practices allow the sharing of clinical data about the patient while allowing the maintenance and development of a repertoire of practical knowledge to which the community can refer in future diagnostic work.

Scribner's (1984) concept of practical knowledge refers to a knowledge embedded in practice, acquired through the praxis of work and through the people who knew "how to make things happen". Other authors described types of knowledge that cannot be captured, codified and stored easily. See for example the notions of "tacit knowledge" (Polanyi, 1969; Nonaka 1991), "know how" (Ryle, 1962), "discursive consciousness" (Giddens, 1982), "encoded knowledge" (Blackler, 1995) and "knowing-in-practice" (Nicolini *et al.*, 2003).

"Knowing" (and diagnostic work is a way of knowing) is practical also because it operates materially through the mediation of cultural tools (Cole, 1996; Chaiklin and Lave, 1993; Engeström *et al.*, 1999). Practical diagnostic work is embodied in routines, in categories and classification systems, in scripts and roles and in tools and artifacts that exist independently of particular actors and interactions (Little, 2012). In workplaces, tools such as "scientific concepts" (as those of medicine), evidence from the literature, specialized language and material artifacts are used "to know" and to operate in routine work activities (Engeström, 1997; Hutchins, 1993; Lave, 1993).

These studies highlight the relevance of *practical knowledge* for accomplishing medical diagnostic work. Expert doctors are able to face with the "same" problem in different ways (in other words, to recognize and diagnose them as different cases), considering current environmental limitations, local features and specific clinical informations.

Moreover, practical knowledge, routine activities and work tools are at the core of any developmental intervention that follows CHAT theoretical and methodological perspective (often realized through video-based reflexive sessions; cf. Introduction to this special issue; Engestrom 2001; Sherin and Han, 2004; Clot and Scheller, 2006).

In this theoretical landscape, diagnostic work results are located in the practices shared by a community of practitioners and considered as a collective practical accomplishment (Lave and Wenger, 1991 Brown and Duguid 1991, 2001; Gherardi, 2012; Nicolini *et al.*, 2003; Alby and Zucchermaglio, 2006).

Orr (1996), in his pioneering study in a community of Xerox copier repair technicians, showed how the diagnostic work for expert technicians was essentially a narrative work. Through joint accounts and interpretations (that Orr describes as "war stories"), technicians constructed a repertoire of distributed knowledge and pragmatic understanding that allow them to face with the uncertainty and complexity of their work.

Diagnostic work was "just weaving together a narrative" (Brown, 1999, p. 6) for explaining the machine's behavior. War stories are situated and allow to situating the expert's diagnostic work. Technicians put together fragments of past and recent stories to develop a new narrative through which making sense of machines' problems.

War stories are artifacts through which troubleshooting is shared and done. Technicians' practices becomes reproducible and reusable within their community. This common repertoire was one of the most valuable and enduring outcomes of their collaboration and a landmark of their identity as an expert community.

Since Orr's research, others studies have sustained his findings, highlighting how narratives can be resources for problem-setting and problem-solving in ongoing activities (Boden, 1994; Linde, 2001; Ochs and Jacoby, 1997; Alby and Zucchermaglio, 2006, 2007, Zucchermaglio and Alby, 2012).

To sum up, the outlined literature highlights the following key points:

- the collaborative nature of "doing diagnosis", especially in medical settings;
- the interplay between storytelling and diagnostic work; and
- the pervasivity and relevance of practical knowledge in the management of clinical cases.

Nevertheless, none of these previous studies has been focused on the role storytelling plays in the diagnostic work of medical communities and also not on the local interactional organization of storytelling practices, which will be the contribution we aim to make in this article.

Research method, data corpus and analysis procedures

The research took place in two Italian hospitals and in particular in an oncological department (OD-NRM) of a medium-size public hospital, and in the oncological department of a teaching hospital within the largest Italian University (BU-PCU).

The research project received approval from both the two hospital ethical committees and by the research ethics board of the authors' institution. Written informed consent was collected from all participants.

The analysis relies on three different types of data sets:

(1) Naturally occurring informal conversations (8 h) between an oncologist and other physicians from hematology, anesthesiology, surgery and nephrology were collected in a medium-sized public Italian hospital. The conversations were audio-recorded both in the courtyard of the hospital, where the physicians met, and in the hospital wards while the shadowing oncologists (Czarniawska-Joerges, 2007).

(2) Qualitative interviews ($n = 3$) with oncologists participating at a research project. Qualitative interview has no fixed questions, but is an "inter change of views between two persons conversing about a theme of mutual interest" (Kvale, 1996, p. 2). Each interview took about an hour and was audio-recorded.

(3) A "reflexive" session in which the participants met with the research team. During the session a "collection tape" (Jordan and Henderson, 1995) of diagnostic work and communicative events were watched, shared and discussed to foster a reflection on doctors's work routines. The session lasts about 3 h and was video-recorded.

All the video and audio recorded data were transcribed verbatim.

After recurrent and independent readings of the transcripts, we moved through the following analytic steps:

- informed by a broad understanding of the concepts of "storytelling" and "practical knowledge", we identified the storytelling practices used by doctors when jointly discussing oncological cases;
- we identified as a recurring form of storytelling practices what in Fasulo and Zucchermaglio's typologies of narratives (2008) is called a "template". Templates

are defined as pieces of condensed practical knowledge that provide rules and indications on how to handle cases similar to the one at issue[1]; and

- we analyze "template" storytelling practices taking into consideration the function in the diagnostic work of this community.

For the aims of this article, we then selected the examples that display the variety of functions found in the data. An ethnographic description is now needed for better situating and framing our analysis.

The participants as a diagnostic community

The oncologists participating in our study share a history of diagnostic interactions as the basis and the outcome of a practice of talking to each other (also across different hospitals) and sharing knowledge for diagnostic purposes. This habit to rely on what Duguid (2006) called "trusted peer group" for accomplishing diagnostic work is outlined in this brief exchange between two senior oncologists (both with more than 35 years of experience) during the reflexive session.

Extract 1

Doctor N: Do you know that I and doctor G talk very often?

Doctor G: Oh yes, more and more often

Doctor N: But even in front of patients […] […] […] (not understandable words)

Doctor G: Yes, me too, live […]

Doctor N: there is no one who has the Bible, I mean […] I prefer to speak with him (doctor G) since there is a particular respect among us, so obviously I check my opinions with him […] because it is not easy anyhow to take a therapeutic decision […] we have always many doubts, don't we?

… … … … … … … … … … …

Doctor N.: Look, between me and him it is very easy. Because I […] I mean I know what he is saying and he knows what I am intending to say […] If he says: " she has 12 linphonodes, hormone responsive ", I guess/know his thoughts very well […]

Doctor G.: Yes why I do what I am doing.

Doctor N.: I trust him […]. So I find useful his suggestion because it is coming […]. I know his cultural background.

Shortly before this exchange, the doctors agree that the majority of oncological cases they face are complex and uncertain. Cases on which the guidelines internationally developed for supporting decisions and treatment (an example of what Toulmin calls "theory of illness") do not fit perfectly (Doctor G: the uncertain cases are the majority […] […]. The very bad ones or the very good ones are easy instead).

"Speaking with the other" is described here as a routine work for facing with the uncertainty and complexity of the diagnostic work on these case. The description of how

and when this communication among physicians occurs reveals how doctors are aware of the difficulty to take the "right" decision. Doubts are always characteristics of their diagnostics practice. Doctors highlighted how their doubts are made visible also to patients: calling to each other "live" during the visit is considered as a marker of their professional and scientific competence in treating difficult cases, not of their indecision/incertitude.

This practice of referring to another doctor for overcoming the inherent difficulty of any medical diagnostic decision is based on an reciprocal and tacit knowledge of each other competences, diagnostic strategies and "cultural background" developed through a long interactional history. Diagnostic communities need time, work and regular occasions to talk and to tell stories to exist and to develop a common repertoire of knowledge and collaborative practices (Alby *et al.*, 2015).

Storytelling and diagnostic work

The analysis showed first of all that storytelling in a diagnostic work is a pervasive practice within this medical community. In what follows, we present three episodes of storytelling practices. We named each paragraph (and episode) as the "template" or condensed narrative version of practical knowledge that is formulated during the conversation.

"The chest X-ray is absolutely inadequate to make cancer diagnosis"

In the first episode, selected from the corpus of video-recorded, naturally occurring interactions, two oncologists (ONC and ONA) talk about a patient (a woman) who has a severe cough and a clinical picture that might suggest a possible diagnosis of lung cancer. ONA mentions that the radiologist prescribed a computed tomography (CAT) scans after watching the patient's X-ray. The conversation happens during a break at work, in the hospital courtyard where there is a café.

Extract 2

30 ONC: What is interesting is that it is proved (0.1) <it is proved>

31 That the chest x-ray is absolutely inadequate

32 To make cancer diagnosis

33 ONA: Of course!

34 ONC: Interestingly there was an article on radiologists

35 Two or three years ago, in which (0.1) in practice they saw

36 That the percentage of error was about twenty per cent

37 Not bad, isn'it? But what is funny is that

38 They let a board of experts to look at the x-ray

39 Radiologists, telling them to resolve the doubt, if it was cancer or not

40 (0.1) the percentage of error increased!

41 ONA: No way! ((laughs))

42 ONC: (*the x-ray*) is absolutely inadequate

To deal with the uncertain evidence of the X-ray, ONC provides a template (lines 31-32) that he frames as something of a wider epistemic interest (line 30, "what is interesting"), as it applies not only to the patient's case but to all the diagnoses of lung cancer.

The template normatively asserts that the X-ray is totally inadequate to diagnose lung cancers. This is presented as a fact, as something that has been proved (line 30).

Interestingly, ONC supports this statements with two kinds of evidence: a piece of formalized knowledge (a scientific article) that he delivers as a sort of small talk, during a casual and informal conversation within what seems to be a sort of joke about radiologists (see line 37 "what is funny" and the laughing in line 41); and a case, treated by the local radiology department, of a patient with central lung cancer (as opposed to peripheral types), whose detection is difficult not only with the X-ray but even with the CAT scan, as ONC explains in the following extract.

Extract 3

48 ONC: Right (1.0) another interesting thing was exactly about a cancer

49 Of the posterior lung (0.1) that here in radiology they said

50 Ah! this is the patient, listen to me, they made *ten x-rays*

51 Because the x-rays of this patient in practice came out that-

52 He had blood, right, (they) resulted *all* negative (0.1) this man had cancer

53 Eventually they rather did a CAT scan (0.1)

This "war story" about a contradictory situation (coughing up blood and no evidence of any problem in the imaging test) and how it was eventually interpreted (through a CAT scan) provides further evidence – this time based on ONC's (however indirect) empirical experience – against the use of X-rays in lung cancer diagnoses orienting toward alternative test options.

Interestingly, ONC supports his statement by combining scientific/formalized knowledge (the article) with anecdotal knowledge (patient with posterior lung cancer misdiagnosed in the local radiology department) to highlight the validity of such a statement in both epistemic domains.

Through this storytelling doctors build a shared practical understanding of a controversial matter which in turn results in promoting a cautious attitude toward the interpretation of imaging tests in both the case at hand and lung cancer diagnoses in general.

"The thyroid is the one thing that you always suspect and it never is"

In this episode, an oncologist (ONC) and a surgeon (SUR) discuss possible diagnoses for a patient, an 84-year-old man. They mention an initial diagnosis of adenocarcinoma

which is however considered provisional, as they immediately engage in a joint generation of alternative diagnostic hypotheses. One such hypotheses, suggested by the surgeon, is thyroid cancer, which elicits a comment by the oncologist on the diagnosis of thyroid in general.

Extract 4

17. ONC: The thyroid is the one thing that you always suspect and it n*ever* is

18. SUR: No I've seen them

19. ONC: Yes, no, me too I've seen thyroid cancers

20. But every time I started with th[yroid cancer

21. SUR: ……..[ah yes

22. ONC: All the times you thought that it was something else, that you said

23. *well let's exclude that it is thyroid* (0.2) it has never been.

24. SUR: °ah yes°(0.2) okay=okay

Interestingly the oncologist's comment is not formulated as a personal opinion but as a statement of general validity, a "normal" rule to which to refer in professional practice (turn 17, "the thyroid is the one thing that you always suspect and it never is").

Differently than the previous episode, ONC here dos not provide any "warranty" for this template. It is instead the surgeon who makes the need of some kind of evidence relevant when he rejects the assertion by citing his experience (turn 18).

This leads to a more detailed, limited and contextualized reformulation by the oncologist (turns 19-24), with which the surgeon agrees. The oncologist, who now again speaks in first person, makes it clear that only in the cases in which thyroid cancer was a residual hypothesis, then the diagnostic work has always confirmed that it was something else.

The normative character of diagnosis is built in contested interactions like these, in which, as we see, the agreement is not granted, but requires sharing and negotiating a practical knowledge and the beliefs that shape it.

"A case is not enough to build a theory"

The next episode is taken from an interview with an oncologist who tells the story of a patient with severe pancreatic cancer that was considered incurable by his doctor and also by the oncologist himself. However, due to the insistence of the patient's daughter, the oncologist prescribes a treatment after which, against any expectation, the patient recovered. This outcome is so counterintuitive that the oncologist almost doubts the diagnosis of cancer (which he regrets he did not double-check with a histological examination). However, as this "war story" is not supported by other similar experiences and its reconstruction remains unclear, it is not considered as knowledge that can be generalized and taken as a guide for future action, "a case is not enough to

build a theory" as ONC puts it. In future similar occasions, the oncologist will continue to recommend no treatments.

Extract 5

> ONC: […] this patient was introduced to me from- what's his name? from a colleague, a cardiologist. He tells me please, look at this patient, because they don't want to treat him. The daughter came over. This patient had a pancreatic cancer with massive liver metastases. He had a hearth attack, and the oncologist who was following him decided not to treat him. I say look, in my opinion, he was right. It is useless that- Ah no, you must absolutely to do something, you must to do something […] I say look we do the treatment without the histological test, because you see it, it is a pancreatic cancer as big as that, liver metastasis, typical tumor markers of a pancreatic cancer, let's skip the biopsy because that is what he has. […] This man does the chemotherapy, everything disappears, five years ago we suspend any treatment, and this man is alive and well. Now, why he is alive and well I don't have a clue. I regret I did not make the histological test.
>
> RESEARCHER: Do you mean that it might not have been a cancer?
>
> ONC: Look, it was. It was. But on these cases I can't- you understand that this is not a case on which I can build a theory. I can't say all (the cases) that I see like this one I do like that because this one went well. No. This would be a mistake. Next time that (a patient) comes to me again, I give him the same speech as I did before.

This episode well shows the interconnection between storytelling, practical knowledge and diagnostic work as well as the careful, cautious process through which practitioners reflect on their practice and build "scripted" knowledge to be used in future occasions. We can imagine that this could be the very beginning of a process on the top of which other patients' cases will provide further understanding, creating eventually the grounds for a rule-shaped formulation to be used in similar situations. Again the focus of the account is on a contradictory state of affairs, that here remains so but it is however noticed and collected as evidence. In this story, uncertainties and contradictions in medical practice are not solved or hidden, but are instead preserved and kept available through the doctors' shared stories' repertoire. With their atypical character, these kinds of war stories are an important resource for managing the many non-standard cases in which the guidelines cannot be followed.

A "reflexive" session with research participants

In this paragraph, we analyze how storytelling fosters the sharing of practical knowledge for diagnostic purposes also in dedicated reflexive sessions.

In line with CHAT theoretical lenses that posit that learning takes place through collective activities conducted around a common object (Engeström 2001), the research team met with the six oncologists/research participants to watch and discuss video-recordings (and transcripts) of their diagnostic work and communicative practices.

Rather than introducing knowledge "from outside", video-recordings of practitioners' work were used as a resource for promoting reflection and awareness in this medical community (Engeström, 2000, 2005, Jordan and Henderson, 1995).

The possibility of seeing themselves "in action" and engaging in collaborative reflection allowed self-distanciation and made them gain critical insights into their diagnostic work.

Video was used as a material reference by participants for discussing preferences, articulating knowledge, self-critical experience, rephrasing questions, resituate practices and for imagining alternatives of actions.

Moreover, the session was an occasion for making explicit what is often tacit knowledge, which was particularly useful to the junior oncologists, as showed in the next example.

After watching two video sequences, participants are comparing and discussing the different communicative practices used by the two senior oncologists to quantify for both their (high risk) patients the risk of cancer reoccurrence. A junior oncologist (Doctor E) asks about the "best" communicative choice in similar cases.

Extract 6

> Doctor E: During the visit one of you say there is X risk and the other say there is risk 50 per cent […] I mean, which is the best thing to say?
>
> Doctor N: For me it was easy to quantify the risk because (the cancer) was outermost […][…] 12 linphonodes.
>
> Doctor G: Oh yes, the triplenegative one is more difficult […][…] (patient) was a triplonegative with negative linphonodes

Both senior oncologists' answers were anchored to their different ways of doing diagnosis of the patient. Moreover, both the oncologists call into question the need of taking into account the tumor's biological characteristic for diagnosing and communicating risk's reoccurrence: with a patient with 12 linfhonodes risk is easily assessed and communicated (Doctor N), whereas with a Triplonegative cancer patient, the risk is much more difficult to communicate (doctor G.).

Both oncologists describe how they communicated the risk to the patients using pieces of condensed practical knowledge, which were very similar to the storytelling practices we have described in the previous paragraphs. These practices allow doctors to move from the particular case to more general rules and indications on how to handle similar cases.

The novice's question triggers the need for senior oncologists to make explicit the practical knowledge they are using in their daily work, making it accessible, questionable and comparable.

Furthermore, the junior oncologist (as well as the other participants) is exposed to different ways of diagnosing and communicating such sensitive information to patients. Conversely, knowing how to formulate risk communication taking into account the specific case at hand is a marker of expert practical knowledge.

Discussion and conclusion

Our article has contributed to fill the gap in the literature by providing an empirical analysis of how storytelling is constitutive of the situated and practical rationality that informs doctors' diagnostic work both in the hospital wards and in dedicated reflexive sessions.

Storytelling not only helps with the diagnosis of the case at hand but also produces shared practical knowledge and template for future diagnostic actions in a branch of medicine, such as oncology, characterized by high levels of complexity and uncertainty.

The analysis highlights that storytelling covers three main functions in daily diagnostic work:

(1) it provides a guide for diagnostic action;

(2) it helps to manage contradictory evidence in diagnosis; and

(3) by moving from the particular case to more general statements, it suggests experience-based theories and normative practices to be negotiated within diagnostic conversations.

In this diagnostic storytelling, patient cases are juxtaposed to condensed versions of experience ("templates"). Patient cases provide evidence and account for the knowledge and normative practice summarized in the template. In some of the episodes, we also observed how conflicting or insufficient evidence has a direct impact on such accountability, contesting or preventing the acknowledgement of a clear practice to follow. Joint diagnostic conversations and the collective reflection on diagnostic work play a relevant role not only in creating the opportunity for such templates to be formulated but also in testing them against the experience of others, to check their plausibility.

Doctors deal with the limits of medical knowledge by sharing experiences and engaging in joint interpretations of controversial matters, thereby reducing the possibility of making diagnostic errors. In this way, doctors go beyond the local case and jointly build more general rules of conduct to be used in similar ill-structured situations. By jointly "theorizing" about their practice and their past experiences, doctors deal with the contradictions, conflicting evidences and uncertainties inherent to their diagnostic work in a way that takes into account local constraints, different kinds of knowledge and limits in what they can know.

Although our study was limited to one medical community, our results can still contribute to the literature on practical knowledge and storytelling practices, by highlighting:

- the specific "template" organization of storytelling practices in medical diagnostic work;
- three main functions that such storytelling practices play in supporting collaborative diagnostic work in the community of our study; and
- how storytelling practices are diagnostic resources on which participants rely across settings, including informal everyday interactions, research interviews and *ad hoc* meetings.

We showed that practical knowledge is publicly and discursively displayed also during such meetings. We do not know if that resulted in fostering practitioners' learning in the medical community involved in the study. However, it is worth noticing the connection between the joint reflection on video-recorded diagnostic work and the co-drafting and production of condensed stories of practical knowledge. Further studies could analyze the relation between storytelling, learning and changing work routines through video-based reflexive sessions.

Although more studies are needed, based on what we found, we suggest that storytelling could be a powerful device to be used in educational activities for medical students, as it allows access to diagnostic conversations informed by practical knowledge.

Note

1. Fasulo and Zucchermaglio's (2008) other typologies of narratives are: "Rewindings" in which the informers' recruitment provides antecedents to an unclear situation or element of the present; and "Fictions" as the collaborative drafting of hypothetical behavior in the planning of future actions.

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