

Metacommunication Patterns in Online Communities

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Abstract. This paper discusses about contemporary literature on computer-mediated metacommunication and observes the phenomenon in two online communities. The results contribute by identifying six general-level patterns of how metacommunication refers to primary communication in online communities. A task-oriented, user-administrated, community (Wikipedia in Finnish) involved a remarkable number of specialized metacommunication genres. In a centrally moderated discussion-oriented community (Patientslikeme), metacommunication was intertwined more with primary ad hoc communication. We suggest that a focus on specialized metacommunication genres may appear useful in online communities. However, room for ad hoc (meta)communication is needed as well, as it provides a basis for user-initiated community development.

Keywords: Online community, metacommunication, genre, computer-mediated communication.

1 Introduction

Online communities emerged as a field of study in the mid-1990s [e.g., 1]. If contrasted to computer-mediated communication (CMC) in organizational workgroups, online communities typically facilitate social interaction, involve large groups of people, and evolve ad hoc [2]. Moreover, they are less time-focused than ordinary work groups, the participants may be widely distributed, participation is open to a wide variety of people over the Internet, and the participants have heterogeneous skills [2]. Online communities have been categorized into four types: communities for discussion or conversation (satisfying the need for communication), task- and goal-oriented communities (satisfying the need for achieving goals cooperatively), virtual worlds for fantasy and playing, and hybrid communities, which integrate more than one of the above-mentioned types [3].

Alike CMC in general [4, 5], online communities represent a challenge for system designers [6]. One means suggested for understanding new CMC practices better is explicit analysis of metacommunication [4, 5], i.e. “communication that refers to other communications” [7]. However, as illustrated below, a dearth of studies on metacommunication in the field of CMC continues in general, let alone on online communities in particular.

Hence, we posed the question: “What metacommunication exists in online communities?” This paper focuses on textual-asynchronous communities, leaving the virtual worlds and hybrid communities as a matter of future studies. We reviewed contemporary literature of metacommunication and CMC and analysed further two online communities: a discussion-oriented Multiple Sclerosis (MS) community on the Patientslikeme website and the Finnish language Wikipedia representing the task-oriented community type.

The article is structured as follows. Section 2 discusses metacommunication literature in the field of CMC. Section 3 illustrates metacommunication examples found in two online communities. Chapter 4 discusses our contributions and suggests future avenues for design and research. Chapter 5 summarizes our conclusions.

2 Metacommunication in the CMC Literature

Gregory Bateson popularized the term metacommunication, initially in the field of psychiatry [8]. Later on, he distinguished between two metacommunication types [9]. Wilmot clarified and extended Bateson’s view by naming the two metacommunication types as episodic and relational [10]. The former type defines meanings of an utterance or about the communication process, e.g. “this message is a joke”. The latter defines relationships between the participants of communication, e.g. “I am the one who can tell jokes here, not you” [9]. Once a relationship has been explicitly referred to, the definition frames the subsequent communications [10].

To get an overview of metacommunication research concerning CMC, we conducted a search from the EbscoHost database including the keywords ‘metacommunication’ or ‘meta-communication’. We got 334 hits. A wide research tradition on metacommunication has focused on the psychological and medical fields, and on spoken communication. Only 5 % of the hits (18) referred to any context of CMC. Four articles [11, 4, 5, 12] focused on metacommunication utterances as the unit of analysis, being directly related to our research. Through analysing their references, we were able to find additional literature of relevance. However, the field of studying computer-mediated metacommunication seems still to be in its infancy if compared to communication studies in general.

Takeuchi et al. highlighted the analytical distinction between computer-supported metacommunication utterances and the primary content of discussion [11]. Their work identified the importance of metacommunication for enhancing awareness and maintenance of the communication context in general with regard to computer-mediated meetings. This is necessary especially in less pre-structured communicative processes, such as Japanese meetings [11].

Reported examples of metacommunication largely refer to particular utterances of the primary communication, often intertwined with the primary content of communication. Tanskanen [5] poses a number of examples where particular asynchronous textual utterances can even refer to themselves retrospectively, in the middle of the message, or prospectively.

Yetim [4], building upon Päivärinta [13] and Ulrich [14], discusses metacommunication as a means for discursive-ethical reflection on and elaboration of *genres* of (primary) communication. A genre of communication is a recurring communicative action within a community, which has a more or less shared purpose and form [15].

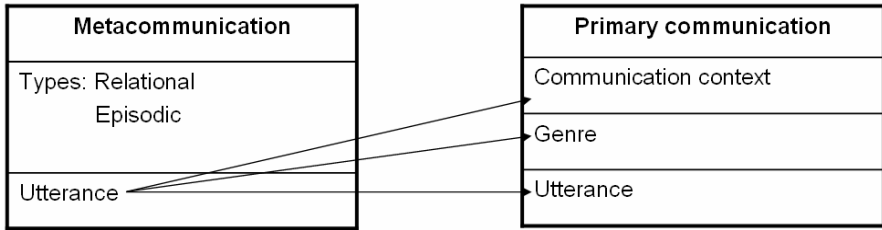


Fig. 1. Metacommunication patterns identified in the CMC literature

Bergquist and Ljungberg [16] had recognized that many e-mail messages discussed about use of particular genres, which were already known to the communicators. That is, in addition to reflecting plainly on individual utterances, metacommunication can legitimate and elaborate genres of communication within a community. The phenomenon was also recognized in an online community of *Bulimia Nervosa* patients, where some metacommunication threads could deal with the methods of communication between members, in addition to reflecting on particular utterances [12]. Yetim [4], as well, identifies that metacommunication to legitimate genres and their instances may take place episodically; *ex ante*, during, and *ex post* in relation to the referred communicative utterances.

Metacommunication can refer also to the communication context in general, beyond particular primary utterances or genres. Hoppenbrouwers and Weigand [17] give an example where norms for using e-mail in general as a medium were discussed. The idea of relational metacommunication [10] seems also to refer to the communication context and stakeholder relationships beyond particular utterances or genres.

Figure 1 summarizes the metacommunication patterns found in the reviewed literature. We identified that metacommunication utterances could reflect on particular utterances, genres or the whole primary communication context. Metacommunication utterances could appear as relational, focusing on stakeholder relationships in the communication context, or episodic, relating temporally to particular communication utterances, genres, or some elements of the context (e.g. media).

3 Metacommunication in Two Online Communities

We chose two online communities that represent the task-oriented and the discussion-oriented archetypes, in order to observe potential variation in metacommunication between two theoretically differing communities. The Multiple Sclerosis (MS) community within the Patientslikeme (PLM) website represents a discussion-oriented community. This site describes itself as “a treatment, symptom and outcome sharing community for patients with life-changing conditions”.¹ PLM started in 2005 and the PLM Multiple Sclerosis community is the most popular subcommunity on the site, involving ca. 11.000 registered members.² Wikipedia in Finnish represents a

¹ <http://www.patientslikeme.com/help/faq/Corporate> (February 27 2009)

² <http://www.patientslikeme.com/multiple-sclerosis/community> (February 27 2009)

task-oriented online community. The Finnish Wikipedia consists of more than 195.000 encyclopedia articles.³

The data collection method was participant observation. The selection of the sites was based on personal interests and partially on previous involvement – the analysed communities were familiar to the authors over a longer period of time. The first author registered to PLM in Spring 2008 and has followed on-going conversations on the MS community since then. The second author has been an active contributor to the Finnish Wikipedia since Spring 2007, with more than 10000 edits on the article space and a number of discussions and other community pages. However, we chose not to analyse our own contributions to the communities. The data analysis could be labelled as a variation of qualitative content analysis [18]. We scanned through communicative utterances on the sites, focusing of utterances of/including metacommunication.

To report our analysis, we first summarize the resulting framework (Figure 2) revised from the literature review phase (cf. Figure 1), after which we give examples of different patterns of metacommunication observed during the analysis.

The both communities involved genres of (primary and meta-) communication enacted by the users, as well as forums for more ad hoc conversation, where communication does not necessarily follow pre-defined genres [cf. 16]. However, ad hoc conversation seems to form over time some genre-like features on communication and metacommunication. An utterance of metacommunication could appear as a part of ad hoc conversation. That is, both primary communication and metacommunication may appear simultaneously within a single message posted to a discussion. In PLM, these aspects were often interrelated. Sometimes, however, metacommunication had been shaped already towards clearly identifiable genres within and beyond the community in question. This was especially the case in Wikipedia, where many such genres were shared within the site and also across the different language versions.

All in all, we found six patterns of how metacommunication could refer to other communications (Figure 2). It could refer to:

1. user relationships and roles at the level of the whole community,
2. the information structure, communication practices and other issues at the level of the whole community,
3. (other) metacommunication genres and patterns,
4. (other) individual metacommunication utterances,
5. genres to organize the primary communication, and
6. individual utterances of primary communication.

As an example of **Pattern 1**, Wikipedia's "Requests for comments"⁴ can relate e.g. to a dispute between two users. (A such request can also relate to a particular article, representing pattern 6). For example, in a request for a comment concerning users 'Klassikkomies' and 'Agony', a few suggestions to solve the dispute were expressed, including suggestions to ban one of them. If a dispute is not solved through discussion and voting, an extreme case can lead to a decision request from the arbitration committee ("Välityslautakunta"). So far only one dispute, concerning users 'Watti' and 'Klassikkomies', has been handled by the arbitration committee in the Finnish

³ <http://fi.wikipedia.org/wiki/Wikipedia> (March 1 2009)

⁴ <http://fi.wikipedia.org/wiki/Wikipedia:Kommenttipyynt%C3%B6> (February 27 2009)

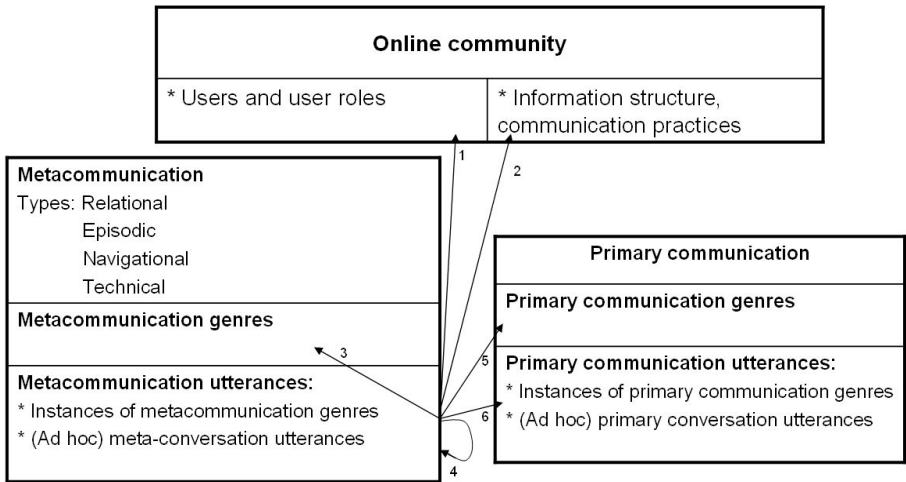


Fig. 2. Six patterns of metacommunication in two online communities

Wikipedia, in April-May 2008.⁵ These examples represent metacommunication genres shared among different language versions of Wikipedia, e.g. in the English Wikipedia. A more typical example is the voting genre on appointing the administrator rights.⁶

In PLM the thread “Reminder, PLM is a marketing tool, as well as help for us”⁷, by user ‘Fruebie’, discusses the purpose of the community and how users should relate to it. ‘Fruebie’ manifests distrust towards the company behind the PLM site. She dislikes the economic model; to sell user-contributed data about the disease. User ‘Grace53a’ replied: “May I respectfully disagree? In my case, there just aren’t enough viable maintenance treatments out there, and if selling my information to a drug company or concerned party will help to alleviate that situation, then I am all for it”.⁷

As an example of **Pattern 2**, the thread “The unwritten rules of PLM...”⁸ discusses about wanted and unwanted communication behaviour. Paradoxically, the unwritten rules became more explicit at the very moment user ‘ender•’ started the thread. It attracted 35 replies, mostly short supportive messages. Some replies questioned the “unwritten rules”, especially concerning the thin line between something being either unwanted spam or information about a useful product/website.

In Wikipedia, a good number of pages refer to the structuring of information and help the user e.g. to navigate on the site as a whole. The main site with its menu structures⁹ is perhaps the most obvious example. A few pages structuring other Wikipedia

⁵ http://fi.wikipedia.org/wiki/Wikipedia:V%C3%A4lityspyynn%C3%B6/Watin_ja_Klassikkomien_v%C3%A4linen_kiista (February 27 2009)

⁶ http://fi.wikipedia.org/wiki/Luokka:Arkistoidut_yll%C3%A4pit%C3%A4jyys%C3%A4%C3%A4nestykset (February 27 2009)

⁷ <http://www.patientslikeme.com/forum/show/12553> (February 27 2009)

⁸ http://www.patientslikeme.com/forum/show/28839?post_id=371587 (February 27 2009)

⁹ <http://fi.wikipedia.org/wiki/Wikipedia:Etusivu> (February 27 2009)

pages, such as Help:Contents (“Ohje:Sisällys”)¹⁰, list other instructional and policy pages. Episodic metacommunication may also be descriptive. For example, user ‘Yst. Terv. Teidän Vaude’ states a question of “How was the Finnish Wikipedia in the beginning?”¹¹ and gets a few answers. This takes place in the misc-category of the general-level discussion forum, which includes metacommunication about various articles, practices, policies, users, and other Wikipedia-related issues which do not fit in the other discussion categories.

Metacommunication can also be of technical kind. The PLM thread “Site will be down Monday at 10:30 am EST for 30 minutes”¹² is clearly technical and metacommunicative, referring to the whole communication platform.

Pattern 3 type of metacommunication utterances and genres refer to other genres of metacommunication. For example, user ‘Quinn’ in Wikipedia opened a discussion about how big percentage of votes would be needed to re-publish an article, which has previously been voted as non-significant and removed.¹³ The policy for Wikipedia user pages¹⁴ is an example of a metacommunication genre which instructs the user about the recommendations for creating his or her own user page. This policy exists in several Wikipedia language versions.

A PLM thread “How to earn Profile Stars and a PatientsLikeMe t-shirt!”¹⁵, by the community manager ‘thorgan’, describes what the Profile Stars are and how users can earn them. Profile Stars are a part of each user’s profile. The use of stars within PLM has become a ubiquitous metacommunication genre. The first star is “Background star”, granted when a user has shared basic information about her. The second is “Current star”, granted after a user has shared information about her current treatments, symptoms and outcomes. The third star is “Completeness star”, given to a user when she has contributed enough level of informational detail from her whole treatment history. The full three star rating enables a user to receive a free PLM t-shirt, a motivational gift from the company to new users. A few message threads described this t-shirt as a status symbol, which users wear at real-life PLM user gatherings and doctor’s appointments.

A metacommunication utterance can also refer directly to another metacommunication utterance (**Pattern 4**). In Wikipedia, user ‘Japsu’ informs user ‘Klassikkomies’ in the discussion page of his user page¹⁶ that a request for comment about him has been opened, referring to it through a link¹⁷.

¹⁰ <http://fi.wikipedia.org/wiki/Ohje:Sis%C3%A4llys> (February 27 2009)

¹¹ [http://fi.wikipedia.org/wiki/Wikipedia:Kahvihuone_\(sekalaista\)#Millainen_suomenkielinen_Wikipedia_oli_alkuaikoinaan.3F](http://fi.wikipedia.org/wiki/Wikipedia:Kahvihuone_(sekalaista)#Millainen_suomenkielinen_Wikipedia_oli_alkuaikoinaan.3F) (February 27 2009)

¹² <http://www.patientslikeme.com/forum/show/35753> (February 27 2009)

¹³ [http://fi.wikipedia.org/wiki/Wikipedia:Kahvihuone_\(k%C3%A4ytt%C3%A4nn%C3%B6t\)/Arkisto24#Artikkelin_palauttamiseen_vaadittava_prosenttiosuus](http://fi.wikipedia.org/wiki/Wikipedia:Kahvihuone_(k%C3%A4ytt%C3%A4nn%C3%B6t)/Arkisto24#Artikkelin_palauttamiseen_vaadittava_prosenttiosuus) (February 27 2009)

¹⁴ <http://fi.wikipedia.org/wiki/Wikipedia:K%C3%A4ytt%C3%A4j%C3%A4sivu> (February 27 2009)

¹⁵ http://www.patientslikeme.com/forum/show/4357?post_id=33638 (February 27 2009)

¹⁶ http://fi.wikipedia.org/wiki/Keskustelu_k%C3%A4ytt%C3%A4j%C3%A4st%C3%A4:Klassikkomies#Kommenttipyynt.C3.B6 (February 27 2009)

¹⁷ http://fi.wikipedia.org/wiki/Wikipedia:Kommenttipyynt%C3%B6/K%C3%A4ytt%C3%A4j%C3%A4_Klassikkomies (February 27 2009)

Several metacommunication utterances and genres referred to genres of primary communication (**Pattern 5**). In Wikipedia, any policy or guideline on the article genre can be located in this category, such as the instructions for article layout¹⁸, which exists in a great number of Wikipedia language versions. A good number of various instructions has been created for varying aspects of writing articles.¹⁹

In PLM, the thread “Too much OT”²⁰, started by user ‘garlicfrau’, refers to various off-topic (OT) discussion threads. Interestingly, off-topic discussion threads seem to have become an independent communication genre in PLM over time. Everyone who starts a new off-topic discussion thread tags it as ‘OT’. ‘Garlicfrau’ found this communication genre generally annoying and irrelevant. Some people however disagreed with her, regarding a reasonable amount of off-topic communication as a balancing element of fun among the serious disease-related threads.

Finally, a great proportion of metacommunication related to the actual instances of primary communication (**Pattern 6**). In Wikipedia, examples include the discussion sites for each article (e.g., discussion about adequate naming of the article about Dima Bilan, a Russian singer²¹). As well, a discussion forum entry for language issues may refer to individual articles as examples of a linguistic issue.²²

The “thumb up” –icon in PLM represents also pattern 6. The thread “The Introduce Yourself -post for new members...”²³ had received a total of 731 thumbs up – and a total of 677 replies where new users have introduced themselves.

The above-mentioned off-topic messages in PLM represent an interesting example of metacommunication leading to changes in design over time. A system for tagging message threads was introduced in October 2008 to serve as a way of indicating the content of a topic.²⁴ In January 2009 user ‘garlicfrau’ claimed that the forum includes too much off-topic conversation.²⁵ In February 2009 a new functionality feature, “off-topic filter”, was introduced to the community platform.²⁶ This feature allows every user to choose whether they would like to read off-topic threads, or filter them out to make navigating the forum easier.

All in all, especially Wikipedia involved a rich structure of metacommunication which also refers to other metacommunication in addition to the actual genres and utterances of the primary communication. The PLM site involved more casual conversation. That is, metacommunication by the ordinary users (beyond the moderator instructions to users) in PLM appeared more intertwined to ad hoc communication entries and less organized.

¹⁸ http://fi.wikipedia.org/wiki/Ohje:Artikkelin_rakenne (February 27 2009)

¹⁹ <http://fi.wikipedia.org/wiki/Ohje:Tyyliopas> (February 27 2009)

²⁰ <http://www.patientslikeme.com/forum/show/35701> (February 27 2009)

²¹ http://fi.wikipedia.org/wiki/Keskustelu:Dima_Bilan (February 27 2009)

²² [http://fi.wikipedia.org/wiki/Wikipedia:Kahvihuone_\(kielenhuolto\)#.E2.80.9DHerson.E2.80.9D_vs._.E2.80.9DH.27erson.E2.80.9D_-_ven._nimien_kirjoittaminen](http://fi.wikipedia.org/wiki/Wikipedia:Kahvihuone_(kielenhuolto)#.E2.80.9DHerson.E2.80.9D_vs._.E2.80.9DH.27erson.E2.80.9D_-_ven._nimien_kirjoittaminen) (February 27 2009)

²³ <http://www.patientslikeme.com/forum/show/19467> (February 27 2009)

²⁴ <http://www.patientslikeme.com/forum/show/27380> (February 27 2009)

²⁵ <http://www.patientslikeme.com/forum/show/35701> (February 27 2009)

²⁶ <http://www.patientslikeme.com/forum/show/37782> (February 27 2009)

4 Discussion

Already our brief analysis implies a few contributions to the previous literature of metacommunication and implications for research and design of online communities.

Our analysis illustrates that metacommunication can be conducted through specialized genres in itself (in addition to just referring to the genres of primary communication). In fact, metacommunication in Wikipedia has evolved to a rich and complex information structure with a great number of metacommunication genres aside the primary encyclopaedic content. This observation contributes to the recent literature of metacommunication in the field of CMC and online communities, which have mostly discussed about metacommunication at the level of metacommunication utterances, or categorizing metacommunication types only at an abstract level into the episodic and relational types *à la* Bateson and Wilmot. PLM involved some metacommunication genres as well. These were largely enacted by the site administrators, whereas metacommunication produced by the ordinary users took place mainly in the middle of the ad hoc conversation on the discussion forum. This had led to a different “design” of user-initiated metacommunication, highlighting tagging of individual messages (e.g., the “off-topic” tag) to help the users to comprehend particular messages, to navigate, and to categorize the content.

As well as genres of primary communication can be continuously enacted, discussed about, elaborated and (re)designed within a community [19], metacommunication genres alike can become a target of more explicit design. Such design and enactment processes of metacommunication can be conducted either by all community members (as ideally in Wikipedia) or by a group of specialist designers.

Future research is needed on whether existence of numerous metacommunication genres would be a feature of task-oriented online communities in general, or whether it would be more dependent on the administration and moderation structures of the community. We can actually hypothesize that both task-orientation and community-initiated moderation structures (if opposed to more fixed moderator-user relationships in commercial communities such as PLM) can facilitate the community to enact more specialized genres of metacommunication over time. That is, if the general-level task of the community can *per se* be a legitimate subject for continuing conversation and re-formulation (as in some goal-oriented communities), it legitimates use of energy to coordinate the task in detail through well-defined metacommunication genres. On the other hand, if the community has a power structure where its moderators do not necessarily represent the typical users, the users may still metacommunicate through channels of the primary communication. The dedicated metacommunication genres may remain under the sole control of moderators for a longer time as one-directional coordination structures. Of course, a democratic and ultimately user-moderated community (such as Wikipedia), in itself creates a need for a set of metacommunication structures through which to challenge actions of individual users, moderators, and administrators in an on-going manner.

In addition to the traditional episodic and relational types of metacommunication, online communities seem also to generate new metacommunication types which often refer to the community in its contemporary shape as a whole. Such examples include metacommunication to help user navigation across the cumulated and stored content base and technical metacommunication informing the stakeholders about the contextual functioning of the site in question.

More research is needed on how metacommunication may actually impact design of online communities over time. In PLM, emergence of the “off-topic” tag facilitated to establish the off-topic filter. Hence, metacommunication in this case first led to use of the tag which users habitually added to “off topic” messages. Finally, it led further to a new functionality on the community platform, which utilized the widely adopted tag. In Wikipedia, a big part of functionality development takes place in specialized technical user forums. These may simultaneously cover several language versions, where new suggestions of improved functionality are discussed and eventually taken into use through a screening process participated by technically oriented Wikipedia (and Wikimedia) contributors. In the future, we pursue a longitudinal analysis of metacommunication impacts on online community designs. Making design impacts of alternative metacommunication patterns more explicit and identifying the influential patterns in successful online communities might move the contemporary craft of designing online communities towards a more disciplinary field of expertise.

In light of the previous literature, our analysis of only two online communities could reveal flourishing metacommunication structures and patterns. However, we have left the virtual worlds and hybrid online communities still undiscussed. Hence, we cannot claim that the six metacommunication patterns would represent a complete view on the phenomenon. The implications of this pilot study need to be validated with a greater number and variance of online communities.

5 Conclusion

We identified six patterns of how metacommunication refers to other communication in online communities and illustrated those with examples from a task-oriented and a discussion-oriented community. The patterns and metacommunication types identified through our analysis of previous literature and in the two target communities complement previous discussions about metacommunication in the field of CMC. While metacommunication may refer to varying levels and issues of the primary communication, it may also refer to itself, and furthermore form genres of metacommunication. We argue that metacommunication genres and patterns in online communities represent an interesting field of further research which has potential to contribute to our understanding of online communities in general and explication of design knowledge in the field. However, although we may hypothesize that specialized metacommunication genres may improve design of online communities; room for ad hoc (meta)communication is needed as well, as it provides a platform for user-initiated developments in the first place.

References

1. Baym, N.K.: The Emergence of Community in Computer-Mediated Communication. In: Jones, S.G. (ed.) *Cybersociety: Computer-Mediated Communication and Community*, pp. 138–163. Sage, London (1995)
2. De Souza, C.S., Preece, J.: A Framework for Analyzing and Understanding Online Communities. *Interacting with Computers* 16(3), 579–610 (2004)

3. Stanoevska-Slabeva, K.: Toward a Community-Oriented Design of Internet Platforms. *Int. J. Electron Commerce* 6(3), 71–95 (2002)
4. Yetim, F.: Acting with Genres: Discursive-Ethical Concepts for Reflecting on and Legitimizing Genres. *Eur. J. Inform. Syst.* 15(1), 54–69 (2006)
5. Tanskanen, S.-K.: Metapragmatic Utterances in Computer-Mediated Interaction. In: Bublitz, W., Hübler, A. (eds.) *Metapragmatics in Use*, pp. 87–106. John Benjamins, Amsterdam (2007)
6. Ludford, P.J., Cosley, D., Frankowski, D., Terveen, L.: Think Different: Increasing Online Community Participation Using Uniqueness and Group Dissimilarity. In: *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, pp. 631–638. ACM, New York (2004)
7. De Vito, J.: *The Interpersonal Communication Book*, 9th edn. Addison-Wesley, New York (2001)
8. Bateson, G.: Information and Codification: A Philosophical Approach. In: Ruesch, J., Bateson, G. (eds.) *Communication: The Social Matrix of Psychiatry*, pp. 168–211. W.W. Norton, New York (1951)
9. Bateson, G.: *Steps to an Ecology of Mind*. University of Chicago Press, Chicago (1972)
10. Wilmot, W.W.: Metacommunication: A Re-examination and Extension. In: Nimmo, D. (ed.) *Communication Yearbook*, vol. 4, pp. 61–69. Transaction Publishers, New Brunswick (1980)
11. Takeuchi, K., Takagi, H., Nagata, M.: Computer-Supported Meta-Communication Analysis of Meetings. *J. Organ. Comput. Electron. Commerce* 7(1), 1–15 (1997)
12. Wesemann, D., Grunwald, M.: Online Discussion Groups for Bulimia Nervosa: An Inductive Approach to Internet-Based Communication between Patients. *Int. J. Eat. Disord.* 41(6), 527–534 (2008)
13. Päivärinta, T.: The Concept of Genre within the Critical Approach to Information Systems Development. *Inform. Organ* 11(3), 207–234 (2001)
14. Ulrich, W.: A Philosophical Staircase for Information Systems Definition, Design, and Development. *J. Inform. Tech. Theor. Appl.* 3(3), 55–84 (2001)
15. Yates, J., Orlikowski, W.J.: Genres of Organisational Communication: A Structural Approach to Studying Communication and Media. *Acad. Manag. Rev.* 17(2), 299–326 (1992)
16. Bergquist, M., Ljungberg, J.: Genres in Action: Negotiating Genres in Practice. In: *Proceedings of the Thirty-Second Annual Hawaii International Conference on System Sciences [CD-ROM]*, vol. 2. IEEE Computer Society, Washington (1999)
17. Hoppenbrouwers, S., Weigand, H.: Meta-communication in the Language Action Perspective. In: *Proceedings of the 5th International Workshop on the Language-Action Perspective on Communication Modelling (LAP 2000)*, pp. 131–149. RWTH Aachen, Aachen (2000)
18. Krippendorff, K.: *Content Analysis: An Introduction to Its Methodology*, 2nd edn. Sage, Thousand Oaks (2004)
19. Yates, J., Orlikowski, W.J., Okamura, K.: Explicit and Implicit Structuring of Genres in Electronic Communication: Reinforcement and Change of Social Interaction. *Organ. Sci.* 10(1), 83–103 (1999)