Philipp Dreesen and Julia Krasselt

21 Exploring and analyzing linguistic environments

Abstract: This chapter introduces a discursive perspective on the communicative environment of organizations and demonstrates how applied discourse linguistics and management partners can jointly explore discourses in order to improve how stakeholders can be addressed. The approach is illustrated by a case study on the communication management of energy discourses in Switzerland. Even if there are only a few transdisciplinary approaches to discourse analysis, it is shown how applied linguistics could offer its data-driven perspective to change the digital practices of management communication. After presenting key theoretical assumptions, the first part of this chapter deals with the practitioners' tasks from a transdisciplinary perspective. As for the second part, it shows how to cope with them by using applied discourse linguistics, which is shown in the conclusion as a way to change the practice of management communication.

Keywords: discourse linguistics; corpus linguistics; transdisciplinarity; simulation; patterns of language use

The chapter begins with an introduction to environment, discourse, and organization (1) and points out potential misunderstandings in the cooperation between practice and science (2 and 3). Since such cooperation is difficult and is therefore often avoided, an excellent opportunity is presented to develop new perspectives and solutions for problems of actor positioning in discourses (4). The research method *Applied Linguistics Discourse Analysis* helps by providing exemplary evidence for an implementation of the four modules: modeling, measuring, interpretation, and simulation (5). The chapter ends by showing which changes in practices of management communication are required (6).

1 Environment as discursive construction

Organizations communicate with, for, in, and through the environment in which they operate. Perspectives focusing on "with", "for," and "in" have gained considerable attention in the last twenty years (McPhee and Zaug 2000). In particular, the communicative constitution of organizations (CCO) approach shows the importance of language in the constitution of organizations (for an overview see Brummans et al. 2014; Putnam and Nicotera 2009). As Schoeneborn et al. (2014: 286) pointed out, "the pro-

https://doi.org/10.1515/9781501508059-021

ponents of this theoretical perspective are unified by the idea that organizations are invoked and maintained in and through communicative practices" (see also Cooren et al. 2011). What all these different "schools" of CCO have in common is that they develop a constructivist idea of organizations and their environment (Cooren 2012; Craig 1999).

The discursive turn (for an overview, see Putnam and Fairhurst 2001; Cooren 2015) also enabled an inverted perspective on the relationship between organizations and discourse by showing that organizations also communicate "through" their environment. Organizations are not only positioned in discourses but discourses also create positions through public communication. These organizational positions in discourses can be identified by patterns of language use. Analogous to Taylor and Van Every (2011: 33–64) showing that organizations can increase their authority and authoring through their interaction with other actors, this phenomenon can also be identified by analyzing the specific positions that are ascribed to organizations by others in public discourse. Suppose that "*WWF criticizes* …" is a statistically significant pattern of language use found in mass media, conclusions can be drawn regarding the attributed position of this environmental protection organization in discourse (namely that of the critic of certain aspects of energy and environmental policy). This position and the image associated with it could not be created by WWF alone, but by many different voices in public discourse. Through recurring references to these meaningful positions, they appear to become more and more authorized and can thus unfold communicative effects. Organizational communication management is therefore to be understood as being shaped by these discursive conditions.

It can be assumed that organizations do not exist in isolation, but are in a reciprocal relationship with their environment (Luhmann and Baecker 2018). This is put into practice, for example, by the St. Gallen fourth generation Management Model (Rüegg-Stürm and Grand 2015): the mediation between the inside of the organization and the environment is considered as the central function of management. Value creation is directly dependent on successful communication between the inside and outside (Theis-Berglmair 2013: 34) and management can be seen as a bundle of communicative tasks. Value creation thus is directly dependent on successful communication between the inside and outside (Stücheli-Herlach et al. 2017). Management is therefore a communicative practice that is implemented in a specific way in relation to the environment, more precisely, the various spheres of environment (Rüegg-Stürm and Grand 2015).

The organizational as well as the scientific challenge is that the discursive environment is initially a black box, of which, however, fundamental modes of operation are known from practice and research. Usually, organizations do not consider discourses as public spheres, communication contexts, or stakeholder networks but as public debate, discussion, or dialogue. Discourses are to be understood as a complex bundle of actors (e. g., WWF), topics (e. g., solar power), media (e. g., official websites), arguments (e. g., X due to Y), and discursive events (e. g., the Fukushima Daiichi

nuclear disaster). Topics and the relevance of discourse events are not determined autonomously by actors (as the term *agenda setting* connotes) but developed dynamically in discourses.

The constitution of a topic thus depends on common ground, which manifests itself in shared knowledge and recurring discourse patterns. Common ground can be understood as what is considered sayable (Foucault 1981) by an actor in a medium at a certain point. In discourses, concepts of actor roles (e. g., critic), knowledge (e. g., canonical knowledge) and relevance (e. g., nuclear phase-out after Fukushima) are ultimately conveyed through patterns of language use (Bubenhofer 2009). Such knowledge and language structures emerge as orders of speech and have to be reflected as power structures of public communication. For this reason, we understand the environment as a network of discourses that consists of patterns of language usage. Our approach to analyzing these patterns for communication management tasks is called Applied Linguistic Discourse Analysis (DIA) as described in Dreesen and Stücheli-Herlach (2019).[1]

2 Practitioners' needs, wants, and demands

It is essential to develop a basic understanding of the mutual expectations of practice and science. This is a matter of debate in B2B (business to business) marketing research, where the theory-practice gap and the effects of digital transformation are discussed as discrepancies "between what practitioners need and what academia is investigating" (Mora Cortez and Johnston 2017: 93). For applied sciences, an understanding of their own offerings, on the one hand, and the practice partner's needs, on the other hand, is essential. For this purpose, the differentiation into needs, wants, and demands originating in B2C (business to consumer) marketing is revealing (Kotler, Armstrong, and Harris 2019: 7).[2] From an economic and marketing perspective, the tension between demands and wants is crucial: "Demands are wants for specific products that are backed up by the ability and willingness to buy them" (Kotler 1994: 4). The situation is different with regard to aspects of applied linguistics for environmental analysis. However, the following can probably be observed in many cases: there is a tension between the needs, wants, and demands of actors' ability to manage complex communication problems.

It is up to applied sciences to identify these differences and, if necessary, solve the conflict. For organizations, environmental analysis and communication tasks are not

1 In German DIA = Diskurslinguistik in Anwendung.

2 The key idea is based on Maslow's (1971) hierarchy of needs and has been adapted for B2C and B2B sales. While "need" in B2C sales is oriented more towards the needs of products and services essential for survival, "need" in B2B is oriented more towards the growth and sustainability of the organization.

ends in themselves, even if (successful) communication is constitutive of their existence. In most cases, the organization's management is not interested in the analytical tool itself (the linguistic analysis of the environment), but in solving a real-world communicative problem (e. g., to attain an overview of a specific discourse to influence a group of stakeholders). However, environmental analysis is a required step in identifying topics and addressing stakeholders,

It is therefore crucial to understand the basic principles of discourse, e. g., the shaping of actions by discourse, which can often be linked to the agent's communication routines as shown by structuring theory: "What agents know about what they do, and why they do it – their knowledgeability as agents – is largely carried in practical consciousness" (Giddens 1984: xxiii). This means that "as social actors, all human beings are highly 'learned' in respect of knowledge which they possess, and apply, in the production and reproduction of day-to-day social encounters; the vast bulk of such knowledge is practical rather than theoretical in character" (Giddens 1984: 22). In contrast to practical consciousness and tacit knowledge even professional actors generally lack theoretically systematized and empirically based knowledge about the discursive conditions in which they evolve and thus about the relevant conditions for action and the possible consequences of their action. In particular, the discursive effect of using formulaic expressions like *Stromkonzern Axpo* ('electricity company Axpo') or *Stromriese Axpo* ('power giant Axpo') are usually not well-known to the actors. Therefore, the analysis of these imprints will not be recognized by actors as a want or demand.

What kind of environmental analysis is wanted depends on the perspective: organizations begin their environmental analyses primarily according to the criteria of their own organizational routine and the ideological perspective from which they perceive and evaluate their environment. Above all, this includes media monitoring, media clipping, and evaluation based on references to the organization and its stakeholders. This can be described as introspection. But knowledge resources *within* the organization are too limited for certain problems. This reflection on introspection is the initial step for a transformative effect of discourse linguistics (for the field of governance practices, see Stirling 2016): Applied Linguistic Discourse Analysis (DIA) counters introspection with the possibility of extrospection, firstly by focusing on other media contexts, actors, topics, and periods of time with the corpus of results leading to a broader understanding of the environment. And, secondly, by using complementary data-based and data-driven analysis methods in order not to be guided too much by (introspective) presuppositions. In this sense, DIA first explores the environment and then analyzes it. As a result, the initial need and thus the demand change.

On the one hand, it is an improvement that organizations often demand networks, frame and issue analysis based on big data sets that should be representative (Phillips-Wren et al. 2015). Introspection is, on the other hand, only compatible with a data-driven approach if this perspective is openly reflected upon and one's own knowledge and competence gaps are acknowledged. Therefore, organizations need assistance to find and demand suitable solutions for their environment analyses. This can be

achieved by cooperation between discourse researchers and reflective management practitioners. Another solution could be that discourse research transforms practical knowledge, e. g., through consulting, executive education, etc. Due to the widely differing methodological steps (e. g., discourse modeling, digital data analysis, simulating, see Section 5 of this chapter) and to the goal that researchers should also learn from practice, in the following, we focus on transdisciplinary cooperation.

3 Organizational needs and tasks

One of the primary goals of an organization is value creation. Since organizations consist of communication, the success of communicative tasks is directly linked to value creation. In professional domains, writing, speaking, and other communicative practices create economic value (Jakobs and Spinuzzi 2014). The theoretical background for this assumption in regard to discourse analysis is as follows: every message generated by an organization can be located within a discourse that itself consists of a multitude of messages (Stücheli-Herlach 2018: 180–181; McPhee and Zaug 2000). Each message is sent by an emitter. A discursive environment can therefore be understood as a network with sending/receiving nodes (organizations) and links (messages). In contrast to many other communication models, the discourse-analytical conception of communication is not a sender-receiver model, since in a discourse each "speaking actor" (here, an organization) is shaped by the dynamics and patterns of the many received messages of its discourse environment (Foucault 1982; Spitzmüller and Warnke 2011).

Ultimately, every organization is dependent on what has already been said in the discourse insofar as it needs to relate to what has been said (Holtzhausen and Zerfass 2015). The notion of a fully autonomous actor and its relationship to the stakeholder is modified by the notion of a subject that is specifically made to speak through discourse conditions. Thus, what one needs to know is one's own position and the discourse position of those involved. The value of a message, e. g., a tweet promoting renewable energy by an official public relations account, depends on its position within the discourse: Who speaks about renewable energy in what way? What are the dominant terms, phrases, emblematic issues (Stirling 2016), discursive markers (Viehöver 2006) as patterns of interpretation, etc. (Stücheli-Herlach and Perrin 2013: 29)? This comes close to the structural perspective (Saussure 1959) that the value (*valeur*) of a meaning depends on its relation to other meanings. For this reason, the urgent organizational task is to find out what relevant words, topics, arguments, examples, etc. constitute the dominant patterns of the discourse and by which actors they are reproduced (Moffitt 1999).

By understanding the theoretical assumptions of discourse analysis, the organizational tasks change: value creation is dependent on successful stakeholder man-

agement (Post, Preston, and Sachs 2002) and communication with stakeholders is a means of organization leadership (Freeman et al. 2010). Stakeholders have different communicative practices and are connected in dynamic ways, which need to be identified first (Stücheli-Herlach et al. 2017), e. g., through discourse network analysis (see Section 5.3 "simulation" and Section 6 of this chapter). Stakeholder networks are the result of communication. Coalitions and controversies between stakeholders emerge through the use of language. Stakeholders (actors), however, can have several roles with sometimes conflicting interests (e. g., supervisory authority, creditors, regulators). This role- and position-oriented stakeholder management changes the communicative tasks of the organization: the aim of writing must be defined by determining the position of the future text in public discourse (Stücheli-Herlach and Perrin 2013: 23). The approach called "message design" (Moffitt 1999) describes the steps from a key message and the strategic planning of text production processes to the product of narrative and argumentative patterns.

4 Transdisciplinary approach to applied discourse analysis

Applied Linguistic Discourse Analysis (DIA) is a transdisciplinary approach, where transdisciplinary is characterized by the close cooperation of scientific disciplines with non-scientific actors in order to solve socially relevant problems (Mittelstraß 2003; Perrin and Kramsch 2018). This is also described as "research about, for and with" practitioners (Cameron et al. 1992: 14–22). From a practitioner's perspective, these problems are highly complex, such as "policy analysis", "agenda setting", "issue monitoring", or "stakeholder analysis" (see Stücheli-Herlach et al. 2015).

DIA focuses on actors involved in social and especially professional practice (on professionality see Mieg 2003), e. g., as represented by a larger organizational unit with professional management. These actors are neither a subject nor an object of discourse-linguistic research. Instead, the joint accomplishment of tasks by scientists and professional practitioners leads to an ephemeral (i. e., transient) community of practice (see Wenger 1998), in which decisions must be related to and coordinated with each other (Sarangi and Van Leeuwen 2003). As a consequence, considerably more time and effort must be invested in building a common knowledge base and work processes as compared to conventionally institutionalized research groups (Fleck 1979) or consulting (see above).

5 Applied Linguistic Discourse Analysis

The following sections give an overview of the research method in general and its individual modules (see Figure 1). The modules are exemplified by a case study on the communication management of energy discourses in Switzerland:[3] the public affairs management of an energy company wants to improve the position of its company in the context of energy and environmental discussions. As explained above, one of the first steps in transdisciplinary cooperation is to develop a common basic understanding of the wants, demands, and needs. The company wants to take a position in the public perception of energy transition in Switzerland that is compatible with the company's objectives. The company faces the task of positioning itself in public debates on important political and economic issues related to energy transition. Demand: the company is a client of a media monitoring company and uses media clippings to become informed about selected topics, the company's own presentation, and previously identified stakeholders in the German-speaking national and regional mass media in Switzerland. Need: it is jointly determined that, first, a discourse-analytical orientation on the current energy discourses in German-speaking Switzerland is needed. This includes actors and their roles, stakeholders and their networks as well as topics and their verbalizations within the energy discourses. These objects of study are operationalized as follows.

The DIA research process is structured by three main questions, leading from the modeling of a specific discourse via the analysis of this discourse up to the simulation of the discourse: (1) how must a discourse be modeled to answer research questions that are theoretically and practically applicable? (see Module 1); (2) under which conditions do actors manifest themselves in the discourse? (see Modules 2 and 3); and (3) what are the possibilities and limitations for actions that must be expected within the discursive structure? (see Module 4).

Discourse as the object of research can be conceived in a constructivist manner as a model of social sign processes (a simulacrum in Barthes's [1967: 215] sense; see also Foucault 1982), which can be simulated by means of a text corpus that allows for the recording, analysis, and evaluation of public language use. Since there is no objective way of determining the basic population of a specific discourse, quantitative and qualitative analysis always refers to the corpus and cannot be considered representative from a theoretical point of view (Biber 1993). This view of discourse as a model allows for different discourse perspectives to be taken into account and thus helps the decision-making in strategic communication management.

3 The following empirical results are based on the research project "Energy Discourses in Switzerland. Prerequisites for Change" (2016–2019), financed by the Swiss Federal Office of Energy (Stücheli-Herlach, Ehrensberger-Dow, and Dreesen 2018).

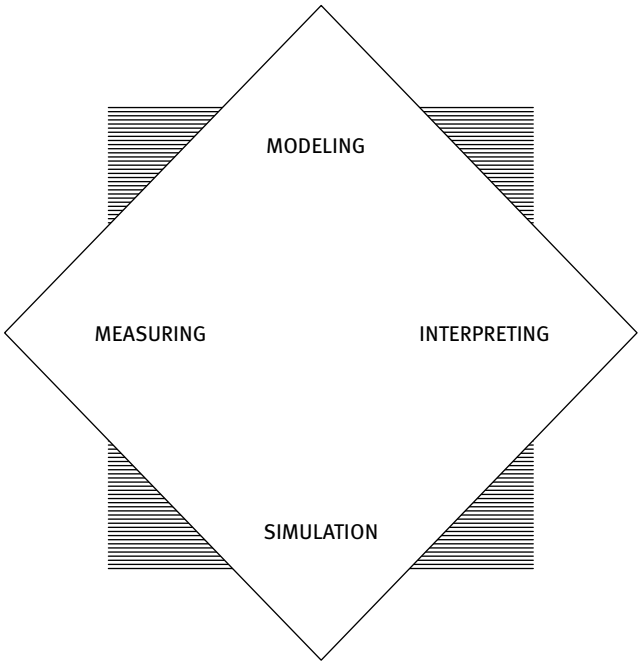

Figure 1: Modularized research method Applied Linguistic Discourse Analysis (DIA). The white diamond with the modules is incongruent with the hatched area, which symbolizes the transdisciplinary exchange between practice and research

5.1 Modeling (first module)

The first module serves to create a basis for the simulation of discursive formations and dynamics. It results in a corpus of texts of relevant discourse actors which will be used as a database for the identification of patterns of language use. Contrary to a decidedly self-referential perspective (e. g., manifested in typical media clipping tasks in which press articles mentioning the company are collected), an external perspective on the discourse under consideration is taken, which will be described in the following paragraphs.

Discourse modeling is more than a simple task of data collection. Firstly, it provides an initial orientation in an unmanageable number of utterances. Secondly, and even more importantly, modeling takes place in the collaboration of practitioners and research experts by defining parameters that determine the selection of relevant contributions to the discourse. The resulting corpus will form the basis for the solution of professional communicative problems. By making references to events and objects (such as political votes, law changes, environmental disasters, etc.), semantically relevant areas of discourse (i. e., words referring to important discourse concepts such as energy supply), relevant individual languages (Barthes 1967), and relevant discourse

actors and their voices (Spitzmüller and Warnke 2011: 172–187) are identified. Media and text types that are situationally relevant to a specific discourse are considered (Clarke 2012). The aim is to create a snapshot of discourse processes on which the discourse actors' management decisions appropriate to the subject matter can be based (Rüegg-Stürm and Grand 2015: 46). Overall, the research module is carried out by reconstructing statements in contexts (Busse 2007) as a genesis of discourse.

Discourse modeling leads to an extensive list of relevant discourse actors which can be considered as the basic population for the planned discourse analysis. In order to allow for an abstraction above the level of individual actors, approaches such as traditional policy field analysis can be applied to achieve a manageable set of actor categories (Knoepfel et al. 2011). In the example of Swiss energy discourses, this results in the distinction between actors in policy formulation and implementation, actors as policy addressees and those affected by policy, actors in policy development and consultancy, and those involved in policy monitoring and mediation. The allocation of actors to categories enables not only the analysis of individual actors, but also of individual sub-areas of discourses.

Possible text sources include official websites, social media accounts, or official press releases that can be processed by using state-of-the-art data-crawling techniques or by using application programming interfaces that allow access to the relevant text data (Krasselt et al. 2020). Copyright and data protection issues as well as questions regarding the inclusion of paid or pay-walled content need to be considered. Annotating the texts that feed into the corpus with available metadata allows for downscaling this research module, e. g., by focusing on different time periods, topics, or categories of actors. In the example of Swiss energy discourse, 360 actors were sampled from the aforementioned policy fields. Their websites were taken as a textual database and were processed with a corpus linguist pipeline described in Krasselt et al. (2020).

Since actors in public communication take part in more than one discourse,[4] criteria need to be defined in order to include only those texts which are thematically connected to the discourse under consideration. Similar to media-clipping approaches, this can be achieved either by using a list of keywords that need to be present in a text or by applying machine learning algorithms such as topic modeling (Blei 2012) to a large discourse-unspecific corpus in order to find topics that point towards the discourse under consideration (see Table 1). Since texts referring to such topics do not necessarily need to contain typical keywords, they would have been missing in a traditional search-word-based approach to corpus compilation.

4 This is, e. g., obviously the case with mass media actors who publish articles on a plethora of discourses.

Table 1: Selection of algorithmically determined topics containing words specific to energy discourses in Switzerland. Topics were calculated for a large, thematically unspecific corpus (Krasselt et al. 2020)

Topic No.	Words
topic 1	*Energie* ('energy'), *Schweiz* ('Switzerland'), *hoch* ('high'), *erneuerbar* ('renewable'), *verschieden* ('different'), *Entwicklung* ('development')
topic 2	*Energieforschung* ('energy research'), *Projekt* ('project'), *Gemeinde* (municipality'), *Energie* ('energy'), *CO2* ('CO2'), *hoch* ('high'), *Ziel* ('aim')
topic 3	*Abfall* ('waste'), *radioaktiv* ('radioactive'), *Schweiz* ('Switzerland'), *Nagra* ('Nagra'), *Risiko* ('risk'), *Schweizer* ('Swiss'), *Kanton* ('canton')
topic 4	*Wald* ('forest'), *Klimawandel* ('climate change'), *hoch* ('high'), *Land* ('country'), *Schweiz* ('Switzerland'), *Massnahme* ('measure'), *heute* ('today')

5.2 Measuring (second module) and Interpreting (third module)

In order to understand the linguistic and communicative conditions for actors' discourse contributions, the corpus is analyzed for patterns of language use. The carefully modeled corpus provides access to the textual surface of the discourse, which is characterized by exemplary language use that serves as a basis for understanding in public communication (Bubenhofer 2009). Patterns of language use become manifest as *re*curring words and phrases (e. g., the same word is frequently used by the majority of actors over a certain period of time) as well as frequently *co*occurring words and phrases, which refers to the frequent joint occurrence of two or more words in a text. They serve as syntagmatic manifestations of paradigmatic statements in a specific discourse (Bubenhofer 2009: 105–110). To a certain extent, such patterns of language use are already familiar to practitioners of management and are described by using notions like "buzzword" or "familiar expression". Such discourse characteristics that are already known can serve as a basis for formulating hypotheses about the discourse or for testing certain assumptions, e. g., regarding the prevalence of specific lexemes.

Measuring serves as an umbrella term for quantitative approaches, mainly elaborated in modern corpus linguistics but also in the field of natural language processing (Baker 2006; Bubenhofer 2009). Typical methods include the calculation of statistically significant keywords and collocations, the analysis of frequency and distribution of words and phrases, or the algorithmically driven calculation of topics. Depending on the way the corpus data is related to theories and categories existing prior to corpus analysis, those methods can be applied in either a corpus-driven or a corpus-based manner (McEnery and Hardie 2012; Tognini-Bonelli 2001). In a corpus-driven approach to discourse, the data forms the basic evidence for the inductive formation of hypotheses, generalizations, and theories. For instance, a list containing the frequency of *all* nouns in a corpus can point towards important concepts in the discourse. On the

other hand, in a corpus-based approach, the data is used in a deductive manner to test hypotheses and to search for specific, pre-defined instances. A typical example would be the frequency analysis of pre-defined nouns denoting important concepts in a discourse. Following Bubenhofer (2009), Module 2 is conceptualized as a combination of both approaches, complemented by qualitative, non-standardized analytical methods.

In the example of Swiss energy discourses, the comparison of the vocabulary used by each actor category against a large, discourse-unspecific corpus (a so-called reference corpus) led to the identification of characteristic and actor-group-specific word usage, so-called keywords. A keyword in a corpus linguistic/data-driven understanding is conceptualized as a word that is "statistically more frequent in a particular corpus or text, when compared against another corpus" (Baker 2012: 255). Keywords can thus be utilized to measure a salient lexis characterizing the language use of discourse actors or groups of actors. Figure 2 shows the top fifty keywords for all four actors' categories in the corpus on energy discourses in Switzerland (A, B, C, D), as compared to a thematically unspecific Swiss reference corpus. Authorities and enforcement partners (B) show a rich departmental and institutional technical vocabulary reflecting the action being taken by and regulatory perspective of policy-related actors. Contrary, the keywords of business actors and interest groups (A) reveal evidence that addressees of energy policy and those affected by energy policy use their websites for self-representation by publishing business reports and success stories.

Interpreting: This third module provides a qualification of the functional meaning of these patterns within the discourse model. The module aims at understanding and explaining such patterns not only against the background of contexts and genealogy, but now also with regard to the formation in discourse, to the transformation in individual or several family-like discourse contributions, and to the composition in individual texts or sentences. The results are interpreted and weighed by relating them to situational discourse genealogy and individual findings. This results in a multilayered discursive network that explains and interprets interesting phenomena of language use in relation to other phenomena of language use (Dreesen et al. in press; Spitzmüller and Warnke 2011; Stücheli-Herlach et al. 2017). In addition, qualitative methods from interdisciplinary discourse studies are used (see Angermuller et al. 2014; Keller and Truschkat 2013). The use of patterns in single sources is interpreted as the discourse actors' role-specific, systemic-strategic action, which is why the methods deal extensively with questions related to the status of the actor in discourse (Dreesen et al. in press; Müller 2015; Roth 2014; Taylor and Cooren 1997).

By systematically capturing all words occurring within a certain distance to a specific actor's name (in the form of commonly used spellings and abbreviations – e. g., *BFE* and *Bundesamt für Energie* for the 'Swiss Federal Office of Energy'), patterns (so-called collocations) can be identified that reveal how actors are perceived by other discourse actors, which actions are attributed to them, and what meanings are

Figure 2: Top fifty keywords for all four actor categories in the corpus on energy discourses in Switzerland (A: economy, B: politics, C: journalistic media, D: science)

constructed around them. Table 2 shows the collocation profiles obtained for words denoting large Swiss energy suppliers. Firstly, the profiles contain typical economic action verbs such as *verkaufen* ('to sell'), *investieren* ('to invest'), and *übernehmen* ('to take over'). Secondly, the profiles share the same or similar descriptive terms, such as *Energiekonzern* ('energy company'), *Stromriese* ('power giant'), or *AKW-Betreiber* ('NPP operator'). Thirdly, a series of expressions relating to withdrawal from nuclear power are typical. The actor profiles obtained from the analysis are strongly economic in nature but are politicized with the associated emblem "nuclear power" (on this emblem concept in sociolinguistics, see Agha 2006: 235). The economic and political aspects are also reflected in the terms *Energiekonzern* ('energy company'), which bears a neutral connotation, and *Energieriese* ('electricity giant'), which bears an evaluative connotation.

Patterns of language use furthermore emerge from discourse actors' mutual references. Such mutual referencing in texts can be analyzed by means of social network analysis, a classic paradigm in social and political sciences, with a focus on the rela-

Table 2: Collocation profiles of words denoting large Swiss energy suppliers

Action verbs	Descriptive terms	Emblems
verkaufen 'to sell'	*Energiekonzern* 'energy company''	Beznau
beteiligen 'to participate'	*Betreiberin* 'operator'	Kaiseraugst
abkaufen 'to buy'	*Stromkonzern* 'electricity company'	Fessenheim
investieren 'to invest'	*Stromriese* 'power giant'	AKW
Entscheiden 'to decide'	*Energieriese* 'energy giant'	*Sicherheitsnachweis* 'safety certificate'
übernehmen 'to take over'	*AKW-Betreiber* 'NPP operator'	*Abschaltung* 'decommissioning'

tionships between actors, on patterns in these relationships, and on the theoretical modeling of these patterns (Carrington, Scott, and Wasserman 2005; Freeman 2004; Scott and Carrington 2011). In a discourse-linguistic understanding, such relationships can, for example, be operationalized in a network that is based on the mutual mentioning of actors. By applying network analytical measures, classical roles such as gatekeeper/broker, star, and coordinator (Friemel 2008: 185) can be quantitatively determined and interpreted in terms of discourse linguistics (Dreesen et al. in press).

Figure 3 shows a directed network in which nodes represent actors and arrows represent the reference of one actor by another actor (e. g., when the Swiss Federal Institute of Technology, ETHZ, is mentioned in a text from the BFE, then both nodes will be connected by an arrow pointing from BFE to ETHZ). The size of each node is a function of its centrality (so-called *eigenvektor* centrality, a typical network theoretical measure signaling the importance of nodes in networks, Bonacich and Lloyd 2001). Actors belonging to the category "policy addressees and those affected" (i. e., business and interest groups) stand out, especially energy service providers and manufacturers (Swissgrid, BKW, Axpo, Alpiq). In addition, a number of actors from "policy formulation and implementation" (authorities and enforcement partners in particular individual Swiss cantons (e. g., kanton_zh, kanton_ag).) stand out, in particular individual Swiss cantons. Centrality can therefore be used as a measure to identify stars in the energy discourse. These stars include the Swiss Federal Office of Energy (SFOE), which is remarkable from a Swiss perspective because energy policy is primarily implemented at a cantonal level (e. g., all cantons have their own energy laws and regulations).

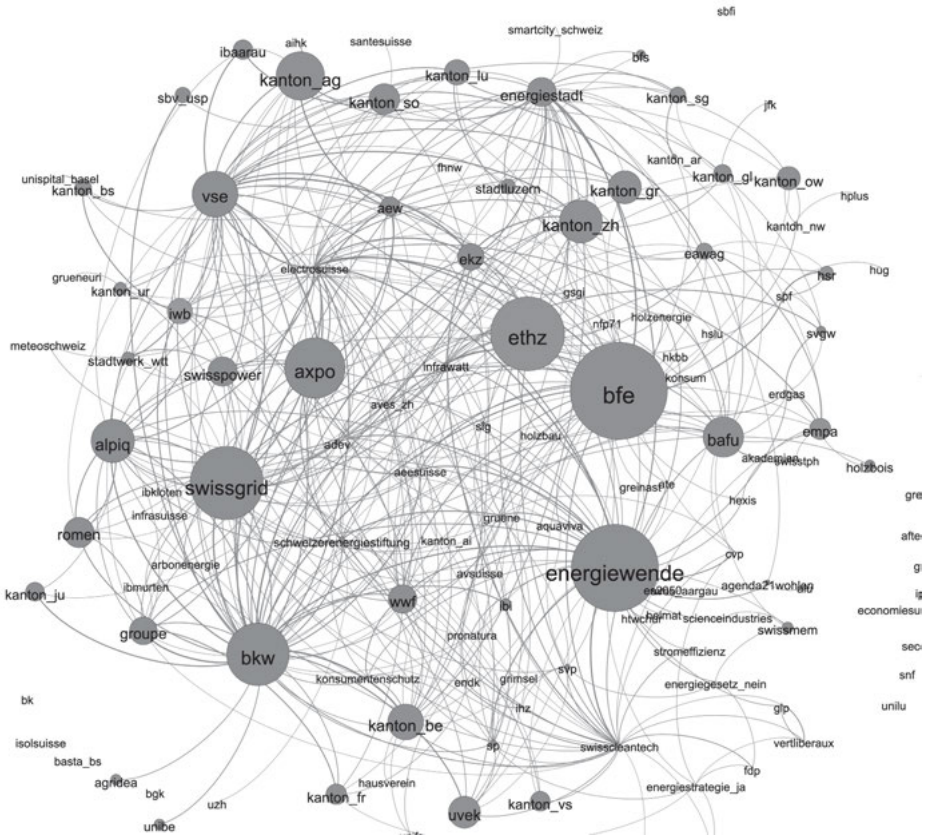

Figure 3: Directed network of mutual actor references. Nodes symbolize actors. The larger a node, the more often the corresponding actor is mentioned in the texts of other actors

5.3 Simulation (fourth module)

The last module aims to simulate discourses. This is the practical perspective on discourse outlined above as a model of social sign processes. The measurement and interpretation findings are triangulated (Denzin 2009; Flick 2011) by reflecting on the discourse against the background of scientific and practical perspectives (described in detail in Dreesen and Stücheli-Herlach 2019: 128, 137–139). We integrate the findings and challenge them with practical questions, e. g., how do we manage to communicate in a similar way as a successful organization? Which linguistic expressions are somewhat unsuitable because they are hardly ever used?

Simulation is achieved by means of "joint displays" (Kuckartz 2014: 136–148), i. e., condensed diagrammatic representations of results obtained in Modules 2 and 3. Such forms of presentation allow the visualization of *more than one* discourse characteristic (e. g., regarding keywords, collocations, and mutual references) and reveal the option of adopting different perspectives on the same question. The simulation takes place in presenting and explaining the theoretical assumptions and discussing the data collection, methods, and results with the practitioners. In the face of complex environmental and discourse-related decision-making situations, actors in practice have to simulate various possible solutions in order to compensate for the inevitable lack of knowledge about success factors. In this practical-theoretical context, simulation does not mean prediction (i. e., empirical forecasting), but rather experimental testing of both possible and desirable solution perspectives for a practical problem:

Case 1: an actor can reflect on similarities to other actors that arise due to the similar use of language patters (e. g., keywords, collocations) and can decide whether similar representations (e. g., between competitors) are wanted. Simulation then means taking up new perspectives by playing through several discourse positions.

Case 2: conversely, it is possible to simulate discourse positions on the basis of discourse networks, e. g., by finding out which discourse position is hardly represented at a certain national or federal level.

Regarding the question of communication strategies, a simulation of different procedures of "occupying terms" or of the competition of meanings with regard to important concepts such as *Ausstieg aus der Atomkraft* ('phasing out nuclear power') or *Förderung nachhaltiger Energie* ('promoting renewable energies') could be helpful (Klein 2014). To this end, the roles of the various actors could be determined on the basis of the actor network presented above and developed with regard to desired discourse coalitions with individual actors.

6 Current and future changes in practices of management communication

Applied Linguistic Discourse Analysis has two goals: (1) to understand the communicative conditions of a discursive environment and (2) to improve the communicative actions of practitioners by approaching relevant forms of professional communication in a transdisciplinary way. In order to achieve these goals, specific changes in tasks and practices of management communication are required that have an impact on wants, demands, and needs.

6.1 Extrospection

(1) The change from introspection to extrospection proceeds in the shift from data collection (media monitoring/media clipping) to the compilation and use of digital text corpora. Linguistically annotated corpora offer a wide range of analysis options that go far beyond data-based analysis. The continuous creation of digital text corpora is a central task for modern communication management.

(2) Nearly all search options (e. g., search engines, media archives, media clippings) for stakeholders, relevant topics, or mention of one's own organization in media are based on pre-defined search terms. Thus, a certain idea of what is relevant and possibly causal in the organizational environment is defined *a priori*. However, it is necessary to determine (e. g., by topic modeling) which objects, topics, and events shape the discursive conditions under which stakeholders express themselves.

6.2 Dynamics

(3) The continuous compilation of a digital text corpus prevents the organization from imagining its environment as static. While daily media monitoring can identify the current situation, the changeability and variability of discourses only become visible through larger data volumes over time.

(4) The stakeholder concept should be modified in such a way that actors from domains that seem irrelevant at first glance – e. g., in the case of energy discourses not only actors from economy and politics, but also civil society (NGOs) and science – should also be taken into account. The answer to the question of the relevance and role of actors and the status of stakeholders should come at the end, not at the beginning of an environment analysis.

Extrospection and dynamics are reflected in the discourse model, which can be used to locate organizations in a larger network. Simulations can be used to demonstrate how the use of language leads to positioning within the discourse.

7 References

Agha, Asif. 2006. *Language and social relations*. Cambridge: Cambridge University Press.

Angermuller, Johannes, Martin Nonhoff, Eva Herschinger, Felicitas Macgilchrist, Martin Reisigl, Juliette Wedl, Daniel Wrana & Alexander Ziem (eds.). 2014. *Diskursforschung: ein interdisziplinäres Handbuch* (DiskursNetz), vol. 2. Bielefeld: Transcript.

Baker, Paul. 2006. *Using corpora in discourse analysis*. London & New York: Continuum.

Baker, Paul. 2012. Acceptable bias? Using corpus linguistics methods with critical discourse analysis. *Critical Discourse Studies* 9(3). 247–256.

Barthes, Roland. 1967. The structuralist activity. In Roland Barthes, *Critical Essays*, 213–220. Evanston, IL: Northwestern University Press.

Biber, Douglas. 1993. Representativeness in corpus design. *Literary and Linguistic Computing* 8(4). 243–257.
Blei, David M. 2012. Probabilistic topic models. *Communications of the ACM* 55(4). 77.
Bonacich, Phillip & Paulette Lloyd. 2001. Eigenvector-like measures of centrality for asymmetric relations. *Social Networks* 23(3). 191–201. https://doi.org/10.1016/S0378-8733(01)00038-7.
Brummans, Boris H. J. M., François Cooren, Daniel Robichaud & James R. Taylor. 2014. Approaches to the communicative constitution of organizations. In Linda L. Putnam & Dennis K. Mumby (eds.), *The Sage handbook of organizational communication: Advances in theory*, 173–194. Thousand Oaks, CA: Sage.
Bubenhofer, Noah. 2009. *Sprachgebrauchsmuster. Korpuslinguistik als Methode der Diskurs- und Kulturanalyse* (Sprache Und Wissen 4). Berlin & New York: De Gruyter.
Busse, Dietrich. 2007. Diskurslinguistik als Kontextualisierung. Methodische Kriterien. Sprachwissenschaftliche Überlegungen zur Analyse gesellschaftlichen Wissens. In Ingo H. Warnke (ed.), *Diskurslinguistik nach Foucault. Theorie und Gegenstände*, 81–105. Berlin & New York: De Gruyter.
Cameron, Deborah, Elizabeth Frazer, Penelope Harvey, M. B. H Rampton & Kay Richardson. 1992. *Researching language: Issues of power and method*. London: Routledge.
Carrington, Peter J., John Scott & Stanley Wasserman (eds.). 2005. *Models and methods in social network analysis*. Cambridge: Cambridge University Press.
Clarke, Adele E. 2012. *Situationsanalyse: Grounded Theory nach dem Postmodern Turn*. Wiesbaden: Springer.
Cooren, François. 2012. Communication theory at the center: Ventriloquism and the communicative constitution of reality. *Journal of Communication* 62(1). 1–20.
Cooren, François. 2015. *Organizational discourse: Communication and constitution*. Cambridge: Polity Press.
Cooren, François, Timothy Kuhn, Joep P. Cornelissen & Timothy Clark. 2011. Introduction to the special issue: Communication, organizing and organization: An overview. *Organization Studies* 32(9). 1149–1170.
Craig, Robert T. 1999. Communication theory as a field. *Communication Theory* 9(2). 119–161.
Denzin, Norman K. 2009. *The research act: A theoretical introduction to sociological methods*. New Brunswick, NJ: AldineTransaction.
Dreesen, Philipp, Julia Krasselt, Maren Runte & Peter Stücheli-Herlach. In press. Operationalisierung der diskurslinguistischen Kategorie "Akteur". Triangulation und Reflexion eines drängenden Desiderats der angewandten Forschung. In Matthias Meiler & Martin Siefkes (eds.), *Linguistische Methodenreflexion im Aufbruch. Beiträge zu einer aktuellen Diskussion im Schnittpunkt von Ethnographie und Digital Humanities, Multimodalität und Mixed Methods* (Linguistik – Impulse & Tendenzen). Berlin & Boston, MA: De Gruyter.
Dreesen, Philipp & Peter Stücheli-Herlach. 2019. Diskurslinguistik in Anwendung. Ein transdisziplinäres Forschungsdesign für korpuszentrierte Analysen zu öffentlicher Kommunikation. *Zeitschrift für Diskursforschung* 7(2). 123–162.
Fleck, Ludwik. 1979. *Genesis and development of a scientific fact*. Chicago, IL: University of Chicago Press.
Flick, Uwe. 2011. *Triangulation: Eine Einführung* (Qualitative Sozialforschung 12). Wiesbaden: VS Verlag.
Foucault, Michel. 1981. The order of discourse. In Robert Young (ed.), *Untying the text: A post-structuralist reader*, 51–78. Boston, MA: Routledge & Kegan Paul.
Foucault, Michel. 1982. *The archaeology of knowledge*. New York: Pantheon Books.
Freeman, Linton. 2004. *The development of social network analysis: A study in the sociology of science*. Vancouver, BC: Empirical Press.

Freeman, R. Edward. 1984. *Strategic management: A stakeholder approach*. Boston, MA: Pitman.
Freeman, R. Edward, Jeffrey S. Harrison, Andrew C. Wicks, Bidhan L. Parmar & Simone de Colle. 2010. *Stakeholder theory: The state of the art*. Cambridge: Cambridge University Press.
Friemel, Thomas N. 2008. Netzwerkanalytische Methoden zur Identifizierung von Kommunikationsrollen. In Christian Stegbauer (ed.), *Netzwerkanalyse und Netzwerktheorie. Ein neues Paradigma in den Sozialwissenschaften*, 179–190. Wiesbaden: Springer.
Giddens, Anthony. 1984. *The constitution of society: Outline of the theory of structuration*.
Holtzhausen, Derina & Ansgar Zerfass. 2015. Strategic communication: Opportunities and challenges of the research area. In Derina Rhoda Holtzhausen & Ansgar Zerfass (eds.), *The Routledge handbook of strategic communication*, 3–17. New York: Routledge.
Jakobs, Eva-Maria & Clay Spinuzzi. 2014. 20 Professional domains: Writing as creation of economic value. In Eva-Maria Jakobs & Daniel Perrin (eds.), *Handbook of writing and text production*. Berlin & Boston, MA: De Gruyter.
Keller, Reiner & Inga Truschkat (eds.). 2013. *Methodologie und Praxis der Wissenssoziologischen Diskursanalyse. Band. 1: Interdisziplinäre Perspektiven* (Theorie und Praxis der Diskursforschung). Wiesbaden: Springer VS.
Klein, Josef (ed.). 2014. *Grundlagen der Politolinguistik. Ausgewählte Aufsätze* (Sprachwissenschaft). Berlin: Frank & Timme.
Knoepfel, Peter, Corinne Larrue, Frédéric Varone & Sylvia Veit. 2011. *Politikanalyse*. Opladen: Budrich.
Kotler, Philip. 1994. *Marketing management: Analysis, planning, implementation, and control*, 8th edn. Englewood Cliffs, NJ: Prentice Hall.
Kotler, Philip, Gary Armstrong & Lloyd C. Harris. 2019. *Principles of marketing*, 8th European edn. Hoboken, NJ: Pearson.
Krasselt, Julia, Philipp Dreesen, Matthias Fluor, Cerstin Mahlow, Klaus Rothenhäusler & Maren Runte. 2020. Swiss-AL: A multilingual Swiss web corpus for applied linguistics. In *Proceedings of the 12th Language Resources and Evaluation Conference*, 4138–4144. Marseille, France. https://www.aclweb.org/anthology/2020.lrec-1.510/ (accessed 29 November 2020).
Kuckartz, Udo. 2014. *Mixed Methods: Methodologie, Forschungsdesigns und Analyseverfahren*. Wiesbaden: Springer VS.
Luhmann, Niklas & Dirk Baecker (eds.). 2018. *Organization and decision*. Cambridge: Cambridge University Press.
Maslow, Abraham H. 1971. *The farther reaches of human nature*. New York: Viking Press.
McEnery, Tony & Andrew Hardie. 2012. *Corpus linguistics: Method, theory and practice* (Cambridge Textbooks in Linguistics). Cambridge & New York: Cambridge University Press.
McPhee, Robert D. & Pamela Zaug. 2000. The communicative constitution of organizations: A framework for explanation. *Electronic Journal of Communication* 20(1–2). http://www.cios.org/EJCPUBLIC/010/1/01017.html (accessed 5 December 2019).
Mieg, Harald A. 2003. Problematik und Probleme der Professionssoziologie. In Harald A. Mieg & Michaela Pfadenhauer (eds.), *Professionelle Leistung – professional performance: Positionen der Professionssoziologie* (Wissen und Studium Sozialwissenschaften), 11–46. Konstanz: UVK Verl.-Ges.
Mittelstraß, Jürgen. 2003. *Transdisziplinarität: Wissenschaftliche Zukunft und institutionelle Wirklichkeit* (Konstanzer Universitätsreden 214). Konstanz: UVK, Univ.-Verl.
Moffitt, Mary Anne. 1999. *Campaign strategies and message design*. Westport, CT: Praeger.
Mora Cortez, Roberto & Wesley J. Johnston. 2017. The future of B2B marketing theory: A historical and prospective analysis. *Industrial Marketing Management* 66. 90–102.
Müller, Marcus. 2015. *Sprachliches Rollenverhalten: Korpuspragmatische Studien zu divergenten Kontextualisierungen in Mündlichkeit und Schriftlichkeit* (Sprache Und Wissen 19). Berlin & Boston: De Gruyter.

Perrin, Daniel & Claire Kramsch. 2018. Introduction: Transdisciplinarity in applied linguistics. *AILA Review* 31. 1–13.

Phillips-Wren, Gloria, Lakshmi S. Iyer, Uday Kulkarni & Thilini Ariyachandra. 2015. Business analytics in the context of big data: A roadmap for research. *Communications of the Association for Information Systems* 37.

Post, James E., Lee E. Preston & Sybille Sachs. 2002. Managing the extended enterprise: The new stakeholder view. *California Management Review* 45(1). 6–28.

Putnam, Linda L. & Gail T. Fairhurst. 2001. Discourse analysis in organizations: Issues and concerns. In Fredric M. Jablin & Linda L. Putnam (eds.), *The new handbook of organizational communication: Advances in theory, research, and methods*, 78–136. Thousand Oaks, CA: Sage.

Putnam, Linda L. & Anne M. Nicotera. 2009. *Building theories of organization: The constitutive role of communication*. London: Routledge.

Roth, Kersten Sven. 2014. *Diskursrealisationen: Grundlegung und methodischer Umriss einer pragmatisch-interaktionalen Diskurssemantik*. Berlin: Erich Schmidt Verlag.

Rüegg-Stürm, Johannes & Simon Grand. 2015. *Das St. Galler Management-Modell. 4. Generation*, 2nd edn. Bern: Haupt.

Sarangi, Srikant & Theo Van Leeuwen. 2003. Applied linguistics and communities of practice: Gaining communality or losing disciplinary autonomy? In *Applied linguistics and communities of practice: Selected papers from the annual meeting of the British Association for Applied Linguistics, Cardiff University, September 2002*, 1–8. London & New York: British Association for Applied Linguistics, in association with Continuum.

Saussure, Ferdinand de. 1959. *Course in general linguistics*. New York: Philosophical Library.

Schoeneborn, Dennis, Steffen Blaschke, François Cooren, Robert D. McPhee, David Seidl & James R. Taylor. 2014. The three schools of CCO thinking: Interactive dialogue and systematic comparison. *Management Communication Quarterly* 28(2). 285–316.

Scott, John & Peter J. Carrington (eds.). 2011. *The Sage handbook of social network analysis*. Thousand Oaks, CA: Sage.

Spitzmüller, Jürgen & Ingo H. Warnke. 2011. *Diskurslinguistik. Eine Einführung in Theorien und Methoden der transtextuellen Sprachanalyse*. Berlin & Boston: De Gruyter.

Stirling, Andrew. 2016. Knowing doing governing: Realizing heterodyne democracies. In Jan-Peter Voss & Richard Freeman (eds.), *Knowing governance*, 259–289. London: Palgrave Macmillan.

Stücheli-Herlach, Peter. 2018. Message Design: Der Prozess zur wirkungsvollen Botschaft einer Organisation. In Annika Schach & Cathrin Christoph (eds.), *Handbuch Sprache in den Public Relations*, 171–190. Wiesbaden: Springer.

Stücheli-Herlach, Peter, Caroline Brüesch, Sandra Fuhrimann & Anna Schmitt. 2015. Stakeholder-Management im Netzwerk politischer Kommunikation. Forschung für ein integriertes Führungsmodell im öffentlichen Sektor. *Jahrbuch der Schweizerischen Verwaltungswissenschaften*. 77–101.

Stücheli-Herlach, Peter, Caroline Brüesch, Sandra Fuhrimann & Anna Schmitt. 2017. *Stakeholder-Management im Netzwerk politischer Kommunikation. Forschung für ein integriertes Führungsmodell im öffentlichen Sektor*. Winterthur: ZHAW Zürcher Hochschule für Angewandte Wissenschaften.

Stücheli-Herlach, Peter, Maureen Ehrensberger-Dow & Philipp Dreesen. 2018. *Energiediskurse in der Schweiz. Anwendungsorientierte Erforschung eines mehrsprachigen Kommunikationsfelds mittels digitaler Daten* (Working Papers in Applied Linguistics 16). Winterthur: ZHAW Zürcher Hochschule für Angewandte Wissenschaften.

Stücheli-Herlach, Peter & Daniel Perrin. 2013. Schreiben mit System. In Peter Stücheli-Herlach & Daniel Perrin (eds.), *Schreiben mit System*, 15–38. Wiesbaden: Springer Fachmedien Wiesbaden.

Taylor, James R. & François Cooren. 1997. What makes communication 'organizational'? How the many voices of a collectivity become the one voice of an organization. *Journal of Pragmatics* 27(4). 409–438.

Taylor, James R. & Elizabeth J. Van Every. 2011. *The situated organization: Case studies in the pragmatics of communication research*. New York: Routledge.

Theis-Berglmair, Anna Maria. 2013. Why "public relations", why not "organizational communication"? In Ansgar Zerfass, Lars Rademacher & Stefan Wehmeier (eds.), *Organisationskommunikation und Public Relations. Forschungsparadigmen und neue Perspektiven*, 27–42. Wiesbaden: Springer VS.

Tognini-Bonelli, Elena. 2001. *Corpus linguistics at work*. Amsterdam: John Benjamins. https://doi.org/10.1075/scl.6 (accessed 5 June 2020).

Viehöver, Willy. 2006. Diskurse als Narrationen. In Reiner Keller, Andreas Hirseland, Werner Schneider & Willy Viehöver (eds.), *Handbuch sozialwissenschaftliche Diskursanalyse*, vol. 1, 2nd edn., 179–208. Wiesbaden: VS Verlag.

Wenger, Etienne. 1998. *Communities of practice: Learning, meaning, and identity*. Cambridge: Cambridge University Press.