

Article

# Multimodal Generic Trends of *Harvard Business Review* Knowledge Communication in and beyond Social Media Context: Exploiting Affordances, Neglecting Opportunities

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**Abstract:** This article is part of an on-going research project dedicated to enhancing our understanding of domain-specific knowledge communication across various multiliterate communities, semiotic modes and media contexts. The focus of the present analytical endeavour is on the dissemination of knowledge of academics from the domain of business and management to professionals and other non-academic communicative partners in the context of the *Harvard Business Review* journal. The central empirical material is constituted by a cluster of videos selected from the Facebook context of the journal whose intention is to function as a bridge between academia and enterprises. For this bridging effort, a number of video genres which are not traditionally used for scientific knowledge communication in academic contexts (e.g., Quick Study, Explainers, Tips & Ideas, etc.) are employed. Furthermore, in accordance with the Facebook context, the videos are accompanied by users' commentaries that evaluate the knowledge provided or/and contribute to communicating and co-constructing new knowledge. Finally, we include the articles, books and special issues to which the videos refer in the empirical study. This hybrid knowledge-communication setting is studied from a multimodal perspective in order to address the new ways in which semiotic modes and sub-modes enter into a meaning-making interplay at the level of each video and when users comment on the respective videos. The main analytical tools are the concepts of knowledge expansion and knowledge enhancement that characterize the interaction of modes in the knowledge-building process. Across the video genres that have been investigated, we see a tendency towards engaging users of the videos through diminishing the distance to the viewers. As a consequence, the videos have a high number of views, but at the same time there are few comments and hardly any comments engaging in mutual knowledge building. This paradox is discussed in more detail in the concluding section.

**Keywords:** knowledge communication; knowledge-building processes; multimodality; social media engagement



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## 1. Introduction

The communication of academic knowledge is not restricted to the academic sphere. According to Hyland [1] (p. 1), modern academic discourse is aimed at “educating students, demonstrating learning, disseminating ideas and constructing knowledge”. However, from a practical as well as an analytical point of view (due to the differences in the factors characterizing and influencing the different discourses), it may be relevant to be able to keep different parts of academic discourse apart and distinguish between scientific and “parascientific” communication. According to Kelly and Miller [2] (p. 224), the term “parascientific” should cover “a variety of genres that do not fit clearly into the more traditional internal/external binary”. They characterise such genres as being “concerned with the collection, arrangement, or application of scientific knowledge in contexts formally external to but somehow involved with the scientific community” [2] (p. 231).

A case in point, which we have already been investigating in previous studies [3,4], is what could be called the *Harvard Business Review* (HBR) universe. HBR states that they

intend to function as a “bridge between academia and enterprises” (<https://hbr.org/corporate/about>, accessed on 9 January 2022) through different outlets and media. At the centre of this universe, we find the *Harvard Business Review*, which originally was a printed journal, but now exists in both print and online formats. Supplementing the journal is a book company, Harvard Business Review Press, issuing a large range of different types of books. The parascientific character of this enterprise lies in the fact that the articles and books published in the *HBR* universe are written by researchers based upon their own research and address users with a similar education as the researchers, though working outside the academic context. In other words, not academic, but practical, experts with practice-related goals are the receivers of this scientific knowledge.

The *HBR* universe consists not only of the two original and thus primary outlets mentioned above. Instead, they also exploit a major and multifaceted online platform offering many different genres disseminating knowledge relevant for business practitioners at different levels of detail, expertise, etc. As we have demonstrated in our previous studies, *HBR* is not only interested in disseminating scientifically-based knowledge through their communicative efforts. An important parallel goal of the variety of genres used for disseminating more or less the same knowledge for *HBR* is to promote its different products through parascientific communication.

In order to comply with this goal, *HBR* has built a modern online platform, integrated also with different Web 2.0 technologies such as social media (Facebook, YouTube, et al.). Exploiting Web 2.0 technologies means introducing communication channels that enable moderators and users to interact directly, as such technologies open up forums where users may react directly to the communicated content. In other words, Web 2.0 technologies may be seen as a context of knowledge communication that potentially generates a much more complex interactivity in the presentation and mutual elaboration of scientific knowledge [5] (pp. 11, 64). Hence, adopting such technologies for communicating academic knowledge on social media platforms means creating at least the possibility of engaging the users in an interaction. On this basis, researchers have claimed that “focusing on engagement with science and research content on social media should be an important part of research on science communication” [6] (p. 1). With the present study we want to test methods for answering this call.

In our qualitative study, we explore the multimodal knowledge-building processes appearing at the intersection between traditional research publications (books, articles, special issues), the videos based on these publications and the commentaries posted on Facebook by users for each of the selected videos. We elaborate on the multimodal aspects of knowledge-building processes in the selected data in order to investigate the degree to which affordances of the multimodal formats and the different semiotic modes enter into a meaning-making interplay both in each of the selected video genres and in users’ commentaries. By multimodal knowledge-building processes, we understand those knowledge-building processes that are made possible through the combination of several semiotic modes, from speech and written text to still and moving images.

When engaging in our analytical work, we concretely pursue three questions linked to the characteristics described above:

- What elements from the original research publications have been selected for making possible a series of knowledge-building processes in the investigated videos?
- What characterises the knowledge-building processes in the videos when comparing them to the texts introducing them?
- In what way do commentaries to the videos on Facebook and on YouTube contribute to the parascientific communication in this context?

In the next section (Section 2: Literature Review), we present the combination of theoretical approaches on which we have built the analysis reported here. This section is followed by Section 3, presenting the materials and methods applied in the analysis. Section 4 presents the empirical study, the results of which are discussed in Section 5.

## 2. Literature Review

In this section, we introduce three complementary conceptual frameworks that provide the theoretical background for the proposed research: knowledge communication, multimodality, and genre. We tap into the potential interface between these three concepts because it can provide new insights into all three areas of study. Obviously, knowledge communication and multimodality are both relevant concepts for the understanding and explanation of the selected empirical material, in which knowledge is built through the meaning-making interplay of several semiotic modes because: “Knowledge is made and given shape in representation, according to the potentials of modal affordances; the process of representation is identical to the shaping of knowledge. Makers of representations are shapers of knowledge” [7] (p. 27).

As “genre currently appears as a grey area between the social function of a multimodal artifact and its structure” [8] (p. 113), we consider that it is also relevant to define and explain this concept in the context of the present study.

### 2.1. Knowledge Communication

When taking a knowledge-communication approach, we study how experts communicate with experts and non-experts about their area of expertise with a focus upon processes of cognitive construction, multimodal representation and socially communicating expert knowledge [9] (pp. 228–229). The present object of study fits perfectly into this framework, as we look at videos through which experts convey expert knowledge to users of the HBR Facebook site in order to investigate authors’ decisions concerning the multimodal texts. The approach has its focus upon describing the interaction between information presented in different modalities (cf. Table 1 below) as a basis for knowledge-building processes to be carried out by the users when interacting with the multimodal texts.

**Table 1.** Explanatory overview of the types of multimodal knowledge-building processes.

Types of Multimodal Knowledge-Building Processes			
<i>Multimodal knowledge-expansion processes</i> Through the interaction of different modes, more aspects of the concepts treated may be built by the users.		<i>Multimodal knowledge enhancement processes</i> Through the interaction of different modes, the quality of the knowledge to be built by the users may be enhanced, especially in the form of more details.	
<i>Multimodal core knowledge-building processes</i> The additional aspects expand the central concepts treated, according to title, abstract, etc.	<i>Multimodal peripheral knowledge-building processes</i> The additional aspects expand background aspects of the concepts treated, typically aspects presupposed by experts.	<i>Evident enhancement of knowledge</i> The additional aspects offered enhance the quality of the knowledge by actually enabling the construction of new knowledge.	<i>Apparent enhancement of knowledge</i> The additional aspects offered only apparently enhance the quality of the knowledge to be constructed through repetition in more modalities.

Our analysis is built mainly on two different categorizations of processes, to which the multimodally offered information contributes: knowledge enhancement and knowledge expansion [9] (pp. 231–232).

In our analysis in Section 4.1 below, these categories are used to structure the analysis of multimodal knowledge-building processes.

### 2.2. Multimodality

We include multimodality in this study as we consider that multimodality should be at the core of knowledge communication research because the communicative building of knowledge always takes place at the intersection of several semiotic modes.

When looking with a multimodal lens even at a monochromatic textbook page without any images, it is possible to explain how layers of meaning are conveyed not only through the written words but also through typography, the layout of the page and the paper texture. Thus, several semiotic modes always contribute through their more or less

elaborated orchestration to constructing, maintaining or transforming meaning even in a seemingly monomodal text [10]. Furthermore, not only written language, but also “spoken language cannot be adequately understood without taking non-verbal communication into account” [11] (p. 688). When summing up the various approaches to investigating what happens between various semiotic modes in unfolding communication instances, Van Leeuwen concludes that the interplay of the semiotic modes is meaning-making because each mode contributes to conveying content, but depends on each other to convey the whole content [11]. It should be added here that we adopt Kress’ definition of a semiotic mode: “a mode is a socially shaped and culturally given semiotic resource for making meaning” [7] (p. 79).

Multimodality should be understood both as an inherent characteristic of communication and as a multidisciplinary field of study that encompasses educational applications, discourse studies, everyday situated interactions, etc. According to one of the newest definitions, “multimodality is the phenomenon that all communication integrates a range of meaning-making resources, that is, images, words, sound, etc.” [12] (p. 24). Simultaneously, multimodality has also to be understood as “a research orientation in its own right that seeks to address what happens when diverse communicative forms combine in the service of ‘making meaning’” [13] (p. 8). The multidisciplinary field study of multimodality has developed on the foundational premise that communication is always multimodal [7,10,11] and that “multimodality is not a novel phenomenon per se, but an innovative lens on the social world” [14] (p. 4). This field has grown exponentially through a vast range of research studies that investigate complex communicative artifacts and events from various social domains, cultural contexts and media: for example, films [15], websites [16], mobile news [17], (inter)actions [18], online shopping [12], etc. These communicative artifacts and events are investigated in terms of their multimodal combination and integration of several semiotic modes that may include not only written and/or spoken language, but also other semiotic modes. In all these communicative artifacts and events, the semiotic modes’ interplay can reinforce, nuance, complement or subvert the meanings produced at the level of each semiotic mode. From the multimodal researchers’ perspective, both the constraints and the affordances of each semiotic mode, as well as the modes’ specific interplay, create meaning and, consequently, our reality.

### 2.3. Genres

In our context, a relevant way of conceptualizing genres is to see them as “frames for social action that support researchers’ socioliterate activity” [5] (p. 4), following the work of researchers such as Miller, Swales and Bazerman. Hence, genres are tied to discourse communities with a focus on the formulation traditions generally accepted within the community. With a genre approach, we intend to explain conventionalized characteristics of (multimodal) expressions in a wide sense, typically from the point of view of the communicative situation and purpose(s) influencing text formulation. Hence, genres are generally accepted prototypical solutions to communicative tasks, viz. “researchers’ socioliterate activity”. Focus is upon what expectations communicators may have to texts emerging from a specific communication type: e.g., experienced researchers, especially from the field of natural sciences, expect a structure consisting of Introduction–Methods–Results and Discussion (IMRAD), when they recognize a text as a research paper. The reason is that nowadays this is the traditional, in fact almost canonical way of solving the communicative task of reporting research results, among other things due to the importance of empirical studies for natural sciences.

Apart from such traditions for solving communicative problems, genre characteristics may also be guided by the so-called affordances of the applied communicative instrument. We talk here about characteristics of (multimodal) texts that may be expected to appear due to basic traits of the communicative instrument. A case in point with relevance for our study here is the possibility on social media platforms such as Facebook and YouTube to interact with the video and with other viewers via comments. It is an affordance of social media as a

Web 2.0 technology that such interaction is possible due to characteristics in the underlying online technology. As this affordance has been taken up very pointedly in such media, it has become a part of the generic integrity [19], by which we mean that it has become part of the characteristic core of traits constituting the genre of these types of communicative instruments that Facebook posts and YouTube videos offer such possibilities of interaction through a commenting function.

As an example, Bucher [20] investigated in one of his analyses a corpus of around 400 YouTube videos on science topics in order to first categorize the videos into genres and secondly to study the degree to which the offered commenting function was actually being exploited in the corpus. In a first step [20] (p. 138) suggests four basic types of videos:

- Expert videos (videos focusing upon specific experts and their ideas)
- Narrative explanatory video (videos focusing upon telling a story through which the scientific topic is presented and argumentatively explained)
- Animated video (videos relying upon live drawings or schematic moving pictures in their presentation of a scientific topic)
- Presentation video (videos where a presenter renders the scientific topics while addressing the audience directly).

Bucher states that the first two types are typically found in television settings, while the two last-mentioned types are rather typical of the YouTube context.

In a second step, he then studies the comments reacting to the science videos and establishes the following types of comments [20] (pp. 139–140):

- Epistemological review (on the validity and relevance of the videos from a knowledge point of view)
- Knowledge dissemination (i.e., giving further information on the video's topic)
- Information on self (i.e., the commentators talk about themselves)
- Wishes for topics
- Reflexive comments (i.e., comments reflecting on the interaction)
- Evaluations (i.e., comments on the general value of the video)
- Relational work (i.e., comments working on the interpersonal relations)

In the corpus in general, comments giving an epistemological review (epistemische Würdigung) and knowledge dissemination comments are the most frequent, demonstrating an interest on the side of the commentators in interacting with the sender of the videos on the knowledge presented in them. Interestingly, Bucher also finds that of the total of 1216 comments for the 400 videos, 1154 are connected with Presentation videos or Animated videos, i.e., those that are more typical in a YouTube context, whereas the other types that may rather be recognized as belonging to a traditional TV setting hardly receive any comments (62 in total).

Bucher's last-mentioned result is interesting in our case, as it shows that an affordance (here: the possibility of commenting on videos presented online) may but does not have to become part of the generic integrity. On this basis, we are interested in investigating the commenting practice in connection with *HBR* videos, especially from the point of view of these comments as part of video-based knowledge communication in an *HBR* online setting. Hence, we will characterize the videos investigated according to their genre and investigate the commentaries emerging as reactions to the videos. Although the typology of commentaries has been developed for the study of YouTube videos and not comments to Facebook posts, we venture to use it here, as the videos investigated in this study are also posted on *HBR*'s YouTube channel and belong to the same type as those studied by Bucher, i.e., videos disseminating scientific results.

### 3. Materials and Methods

In the light of our focus on multimodal analysis of knowledge-building processes appearing across three different sources of empirical materials, we depart from the quantitative approach that is usually taken in social media studies and adopt a qualitative perspective.

As mentioned in the introduction, we have collected and analysed empirical material from three main sources: *HBR* videos posted by the organization on their Facebook wall, the users' commentaries posted in relation to each of the videos, and excerpts from the books or articles that have been the main knowledge sources of the *HBR* videos selected. The main knowledge source of the videos is in all cases indicated in the descriptions of the videos, often through the formulation "For more, read xx". We have explored six videos of various lengths belonging to three different *HBR* video genres (Quick Study, Explainer and Tips & Ideas) and the related books and articles. All the videos are accessible in the context of both the *HBR* website and the *HBR* Facebook wall. We have also explored 480 commentaries posted by FB users in relation to the videos selected (see Table 2 below for an overview of the empirical materials).

**Table 2.** Overview and description of the *HBR* genres selected.

Genre	Video's Title, Description and Length on <i>HBR</i> Website	Video's Title, Description and Length on Facebook Wall	Related Book/Article/Issue
Quick Study (Q1)	<i>Storytelling with Data: A Good Charts Workbook Tool.</i> In this video, Scott Berinato, author of <i>Good Charts and Good Charts Workbook</i> , walks through the three essential ingredients of any story—including those told with data. (9:31)	<i>Telling Stories with Data in 3 Steps.</i> Setup, conflict, and resolution—it's how storytelling works. You can tell stories with data the same way. (4:46)	<i>HBR</i> book: <i>Good Charts Workbook: Tips, Tools, and Exercises for Making Better Data Visualizations</i> [21]
Quick Study (Q2)	<i>Stopping Yourself from Acting On Bad Impulses.</i> Amy Jen Su. When you're about to reach for that sugary snack, micromanage a direct report, or snap at a coworker, pause and short-circuit the behavior before it begins. (3:59)	<i>Stopping Yourself from Acting On Bad Impulses.</i> Amy Jen Su. When you're about to reach for that sugary snack, micromanage a direct report, or snap at a coworker, pause and short-circuit the behavior before it begins. (4:00)	<i>HBR</i> book: <i>The leader you want to be: five essential principles for bringing out your best self—every day</i> [22]
Tips & Ideas (T1)	<i>Artificial Intelligence, Real Food.</i> Can AI really help you be more creative? We paired IBM's AI with an expert chef and a kitchen novice to see how humans and machines could work together. Here's what happened. For more, read "AI, For Real." (8:55)	<i>Artificial Intelligence, Real Food.</i> Can artificial intelligence come up with a delicious recipe? We enlisted a celebrity chef and an amateur cook to find out. (8:56)	<i>HBR</i> Big Ideas Issue: <i>AI, For Real</i> [23]
Tips & Ideas (T2)	<i>To Innovate, You Have to Manage the Past, Present, and Future.</i> Vijay Govindarajan, professor at the Tuck School of Business at Dartmouth College, explains how to create a new business while optimizing an already existing one. For more, read <i>The Three-Box Solution: A Strategy for Leading Innovation.</i> (10:53)	<i>To Innovate, You Have to Manage the Past, Present, and Future.</i> Your future weaknesses are embedded in your current strengths. That's why selectively forgetting the past is the biggest challenge. (10:54)	<i>HBR</i> book: <i>The three-box solution: A strategy for leading innovation</i> [24]
Explainer (E1)	<i>Why so few "Diversity Candidates" are hired.</i> Finalist pools can reinforce the status quo. For more, read "If There's Only One Woman in Your Candidate Pool, There's Statistically No Chance She'll Be Hired." (2:18)	<i>Why So Few "Diversity Candidates" Are Hired.</i> The relationship between finalist pools and actual hiring decisions. (2:19)	<i>HBR</i> article: <i>If there's only one woman in your candidate pool, there is statistically no chance she'll be hired</i> [25]
Explainer (E2)	<i>Big Data and Analytics.</i> What the two terms really mean—and how to effectively use each. For more, read <i>Big Data at Work: Dispelling the Myths, Uncovering the Opportunities.</i> (2:44)	<i>Big Data and Analytics.</i> What big data and analytics really mean—and how they can help your business. (2:45)	<i>HBR</i> book: big data @ work: <i>Dispelling the Myths, Uncovering the Opportunities</i> [26]

The research was performed in several stages. Before we started, as “multimodal analysis involves repeated viewing of the data” [27] (p. 186), we familiarized ourselves with the data through repeated viewings. Then, during the first stage, we coded and transcribed the empirical material from the *HBR* videos selected for recurring instances of specific knowledge-building processes. We included in Word tables all the knowledge-building processes identified in each part of each video in relation to the accompanying text appearing in the social media platform. During the second stage, we continued to work with the same tables, and we included the knowledge-building processes identified in the users’ comments to each video (see below Table 3). When we reached the third stage, new tables were created in order to systematize the data sets from the *HBR* videos and the books and articles that inspired the creation of the respective videos (see Table 4 below). Each of these tables was designed to capture the specificity of the multimodal knowledge-building processes in the contexts of the empirical materials selected and the research questions.

It should be highlighted here that, in order to truly understand our data multimodally, no semiotic mode was prioritized while identifying, transcribing and coding our sets of empirical material. Speech, written text, still images, moving images and other kinds of visualizations were all taken into consideration. Their relations of summarizing, complementing or reinforcing each other in the identified knowledge-building processes were examined in all the videos selected. However, in the case of each analysis we started with the verbal mode because it carries the main knowledge communication function (cf. Section 2.1). Obviously, a more detailed analytical stance could have directed attention to the meaning-making potential of other modes such as gesture, typography or colour, but for the present investigation we decided to avoid doing this. This decision was based upon the fact that our intention was not to provide full-fledged multimodal analyses of the videos, but of the knowledge-building processes made possible through a series of semiotic modes and their interplay. More details on the method underlying our results as well as more fine-grained analyses may be found in our previous work (e.g., [3,4]).

Finally, we identified the recurrent knowledge-building processes appearing in each type of empirical material. Both researchers were engaged independently in each of these analytical stages in order to be able to substantiate the interpretations in a valid manner.

**Table 3.** Excerpt from the analysis table of Q1 related to multimodal knowledge-building processes existing in the video and in the FB comments.

Genre Time Video's Title FB Information: Link, Date, Content Description, Reactions, Commentaries and Views	Types of Multimodal Knowledge-Building Processes			
	Multimodal Knowledge-Expansion Processes		Multimodal Knowledge-Enhancement Processes	
	<i>Multimodal Core Knowledge-Building Processes</i>	<i>Multimodal Peripheral Knowledge-Building Processes</i>	<i>Evident Enhancement of Knowledge</i>	<i>Apparent Enhancement of Knowledge</i>
Q1: Quick Study (09:31 min)  Telling Stories with Data in 3 Steps. Setup, conflict, and resolution—it's how storytelling works. You can tell stories with data the same way.	Q1:  Each video chapter's main topics and steps visualized on separate screen (i.e., "Find the story. Identify the three elements in your data"), summarizing the explanations provided through speech.	Q1:  The researcher's name and the name of his book are superimposed on the close-up shot of the researcher while he is speaking, complementing verbally the information provided through the image.	Q1:  Non-existent	Q1:  The main words uttered by the researcher are visually superimposed on the close-up ("Setup", "Conflict", "Resolution"), reinforcing the same meaning produced at the level of each semiotic mode.
FB Link 13 January 2020 1000 reactions 36 commentaries 58,800 views	FB:  Non-existent	FB:  Non-existent	FB:  Non-existent	FB:  "Wow! This is an extremely helpful example. Thank you. Could you please show more of these examples for storytelling with data?"

**Table 4.** Excerpt from the analysis table of the video Q1 focusing upon multimodal knowledge-building processes representing knowledge presented in [21].

Genre Video's Title HBR Link and Content Description Book Title	Types of Multimodal Knowledge-Building Processes			
	Multimodal Knowledge-Expansion Processes		Multimodal Knowledge-Enhancement Processes	
	<i>Multimodal Core Knowledge-Building Processes</i>	<i>Multimodal Peripheral Knowledge-Building Processes</i>	<i>Evident Enhancement of Knowledge</i>	<i>Apparent Enhancement of Knowledge</i>
Q1 Quick Study (09:31 min) Storytelling With Data: <i>A Good Charts Workbook Tool</i> . Scott Berinato, author of <i>Good Charts and Good Charts Workbook</i> , explains how storytelling with data is as simple as setup, conflict, and resolution. For more, read about the tool here: <i>Good Charts Workbook: Tips, Tools, and Exercises for Making Better Data Visualizations</i>	The knowledge presented is all about the concepts of "Setup", "Conflict", and "Resolution" as components of storytelling and of persuasion. It is thus core knowledge in connection with the book presentation.		Examples and explanations for the concepts of "Setup", "Conflict", "Resolution" Distinguishing time-series data and non-time-series data settings. Instructions in the form of examples of finding the concepts of Setup, Conflict, Resolution in data. Instructions for using the concepts in data presentation. Elaborated example of finding the concepts and structuring presentation on this basis.	Presenting the elements of narration ("Setup", "Conflict", "Resolution") Presenting narration as a deeply human characteristic.

## 4. Analytical Findings

### 4.1. Multimodal Knowledge Communication in HBR Genres

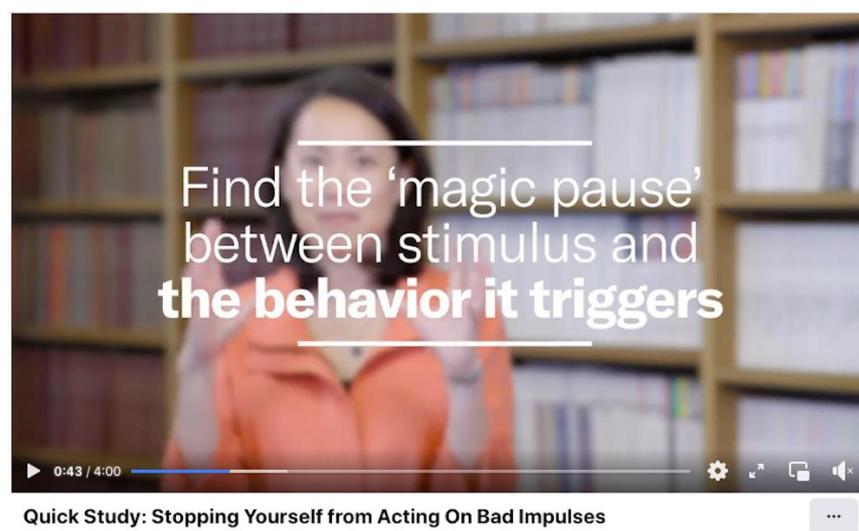
We start the presentation of our results by comparing the videos to the related publication (book, article, or *HBR* issue). Here, the focus is on the selections characterizing the videos and the combination of modes employed in the presentation of the selected items. This part of the analysis is based upon the kind of tables exemplified in Table 3. We also characterize the videos according to Bucher's typology. After that, we compare the actual videos with the short description accompanying the videos in the Facebook posts. Here, the focus is on how the knowledge introduced in the attention-catching short texts is spelled out and elaborated in the video.

#### 4.1.1. Quick Study Genre

The book directly underlying the Q1 video [21] and referred to from the video is a workbook published by *HBR* that consists of instructions concerning skills relevant for creating charts (colour, clarity, chart types, persuasion, concepts), exercises training these skills, and discussions of solutions to the exercises. Hence, it is a self-study book for people wanting to be able to create good charts for presentations. In this case, the video on the *HBR* Facebook page is an abbreviated version of the video on the YouTube channel, which is also visible in the different verbal presentations of the video (cf. Table 2 above). We chose to analyse the longer version here in order to have as much material as possible to work with. The video is based upon one aspect out of six mentioned in the workbook's section on persuasion [21] (pp. 132–133). The short text on storytelling consists of 204 words, whereas the video in its YouTube version covers 9.31 min. Therefore, the video is a multimodal elaboration of a minor aspect in the book: three concepts connected to storytelling (Setup, Conflict, and Resolution) are at the centre of the video; they are explained, defined and exemplified, and instructions are given on how to find them in different types of data and how to apply them for telling a convincing story; finally, an elaborated example is presented. Interestingly, the brief text accompanying the video, mentions the workbook, but the link at the end connects to a kit consisting of an e-book version of the workbook, a video, a printable tool, reusable worksheets, and an *HBR* article on the topic. Furthermore, the workbook is related to a textbook without exercises, but with the same topic as the workbook [28]. Here we find a brief presentation of the idea of storytelling (460 words) consisting in introducing the structure constituted by "Setup", "Conflict" and "Resolution". This presentation, too, is much briefer than the video, but like the video it goes into the basics of finding the elements of the story in the idea underlying the presentation. By way of conclusion, the video is an elaboration of what is presented in the textbook and workbook, which can stand alone and which actually goes deeper and further than the books in presenting its topic. In Bucher's terms, it is a presentation video, in which the author of the book speaks directly to the user and presents a topic.

The book underlying the Q2 video [22] is a book aiming at teaching managers how to be better leaders in their relation to co-workers. It is built around five principles, one of which is Presence. In order to enhance one's capacity for presence, the book suggests working through three steps. The video is built upon elements from Step Two (Regulate: Find the Pause and Don't Scratch the Itch [22] (pp. 138–145)). Elements in the video are the same as in the book, but there are more and different examples. Furthermore, the order of the presentation is turned around, so that the different substeps presented in the video inductively lead to the conclusion (that leaders need to be more present in meetings and interactions with others). In the book, on the other hand, the argumentative structure is more deductive. Consequently, we have also here a stand-alone video, where the relation to the book is not explicit, but can be recognised, if one reads the book. Furthermore, the video is not an attempt to make a summary of the book. Instead, a small element is taken out and given an independent presentation. In Bucher's terms, it is a presentation video made by the book author, as the focus is upon presenting a topic.

As far as the multimodal knowledge expansion in the Quick Study genre is concerned in relation to the short descriptions accompanying the videos, both core and peripheral knowledge-building processes characterize the Quick Study genre. This genre contains a series of multimodal core knowledge-building processes that contribute also to the structural layout of the videos, as each video part is marked multimodally by shots on which the main topics are displayed reinforcing the words of the researcher: “Have a mantra or a ‘swing’ thought” (Q2). This approach of addressing the viewer directly is manifested recurrently through evaluative rhetorical questions that the researchers ask the viewers while maintaining eye contact with them: “Everybody’s doing it, right? You’re not doing it? You should be doing it. You’ve been told you should be doing it. Storytelling with data is the big thing” (Q1). Including the viewers in an imaginary dialogue through such rhetorical questions and advocating evaluations that complement the eye contact in the incipient phases of the knowledge-building processes succeeds in minimizing multimodally the distance between researchers and viewers. In this way, the trustworthiness of the arguments presented is also reinforced. Multimodal animations including (handwritten) words, drawings and charts can complement researchers’ voice-over explanations and evaluations related to the core knowledge that has to be provided. Evaluative utterances such as “It’s really that simple” (Q1) both summarize and reinforce the preceding verbal explanations and the multimodal animations displayed on the screen, implying that the viewers are expected to participate in the proposed knowledge-building processes. The peripheral knowledge-building processes that are multimodally carried out in this genre while the researchers maintain eye contact with viewers include: the researcher’s name and the name of their book superimposed on the screen, references to well-known popular culture characters such as Charlie Brown and Lucy (Q1), examples from the viewers’ probable experience or the researchers’ personal experience (Q2), and the researchers’ confessions about their presenting issues, as in “OK, I’m going to spare you most of my sketching because it’s too messy and chaotic it probably would just give you a headache” (Q1). Such evaluations of research work are uttered while the researcher is present only in voice-over. The multimodal knowledge-enhancement processes include rare processes of evident enhancement of knowledge. A single reference to other researchers’ works can be mentioned: “And so, one of my favorite techniques comes from a Western M.D. called Dr. Andrew Weil” (Q2). However, the apparent enhancement of knowledge is present in diverse ways. For example, the main words uttered by researchers are dynamically superimposed on their close-up images reinforcing visually the main ideas presented verbally by the researchers. For example, in Q2: “Find the ‘magic pause’ between stimulus and the behavior it triggers” (see Figure 1).



**Figure 1.** The researcher explaining while her words are superimposed on screen in Q2.

Nothing new is added through such multimodal reinforcement, but the chances that the viewers would accept and/or remember the proposed arguments are higher. Images replicating visually the researchers' voice-over narration have a similar role. Furthermore, information about the researchers' names and their books' names, as well as the videos' creators, is visually repeated.

#### 4.1.2. Tips and Ideas Genre

The video T1 is linked to an issue from the so-called 'Big Issues Series' with the title 'AI, for real'. These are special issues focusing upon different topics. The issue to which the video belongs consists of eight contributions: six written articles, one interview in front of an audience (around one hour), and the video. This video thus really stands alone; it is not based upon any written product. The video (8.55 min) shows in some detail how each of two people with different cooking experience develops a new recipe and cooks the meal with guidance from the IBM Watson computer, which uses AI. Whereas the accompanying text for the other videos studied here contains links to a specific article or book, this video is linked to the whole issue with its eight contributions. In Bucher's terms, the video belongs to the narrative type, as it tells the stories of two different people in order to demonstrate the potential and workings of AI in a kitchen setting.

The T2 video is related to a Harvard Review Press book [24]. It is a book that presents a general strategy for managing companies and their change and development over time, the so-called Three Box Solution. The video is an interview with the author of the book, in which central parts of the book are presented. The basic logic of the book is preserved in the interview, but the order is not kept fully. However, the video is a resume of the book's presentation of the strategy. Due to the limited space (the book has 240 pages, the video spans 10.53 min) the number of examples and the level of detail in the description of the elements is higher in the book than in the video. For example, the topic of a whole chapter (ch. 5) is not taken up in the interview, and the interview only uses one of the examples around which the book is built. In Bucher's terms, it is an expert video, because the author is here at the centre of the video as interview partner, and we are told some details about him. This distinguishes the video from the two videos Q1 and Q2, where the experts are present, but only the presented subject is the topic of the video.

The Tips & Ideas genre is more diverse in terms of the knowledge-building processes that are performed. The videos selected that have been analysed employ quite different ways of conveying knowledge. For example, in T2, the multimodal knowledge expansion is mainly realized through the interviewer's questions and the researcher's answers uttered while maintaining eye contact with each other in close-up shots: "How can we start to solve this problem?" (see Figure 2).



To Innovate, You Have to Manage the Past, Present, and Future

Figure 2. Interaction between researcher and interviewer in T2.

In the case of T1, the researcher is also visible on the screen, but the explanations are given while maintaining eye contact with an invisible interviewer: “Creativity, discovery, getting recommendations, advice, that’s all things that you can apply to your own industry whether it’s retail, finance, travel and so on”. Furthermore, if in T2 the core knowledge-building processes are also manifested through only one shot without the researcher and the interviewer on screen (a still shot of three red boxes with superimposed text on them: “Manage the present”, “Selectively abandon the past” and “Create the future”), in T1 these processes are accomplished through shots of people working with an IBM Watson computer system or with food; these shots are complemented by the researcher’s voice-over. The peripheral knowledge-building processes are strongly manifested in T2, as the researcher and the interviewer make references to the researcher’s work: “While the book is new, this is an idea that you’ve been working with for a very long time”. In both videos, references to the participants’ domains of expertise are also included. As a means of performing evident knowledge-enhancement processes, T2 employs references both to other researchers (“This is something that C.D. Prahalad introduced”) and to illustrative examples (“Take, for instance, an example of Microsoft”). Such references are absent in T1, but these processes are still performed through various shots of the experiment’s participants while working with food and explaining what they do: “So, Watson left it up to me to be creative with my plating”. The personal evaluations of the experiment (and of their biases) are also embedded in their staged dialogue with the computer or in the researcher’s dialogue with them. The processes of apparent enhancement of knowledge are manifested through repetitions of the name of the video, the researcher’s name and the name of the book on the first and the last shot of the video.

#### 4.1.3. Explainer Genre

The E1 explainer is related to an article in the *Harvard Business Review* [25]. The article is mentioned and linked to in the accompanying description. In the video, the relation to an article is indicated, but only the authors, not the title of the article (which is different from the title of the video), are mentioned. The video is a summary of the article. It has the same structure and follows the same line of argumentation, but is less detailed in its presentation, and one supporting study is mentioned in the article but not in the video. Hence, this video is very closely related to the underlying article. The format is that of animated drawings supporting the verbal presentation. Based on Bucher’s typology, this is therefore an animated video.

The E2 explainer, which also uses animated drawings supporting the verbal presentation, is related to a book published by Harvard University Press [26]. The book is mentioned in the short description accompanying the video and in a written text at the end of the video. It is not mentioned at any earlier point in the video. The content of the video is more basic and definition-oriented than the book, which has a clear target in business managers that should be working more with big data. The video explains what is understood by ‘big data’, what the analytic challenge is, what types of analytics exist, and presents a model for working with data analytics in a business context. Hence, the video stands alone from a content point of view and may function as a supplier of background knowledge relevant for understanding the book. In Bucher’s terms, it is also an animated video.

In the case of the Explainer genre, the multimodal knowledge-expansion in relation to the short descriptions accompanying the videos is accomplished through both core and peripheral knowledge-building processes. However, in contrast with the other two genres, the researchers are no longer present on the screen. Only multimodal animations including words, numbers, abstract figures and music complement a voice-over’s detailed explanations and evaluations: “Having only one woman or minority in a pool of finalists highlights how different he or she is from the norm and decision makers often unconsciously associate difference with risk, or even incompetence” (E1). The expected complementation between the employed semiotic modes is weak and this influences the expected unfolding of the knowledge-building processes. The dynamic character of the multimodal animations

with statistical information, abstract images, words displayed in movement on the screen and rapid voice-over narration hinders a smooth unfolding of such processes. Although rhetorical questions addressing the viewers (“And how can they help your business?”) and references to viewers’ probable experience (“We’ve all heard the buzzwords”) still accompany some shots, as in these examples from E2, the distance between the researchers and the viewers is not minimized, as it is in the case of the two other genres. Processes of evident enhancement of knowledge are not part of this genre’s communication of knowledge. The multimodal interaction does not provide knowledge not already presented in the verbal mode. Nevertheless, as in the case of the other two genres, processes of apparent enhancement of knowledge can be encountered: the researchers’ and their *HBR* article’s names displayed on the first and last shot of the video, and the repetition of certain words across semiotic modes.

#### 4.2. Multimodal Knowledge Communication in Social Media Comments

This analysis is based upon the type of tables exemplified as Table 2 above.

Before starting this analysis, we assumed that, being a social network that has the affordances for knowledge sharing, Facebook would provide a rich array of comments related to the videos posted by *HBR*. However, the social media engagement manifested on this platform in the specific context of the *HBR* wall proved to be much more restricted than expected. As a consequence, the types of multimodal knowledge-building processes existing in the comments are also less diverse than predicted because user commentaries that actually evaluate the knowledge provided or/and contribute to communicating and co-constructing new knowledge are quite scarce. Furthermore, the comments are similar in relation to all the *HBR* videos analysed, meaning that the generic specificities and the types highlighted above have not influenced the users’ behaviour.

Due to the users’ behaviour in relation to the *HBR* videos analysed, processes of knowledge expansion are absent. Neither core nor peripheral knowledge-building processes are manifested in the users’ comments. Nevertheless, knowledge-enhancement processes are represented especially through apparent enhancement of knowledge. The manifestations of evident enhancement of knowledge are rather sporadic and appear only in the comments to some of the videos. These manifestations differ from what was encountered in the videos because the knowledge provided is not new knowledge related to other researchers’ work, but to the users’ own readings: “Some time back I read a book with similar approach and great concept around project management ‘A Recipe Book For Practical Project Management’” (T2). Evident enhancement of knowledge is also performed through what Bucher above calls epistemic review, i.e., evaluative reflections on the validity of the single utterances, not the whole video: “I think that the myopia of failing to hire women and minorities for C-suite positions fall upon the white men’s inability to supersede their biases” (E1). Such comments may not only nuance the knowledge provided in the videos, but also problematize it: “I think using tech as an example for this model can be complicated, because it is a gamble on what the future market demands today and the loyalty of the brand followers. IBM and HP also “missed” these innovations that the speaker mentioned” (T2). It is worth mentioning that only one comment is characterized by harsh critique in the form of what Bucher calls an evaluative comment: “It’s funny how seriously they are spewing bullshit good comedy” (T1).

The main manifestations of apparent enhancement of knowledge appear in the comments reviewing the validity or assessing the general value of the videos’ content with different degrees of nuancing and enthusiasm expressed through various evaluative adjectives or/and the number of exclamation marks: “This is fundamental for progress at all levels, be it organizational or individual (for a particular person), the concept is brilliantly explained” (T2); “Very interesting research” (E1); “That’s totally right!!!” (Q1). The users’ engagement with the videos’ content is also manifested through processes of apparent enhancement of knowledge that only implicitly acknowledge this engagement by involving friends or acquaintances. Such involvement is achieved just through naming persons who,

presumably, should or could be interested in the videos; only rarely, these persons are also encouraged imperatively: “D check this out” (Q1). In Bucher’s typology of comments, these comments can be seen as mainly working on personal relations.

Unexpectedly, the multimodal manifestations of knowledge-building processes in the users’ comments are also rare. Some of the epistemic or evaluative comments are accompanied by emojis, or emojis can also appear unaccompanied by verbal comments. In a few cases, the comments are accompanied by links to other social media platforms, websites or short videos that are not topic-related to the *HBR* video: “If you want to create a beautiful logo, banner, visiting card, then visit this site <http://www.fiverr.com> . . . ” (E2); “NEED QUICK CASH? emojis APPLY BELLOW [sic!] emoji link” (Q1). Such comments may not be accompanied by any kind of multimodal material, but they are more detailed and include more advertising imperatives: “Live longer and extend your youth with R2. Resets up to 50 Youth Gene Clusters to turn back the clock and reverse aging for a maximum of 20 years. PM me for more details” (E1). Apart from this scarce manifestation of multimodal communication, it has also been observed that the platform’s inherent affordances for discussions among the various users or between users and *HBR* are rarely used, although some of the comments show a real need for interaction by addressing questions: “What is a thirty-year bubble?” (Q1). These questions are never answered.

Lastly, it should be mentioned that the knowledge-building processes may be also hindered by the fact that the comments appear in various languages, and some of those that appear in English seem to be translated automatically from another language or are posted by non-native speakers: “Every information will be able to build as big data for analysis with marketing. Those can be occurrence and expand about chance for brand new business” (E1).

## 5. Discussion and Conclusions

As shown above, the multimodal knowledge expansion and enhancement building processes that have been detected in the Quick Study genre in relation to the short descriptions accompanying the videos are characterized not only by the researchers’ endeavours to provide accessible explanations, but also by their strategies to minimize the distance between themselves and the possible viewers. Imperatives, rhetorical questions, confessions, and eye contact are the main strategies through which the researchers succeed in accomplishing this. While in the Quick Study genre these strategies ensure a strong implicit presence and involvement of the viewer, in the Tips & Ideas genre these strategies are absent, and the viewer is relegated to a mere onlooker role. A similar role is also given to viewers in the Explainer genre, but not to the same degree, as some rhetorical questions addressing the viewers still appear in the videos belonging to this genre.

The unexpected results of our analytical work performed on the FB users’ comments have revealed that the users’ engagement with this social medial platform is characterized by a scarcity of knowledge-building processes. Although some of the videos analysed have been viewed by up to 160,000 users and have received up to 3300 reactions, the number of comments is much lower and, as explained above, only processes of apparent enhancement of knowledge characterize them. This scarcity of knowledge-building processes might be motivated by the fact that the FB platform’s affordances for dialogue and networking are not exploited by *HBR*, either. *HBR* does not invite dialogical contributions, and other users in all generality do not engage in dialogue either with *HBR* or with other users. *HBR* share their videos on their FB platform and some users comment on those videos individually. Thus, although “the content interactivity” is manifested through the users’ comments to the videos’ content, the “human interactivity” [6] (p. 3) is absent, as no “knowledge conversation” [29] (p. 38) takes place, influencing in this way the knowledge-building processes that can appear in this context.

Here, it may be relevant to look in more detail at the context of the videos. Although the six videos we have investigated cover all of the types of science-oriented YouTube videos suggested by Bucher, they do not generate much debate, especially not on the con-

tent (Epistemic assessment), which is by far the most frequent type of comments in Bucher's corpus. In this context, it is important that, although the videos may all be watched as independent, stand-alone scientific contributions, with a varying content relation between video and underlying article, book, or *HBR* issue, all the videos are indicated as introductions, as teasers for the real thing ("for more, see . . . "). A good hypothesis is that viewers do not engage with the videos, even where the actual researcher/author is present in the video and engaging with the users, because they see the videos more as advertisements and less as actual stand-alone attempts to convey knowledge, as in Bucher's science videos.

As such, our study's results related to knowledge-building processes facilitated by the social media engagement affordances confirms the claims of other researchers:

"Social media, such as WhatsApp, FaceBook, YouTube, and other portals, may promote the transition beyond knowledge sharing to co-construction and informal learning, since they enable users to discuss the shared content. Yet critical evaluation, refinement, or improvement of ideas shared on such sites is not guaranteed." [30] (p. 4).

To conclude, in spite of the fact that we have focused on a limited number of genres, in this study we provide systematic explanations of a conceptual framework and of qualitative research processes (i.e., the multimodal strategies of detailed transcribing and analysing) that can be replicated in other contexts. By taking this methodological approach, we have been able to go beyond textual analysis and have clarified how we can investigate both the roles of individual semiotic modes and their meaning-making interplay when the knowledge of academics is disseminated to professionals and other non-academic communicative partners.

Building on our approach and the present empirical results, we encourage future research endeavours not only to employ this framework but also to improve it by exploring additional genres, so that the rapid development of hybrid knowledge communication can be continuously understood and documented.

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