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Communication in Futures Studies: A Discursive Analysis of the Literature

Abstract

Communication is recognised as an essential part of futures work and yet research on the topic appears to be sporadic. This paper presents the results of a comprehensive literature review on communication in futures studies and offers four contributions to the field. Firstly, as no known overview of literature on communication within futures studies was found, an extensive literature review was carried out to assess and understand the current state of research on communication within the futures field. Secondly, after the identified publications were analysed using a Foucauldian-inspired discourse analysis, six general discourses are proposed. Based on these discourses, a preliminary taxonomy of the literature is developed, which acts as a framework to support a general understanding of the work done on communication in the futures field. The third contribution is a recommendation for the definition of communication in futures studies, which is based on the literature review results and communication theory. And lastly, based on the framework, areas that have little or no published work are highlighted and constructive suggestions are given for further research.

Keywords: Futures; communication; Foucault; discourse analysis; narrative.

1. Introduction

1.1. Background & Aims

Communication is an essential part of life and therefore tends to be treated as a given; an item to be checked off a list in a plan or an activity that is addressed after the main parts of a research project have been done. The recent development of specialist areas such as science communication and sustainability communication have highlighted that communication warrants closer inspection and further understanding in other disciplines. Renowned futurists, such as Bell (2003), Daheim and Uerz (2008), Hines and Gold (2015) and Ramos (2006; 2012) have written about the importance of communication yet, after an initial foray into the futures literature, it is evident that there is a lack of an in-depth study on communication within futures

studies. The reason for this research gap is unclear and yet the number of papers published on the better or more effective presentation of futures work, such as the use of narrative for scenarios (e.g. Jarva, 2014), is increasing. The aims of this paper are to (1) provide an overview of the research focused on and related to communication within futures studies and (2) to assess the current state of work on this area, provide a preliminary framework to understand the existing work and to highlight possible future areas of research.

1.2. Defining Communication for this Paper

It is important to describe what communication is for this paper as it does not have a singular meaning. Even within the field of communication studies there is no one academic definition of the word and the lay definitions are also numerous. Additionally, other disciplines understand communication in diverse ways and it has been noted by some communication scholars that communication has been appropriated by other fields, such as medical research or organizational psychology, which makes concluding upon a single definition of the term even more challenging (Cornelissen, 2017; Koschmann, 2010). There is little published on communication within futures studies and there seems to be no common futures definition of the term. In comparison, the related field of innovation has defined what communication means to the area and established a branch of research called innovation communication (e.g. Hülsmann & Pfeffermann, 2011; Pfeffermann & Gould, 2017). Communication theory scholars Craig (1999) and Koschmann (2010) identify and examine the meaning of communication at a meta-level that provided a framework of understanding for this paper.

After identifying 249 distinct communication theories in the literature, Craig (1999) proposes a constitutive model of communication as a meta-model, which identifies communication as a social process. The constitutive meta-model is helpful because it provides a framework, which allows the major communication theories to co-exist. Craig (*ibid.*) argues that the prevailing transmission model of communication (i.e. the sender receiver model or the transferring of information from one person to another) is philosophically flawed but is not obsolete. The constitutive meta-model would allow the incorporation of the transmission model (and other lesser-known communication models not discussed here) as they are still used as the basis of much practical understanding of what communication is. Integrating Craig's ideas, Koschmann (2010, p. 432) explains that communication is often seen as a "unit of analysis" and that communication scholars tend to concentrate on categorising communication instances. He outlines an alternative approach in line with the constitutive meta-model, which sees

communication as form of explanation and moves the focus from communication types to communicative explanations (*ibid.*).

The work of Craig (1999) and Koschmann (2010) were combined to determine the meaning of communication for this paper. The idea that an inclusive and academically robust meta-model was available and could include the seemingly disparate communication models was appealing because initial forays into the futures literature showed that underlying understandings of communication was mixed. Diverse definitions are also widespread in the communication field due to its history and adoption of theories and concepts from other disciplines. Craig's (1999) work differentiates itself from others through its perspective on communication, which seems obvious but was a paradigmatic shift at the time of publication. Koschmann's research delves deeper into the idea of communicative explanations and provides a vocabulary to the ideas emerging from some of futures publications evaluated for this paper (e.g. Dufva & Ahlqvist, 2015a). Therefore, for the purposes of this paper, communication is defined two-fold: (1) it is a unit of analysis (based on the transmission model) *and* (2) it is a social process, which explains various phenomena (based on the constitutive model).

2. Methodology & Results

2.1. Literature Searches

The overall methodology was qualitative and two literature searches were performed; a preliminary scan of the literature to test the viability of researching the topic of communication within futures studies, which took place from October to November, 2016, and a more comprehensive search, which was done from December, 2016 to March, 2017. Additionally, several small searches were carried out from April, 2017 to March, 2019 to supplement the literature review process with the latest publications. The initial scan used the *Google Scholar*, *SpringerLink* and *ScienceDirect* databases. Additionally, *Scopus*, *IEEE Xplore*, *ResearchGate* and *Mendeley* were also used in the following in-depth exploration. The databases of several journals were also searched directly (see Table 1). The journals were sourced from the results of the searches and from the recommended publications lists from key futures studies' texts (e.g. Gidley, 2017; Sardar, 2012) and established organisations such as the World Futures Studies Federation (<https://wfsf.org>). Fundamental futures studies books, such as "*Foundations of Futures Studies. Volume 1*" (Bell, 2003) and "*New Thinking for a New Millennium*" (Slaughter, 1996), were also directly included in the literature review.

The initial search terms included were “futures”, “futures studies”, “foresight” and “communication”. The secondary search also included key words such as “scenarios”, “vision”, “narrative”, “storytelling” and “discourse”. For a more precise searching, a Boolean search technique was utilised where key words were used in different combinations for the searches (e.g. “futures AND communication” or “communication” AND “scenarios”). Each search on each database yielded slightly different results and there was some overlap. The initial searches for “futures AND communication” or “communication AND foresight” yielded few results. Papers either contained the term “communication” (unsurprisingly, this term alone yielded hundreds of thousands of hits as the search went beyond the futures literature), “futures” (several thousand hits) or “foresight” (also several thousand hits). It was decided that the search terms had to be broadened to synonyms of and associated terms with “communication” and combine them with “futures”, “foresight” and terms related to both. Synonyms used for “communication” were “discussion”, “presentation”, “presenting”, “transmission”, “talking” and “sharing”. Associated terms for “communication” were “discourse”, “narrative”, “narration” and “storytelling”. The term “futures” and “foresight” were also expanded to common outcomes from the field such as “scenario” and “vision”. Various combinations of these terms yielded more promising results as more hits contained either a combination of the terms “futures”, “foresight”, “narrative”, “scenario” and “storytelling”. The abstracts of the first 20 articles (if available as some searches resulted in less than 20 hits) on the list were scanned and if it contained general information on communication in futures studies or foresight, the article was downloaded for further reading and analysis.

Journals in Futures Studies / Foresight
European Journal of Futures Research*
Foresight*
Futures*
International Journal of Foresight & Innovation*
Journal of Evolution and Technology
Journal of Forecasting
Journal of Futures Studies*
Long Range Planning
On the Horizon
Policy Futures in Education

Technological Forecasting & Social Change*
The International Journal of Forecasting
World Future Review: A Journal of Strategic Foresight*
World Futures: The Journal of New Paradigm Research*

Table 1. Range of journals in and associated with futures studies and foresight that were covered in the academic database searches. * These journals were also searched directly (i.e. the search function was used on each journal’s online catalogue with the same terms used in the searches on the online academic databases). Articles from journals in other fields (and therefore not listed above) were also used. These articles turned up in the searches on the various academic databases.

2.2 An Emerging Taxonomy

The preliminary search did not yield numerous results; approximately twelve relevant articles and few books were discovered through the databases. The articles and the foundational books did show that there was general interest in communication and its importance for futures studies but further information on the topic was lacking (e.g. Bell, 2003). Expanding the search terms and their combinations, using a few more databases and searching directly in some of the journals generated larger numbers of relevant articles and books. After several months of searching, sorting and analysing the literature, a nascent taxonomy of communication in futures studies appeared to emerge.

The analysis of the literature was based on Foucault’s ideas about discourse, its formation and implied power structures (Burr, 2015; Foucault, 2010). The method used in this paper is described as “Foucauldian-inspired” as it uses only a selection of elements from Foucault’s archaeology and genealogy. Some scholars argue that a “proper” or full Foucauldian discourse analysis (or FDA) does not exist as Foucault discouraged turning his ideas into fixed methods or processes (e.g. Nicholls, 2009; Tamboukou, 1999). Therefore, this paper focuses on identifying the main discourses and how these discourses relate to each other (i.e. discursive correlation). The main discursive object is communication. The first search resulted in a low yield of publications for the object expressed in the form of “communication”. The number of literature hits was much higher when synonyms, or other object forms, were used and discovered. This supported the identification of four main discourses or discursive categories and two secondary discourses of futures literature on the topic of communication (see Figure

1). The main discourses are (1) communication through narrative, (2) communication as a capability, (3) communication through technology and (4) communication as a participatory process. The secondary discourses are futures and metaphor and general concerns around communication.

The classification helped to determine what had already been published on communication within futures. Considering that this study found no previous categorizations that could be used as a reference or discussion about communication discourses within futures studies, this review may be one of the first to focus on communication in the field. It is important to highlight that the discourses were not mutually exclusive and were related to each other. Some articles could have been belonged to two main discourses (e.g. communication capability and communication through narrative). In this situation, the predominant discursive objects and concepts used in the article determined in which category it was assigned to.

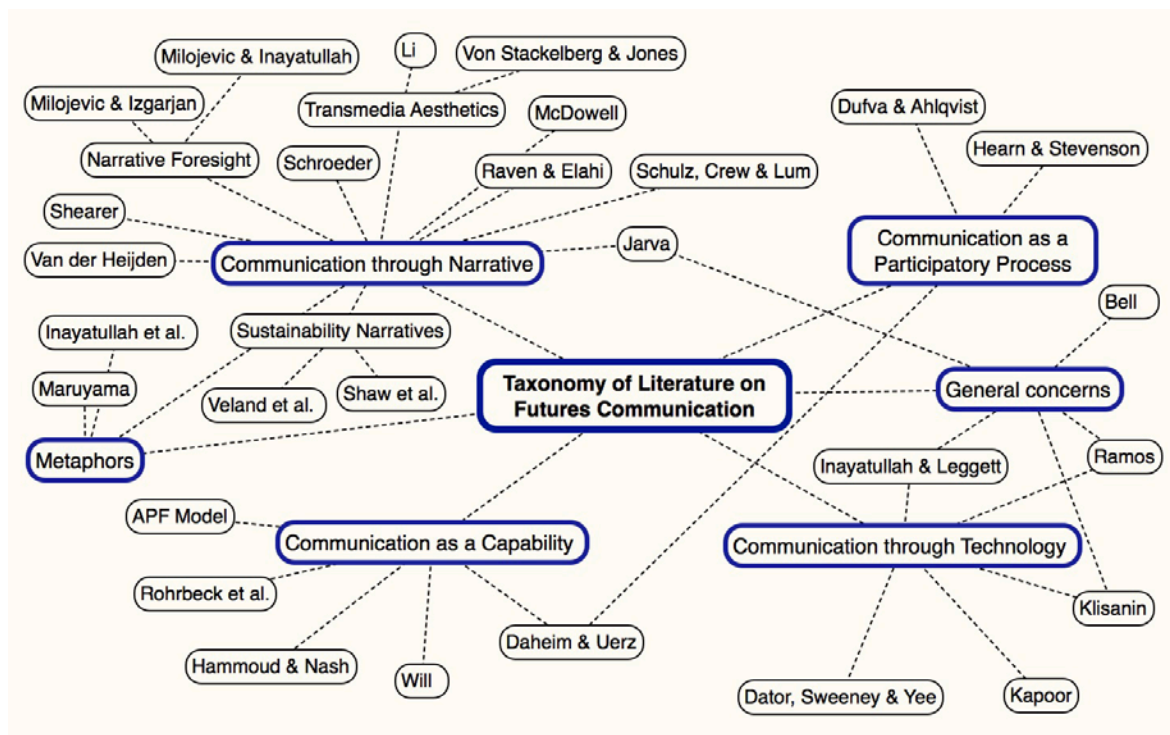


Figure 1. A taxonomy for the literature on communication in futures studies. This taxonomy is a preliminary proposal and not exhaustive. The authors illustrated are examples of researchers, whose publications are the basis of the suggested discourses.

2.3 Communication Through Narrative

All of the publications sourced for this review concluded that describing and presenting futures work could be challenging. Some papers were very specific (e.g. a single method for describing scenarios in a particular context such as Raven and Elahi's (2015) "The New Narrative: Applying narratology to the shaping of futures outputs") and others rather broad (e.g. communication is a challenge and needs to be addressed, see Ramos, 2006). The category with the largest amount of publications contains literature, which speaks about narrative or storytelling within futures studies. The majority of the papers were discovered in the expanded search including synonyms and associations of communication as the term "communication" is not always explicitly stated in every publication but other discursive forms of it appear. The reason for the larger amounts of literature related to narrative is unclear. However, the genealogical approach supports the identification of the use of narrative or storytelling in futures studies is embedded within the history of the field. Science fiction author H.G. Wells is often credited with initiating a more formalised approach to studying the future (Gidley, 2017) and in the 1960s Herman Kahn is credited with borrowing the scenario concept from Hollywood scriptwriters (Van der Heijden, 2005). Bell (2003, p. 317) concludes that the just codification of scenarios may not be possible but great historical examples exist, such as Thomas More's "Utopia", which futurists can learn from. The discourse in Bell's writing alludes to the futures field not necessarily being capable of compelling narratives but its researchers can learn from an established storytelling institution: the historical and academically-recognised authors of fiction. The explicit and increasing focus on narratology and its application to futures research and practice is a more recent phenomenon and shows promise for researchers and practitioners in overcoming various communication challenges and therefore is the focus of this category.

The terms narrative, story and storytelling sporadically appear in futures literature since the 1960s (e.g. Michael, 1985) but increased from 2009 onwards (e.g. Booth et al., 2009). One early example of the "communication through narrative" discourse is Shearer's (2004) article on the use of Burke's dramatic pentad to create scenarios that are also comprehensive stories. Two more recent and notable examples of storytelling's application within futures work are Schroeder's (2011) master's thesis on using fiction to present foresight findings and Collie's (2011) article on science fiction's relationship to urban planning. The articles increase from 2011 onwards with, for example, Schulz, Crews and Lum (2012) work on using the hero's journey narrative arc to produce compelling scenarios. Li (2013; 2014) and Von Stackelberg and Jones (2014) discuss the use of transmedia storytelling to communicate about futures.

Along with these, several seminal texts were produced in 2014; Jarva (2014) published “*Introduction to narrative for futures studies*” and Milojevic and Izgarjan (2014) published “*Creating alternative futures through storytelling: A case study from Serbia*”, both of which demonstrated the use of narrative in participatory futures. These authors are internationally recognised and respected futurists and their support for the use of narrative added gravitas to the growing “communication through narrative” discourse in the futures field. This perhaps encouraged others to use narrative for purposes beyond turning scenarios into compelling stories. Arguably, their work may have also contributed to more careful consideration of the role of communication within futures beyond a futurist’s personal skill at presenting his or her work.

Literature on the shaping of futures outputs continued to grow in 2015 with, for example, Raven and Elahi’s (2015) paper about the use of literary theory to apply narratives to futures work, particularly for scenarios, which still remains an important part of this discourse. In parallel, the term “narrative foresight” was introduced by Milojevic and Inayatullah (2015) to describe a futures practice based on the transformative aspect of storytelling to develop desired futures. The use of narrative moved from its application to the communication of results to a part of a participatory futures process. This shift in the discourse was also expressed in Von Stackelberg and McDowell’s (2015) article on how narratives may be used in exploring and communicating about the future, which also investigates the use of narrative beyond describing possible futures to *creating* futures. Other highlights in the use of narrative to develop desirable futures are Burnam-Fink’s (2015) article on creating narrative scenarios at the Emerge festival and Bisht’s (2017) award-winning master’s thesis on storytelling as tool for inclusion in foresight. The use of narrative in developing new and desirable futures has expanded outside the futures field and into the sustainability area. Veland et al. (2018) conclude that a combined approach of a comprehensive narrative about earth systems and engagement from multiple stakeholders in its development are both essential.

2.4 Communication Through Technology

Information and communication technology (ICT) as an enabler for the distribution of futures work has long been recognised by futurists (e.g. Inayatullah & Leggett, 2002; Ramos, 2006). This discourse frames ICT as having the potential to offer broader, more diverse and decentralised communication platforms but is also tempered with the healthy scepticism of the optimistic claims and technopian scenarios propagated by technologists. Kapoor (2002),

Klisanin (2012) and Ramos (2006) advise caution when contemplating ICT to support the communication of futures. Kapoor (2002) differentiates between communications (ICT) and communication (classic channels for social interaction) and concludes that communications could support communication but is problematic due in part to the existing western and exclusive meta-discourses embedded in the creation of ICT systems.

The rise of social media in the mid-2000s gave rise to the hope that minority and marginalised voices would have platforms, which could lead to the mass communication of diverse futures, which could balance (or eventually banish) the colonised or used futures nation states and large corporations tend to propagate (Ramos, 2006). Ramos' (*ibid.*) frames social media platforms as a capable competitor to the reigning (at the time) media institutions. Klisanin (2012) reinforces the idea that ICT can be used for futures work but in order to do so, inclusive and holistic communication systems are required to effectively communicate possible and desirable futures' narratives. Dator, Sweeney and Yee (2014) propose a meta-perspective on communication technologies. Their perspective of technology is not limited to recent ICT and increase their scope to accommodate historical technologies such as the advent of the printing press. Their expansive perspective leads them to conclude that communication technologies are mutative; they change individual and social behaviour but that change need not necessarily be positive, neutral or negative and that, "...it is simply what it is." (*ibid.*, p. 5).

2.5 Communication as a Capability

In this discursive category, the term "communication" is explicitly used and communication is generally described as a capability that futurists or foresight practitioners need to be successful in their work. It is interesting to note that based on the language used, all of the papers in this category (Figure 1) could also be classified as corporate foresight (CF) literature. Daheim and Uerz (2008) refer to communication as one of six critical success factors for CF activity within an organisation and also propose that foresight can be viewed as a participative communication process but that only a small number of companies in their study agreed with this idea. Will (2008) also suggests that CF is a process of communication that develops mid to long term visions, which in turn support overall business success by strengthening competitiveness. The participative aspect is not explicitly mentioned in Will's (2008) study. Rohrbeck and Gemünden (2010) frame communication as a capacity within strategic foresight and places communication capacity as part of method sophistication within the CF maturity model. These proposals are reiterated in the more recent publication of Hammoud and Nash's (2014)

investigation into CF activities in American corporations and in Rohrbeck et al. (2018) CF benchmarking report. The APF Foresight Competency Model (Association of Professional Futurists [APF], 2016) reinforces the “communication as a capability” discourse through the categorisation of communication as an essential “soft skill” or as a personal effectiveness competency.

2.6 Communication as a Participatory Process

Outside of the CF literature, when communication is discussed as being part of a process, it is done so from within the frame of participatory futures. Daheim and Uerz (2008) briefly mention their surprise at the low evaluation of foresight as a participative communication process even though participation and communication are respectively ranked as the third and fourth critical success factors in their study. Hearn and Stevenson (1998) conclude in their paper on the anticipation of the futures of communication studies that the three main research traditions (empirical, interpretative and critical) in communication theory are insufficient for communication research. They propose that the future study of communication should focus on, for example, addressing human and social problems and that an action research approach, in which all project stakeholders (i.e. researchers, sponsors and the “researched”) participate in the research project, allows for a “discourse of doing” and “accommodates different levels and forms of meaning” (Hearn and Stevenson, 1998 p. 119). More recently, the idea of foresight as a participative communication process is prevalent in the work of Dufva and Ahlqvist (2015b) on knowledge creation dynamics in foresight workshops. One of their conclusions is that the format of participative foresight workshops enable the creation of profound and innovative ideas about the future or “out-of-radar knowledge” through, “...the interactive flow of discussion between participants, not just through singular ideas or phrases.” (*ibid.*, p. 15). As with the “communication through narrative” discourse, this discourse shows the change from a waterfall model of futures deliverables development (e.g. scenarios) to an iterative and agile model of development and the evolution of communication’s role as part of this change. Or in Foucault’s language, the concept of scenario development as an input into strategy or policy creation, for example, is being questioned as the “truth” about how futures work should be done. A new “truth” begins to emerge; the concept of continuous collaboration and its underlying foundation of constitutive communication as a means to co-create and then integrate scenarios (or other artefacts) with strategists and policy makers into strategy and policy.

2.7 General Concerns and Metaphors

There were several publications expressing the authors concerns about the lack of communication tools and/or communication capability in futures. An often cited and recognised publication on this theme is Ramos' (2006) study entitled "*Consciousness, Culture and the Communication of Foresight*", which argues that, "All the valuable insights in the world...are worthless if they cannot be communicated more broadly and influence change." (Ramos, 2006, p. 1119). Others, such as Bell (2003), embed their concerns within texts on broader futures topics. Overall, the publications that fell explicitly into this discursive category were few and since 2012, it seems that nothing on this specific discourse was published.

In comparison to the category above, the literature on communication through metaphors is an emerging area and related to the discursive category "communication through narrative". Although the use of metaphors in futures studies is not new (e.g. Maruyama, 1974), the literature in this area has grown since the publication of Volume 84 of the "*Futures*" journal in 2016 was dedicated to metaphors in futures studies. From this issue, Inayatullah et al. (2016) provide biographical accounts about their experiences with metaphor and its potential application to futures research and others (e.g. Song, 2016) discuss their approach to the use of metaphor in futures work.

3. Discussion & Conclusions

The findings of this study show that communication is an important topic within futures even if the term "communication" is not ubiquitous in most of the literature analysed for this review. The proposed taxonomy (Figure 1) is helpful in a general classification of the work published and provides a draft framework, which contributes to the further understanding of communication within futures. The largest amount of literature has been written on narrative, in its various applications within futures. Within this discursive category, articles could potentially be clustered into one of two sub-discourses: (1) the use of narratives or storytelling to support the communication of futures outputs (e.g. Ravel & Elahi, 2015) and (2) the use of narrative as part of a participatory process to create desired futures (e.g. Milojevic & Inayatullah, 2015). Reflecting upon the definition of communication for this paper, it could be argued that the former sub-discourse is based upon the transmission model of communication and the latter one on a constitutive model. This sub-categorisation is only a suggestion and needs further consideration. Further analysis within the narrative literature could reveal alternative discourses according to subject area or through a topical perspective (e.g.

sustainability narratives), where a mixture of the both communication models is used (e.g. Veland et al., 2018). In addition, alternative methods of analysis (e.g. emerging issues analysis) would result in other interpretations of the literature.

The recognition that communication is important appears in each discursive category. Much of this was implicit within the literature and was revealed through the discursive analysis. For example, in the “communication as capability” discourse, the authors framed communication as an important contributor to making CF projects successful but its role is not explicitly expounded upon. The implicitness of communication’s importance as a theme continues in the “communication as a participatory process” discourse. Dufva and Ahlqvist (2015b) explain how a collaborative project structure allows for the creation of shared knowledge and that the knowledge is created in the calls, meetings and workshops of a project, where communication naturally happens but they do not expand on communication’s specific role. This discursive category’s general implication that communication occurs within a participatory process suggests that the constitutive model likely forms the foundation of the authors’ understanding of communication. The last of the larger categories, “communication and technology”, contains literature that proposes technology as a means of communicating futures work, which fits in the transmission model, and that technology itself shapes our society and how we communicate with others, which suggests a form of the constitutive model. Overall, the results from the literature review contribute the following to the field of futures, (1) a formal identification of the importance of communication within futures, (2) a lack of explicitness on the topic, apart from the work done on narratives and metaphors, and (3) that communication is perceived through the transmission and constitutive perspectives within futures.

A major driver of this paper is Ramos’ (2006) argument that without effective and impactful communication, the profound learnings from futures are unusable. His sentiments are shared by others in the field (e.g. Klisanin, 2012) and yet the literature on communication and futures studies is not as copious as one might expect based on the serious and urgent messages from several prominent futurists (e.g. Jarva, 2014) on the futures communication challenge. Ramos’ argument does not negate the importance of futures work as a whole and its historical and continuing importance to strategy (e.g. the integration of the scenario method into the strategy repertoire of corporations such as Shell) and policy (e.g. supporting planning efforts of governmental organisations) (Bell, 2003; Gidley, 2017). However, it is increasingly important to identify and understand the extent of the communication problem in order to begin its

mitigation and enable futurists to contribute to positive change. Work has begun on addressing the communication issue as ascertained by an increase of papers on narrative and storytelling (e.g. Schulz, Crew and Lum, 2012) in the recent past, which have offered solutions on the transference and creation of knowledge between actors and strengthened the discourse of “communication through narrative”. Emerging from this discourse, futurists (e.g. Milojevic & Izgarjan, 2014) have begun to write about how communication can support the creation of desirable futures through narratives, which may eventually lead to a variation of the narrative discourse. Nonetheless, there have been few articles on communication in futures from a meta-perspective. In summary, this paper has begun to address the lack of literature from a broader communication perspective and therefore, has focused on developing an overview of the main discourses in the existent literature within the futures research field.

The literature review was qualitative in nature and systematically conducted in two main phases. The first search yielded few yet illuminating results. The identification of several core texts supported the subsequent search, which resulted in the discovery of a wider variety of articles and books on topics related to communication. Smaller and sporadic later searches also contributed to the discovery of the latest research related to communication and were helpful in developing the proposed taxonomy. This discursive classification is an initial contribution to a broader understanding of communication within futures. The texts found were classified according to the following main discourses (Figure 1): narrative, technology, communication capability and participatory process. Two minor discourses, metaphor and general concerns, were also identified. Several potential areas for further research in the futures communication area were proposed and suggest that there are several research gaps to be addressed that could contribute original and helpful results to the futures knowledge.

4. Limitations of the Study and Suggestions for Further Research

Several limitations were identified in this paper. The review was purely qualitative in nature and apart from the use of the online databases and digital libraries, no software was used to process the literature. A quantitative approach with the use of special software, by for example, employing forms of artificial intelligence, would be an alternative approach to carrying out the literature search and analysis. Another limitation was the language restriction as only literature in English and German were searched and used for this review. Expanding the search to include the French, Finnish and Swedish futures literature as well as publications in other

languages would have been helpful and more inclusive. The last major limitation was the use of a Foucauldian-inspired discourse analysis on the literature to develop the taxonomy, which was not as exhaustive as a “full” FDA can be. Further analysis may show that the classification needs to be refined, adjusted or changed considerably. More relevant classifications may emerge if the literature is analysed with a different method such as emerging issues analysis.

The recognition that communication was important for futures studies was ubiquitous throughout the literature reviewed yet a small number of the publications explicitly mentioned the term “communication” and even less looked into communication’s role within futures. Therefore, a possible future research area would be to make explicit what futurists and foresight practitioners think about communication, its role (or roles) in the field and what is considered good practice. Related to this, could be an investigation on how futurists currently communicate, an identification of their challenges and the discourses used to express this. Another general area of prospective research would be to compare work in related fields such as innovation communication, to current futures communication, identify common themes and understand what can be learned from the other fields and potentially implemented in futures studies.

In relation to the taxonomy presented in this paper, an area of potential further research is a deep dive into the “communication through narrative” discursive category to better understand any research gaps such as measuring the impact of the use of narrative for scenario communication within an organisation or understanding the implications of using a particular communication model in futures research in general or for a specific topic such as climate change. Within the “communication and technology” discourse, a possible area of research could be a review on how forms of ICT (e.g. social media) have influenced futures communication over the recent past and how this influence could develop or evolve and could be described through story-like scenarios or futures fiction. In relation to “communication as a participatory process”, one research suggestion is an investigation into the specific role of communication in the creation of shared knowledge and potentially how the process could be improved with the implementation of communication ideas from other fields. Daheim and Uerz’s (2008) article offer an indirect suggestion to explore why companies highlighted communication as a critical success factor and draw potential parallels between the innovation communication field’s ideas on communication as a dynamic capability (e.g. Pfeffermann, Minshall & Mortara, 2013).

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