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# A CORPUS-BASED APPROACH TO THE ANALYSIS OF THE VIDEO ABSTRACT GENRE
## A phase-based model

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**Abstract** – Academics constantly strive to gain greater visibility for their research, in particular through digital platforms that allow their research to be communicated to a wider public. Alongside old and well-established academic genres (e.g. the Research Article, the Abstract, and the Conference Presentation), new genres have emerged including the Blog, the TED Talk Lecture, and the Video Abstract. While the first two of these genres have received considerable attention in the discourse analysis community, research into the Video Abstract genre has only recently been undertaken despite the fact that scientific publishers (e.g. Taylor & Francis, Elsevier and SAGE) urge authors to present their articles in this way in order to enhance article visibility and improve the chances of an article being cited. The present study, grounded in ESP genre analysis and multimodal discourse analysis, investigates the strategies used in video abstracts by researchers to share their research using a small corpus of video abstracts taken from international journals of three different academic fields, namely Medicine, Biology, and Chemistry. In particular, the study attempts to understand the changes brought about by the shift from the written to the video channel of communication *vis-à-vis* the dissemination of research findings.

**Keywords:** specialised discourse; video abstracts; phasal analysis; generic structure potential; corpus-based approach to discourse analysis.

## 1. Introduction

Driven by the pressures of gaining visibility, academics have exploited the affordances provided by digital platforms to communicate their research to a wider public. Hence, alongside old and well-established academic genres (e.g. the Research Article, the Abstract, and the Conference Presentation), new genres have emerged including the Blog (e.g. Mauranen 2013; Mewburn, Thompson 2013; Luzón 2017), the TED Talk Lecture (e.g. Scotto di Carlo 2014; Caliendo, Compagnone 2017; Mattiello 2017), and the Video Abstract (henceforth: VA). Spicer (2014) defines the VA as a short four-to-five-minute video presentation of a research article (henceforth: RA) where the researcher makes use of images, audio, video clips, and text to describe the background

to their study, the methods used, the results obtained, and the study's potential implications. VAs accompany traditional abstracts in journal websites, but can also be uploaded on a blog or a researcher's personal website, as well as shared on video-sharing websites such as *YouTube* and *Vimeo* in order to reach a wider public. While considerable attention has been paid by the discourse analysis community to the Blog and the TED Talk Lecture, research into the VA is still in its infancy as shown by the few studies carried out so far (Plastina 2017; Coccetta 2020; Liu 2020). This is despite the fact that for some time now major scientific publishers such as Taylor & Francis, Elsevier and SAGE have encouraged their authors to present their articles through this genre. In their view, the VA is designed to enhance an article's visibility and to improve the chances of being cited as confirmed by Zong *et al.*'s (2019) recent study as to articles published in *The New Journal of Physics*.

The present study, which is grounded in ESP genre analysis (Swales 1990, 2004), multimodal discourse analysis (O' Halloran 2005; Baldry, Thibault 2006), and genre analysis (Hasan 1978, 1984, 1985, 2004), systematically explores the way in which the affordances provided by the interplay between the videotrack and the soundtrack are exploited in VAs. This has been undertaken in an attempt to understand the changes in the generic structure brought about by the shift in the dissemination of research findings from the written to the video mode of communication. To this end, a small corpus of VAs taken from international journals of three different academic fields, namely Medicine, Biology, and Chemistry, was investigated. In its account of this research, the paper is divided as follows: the *State of the Art of Video Abstracts Section* provides a brief overview of studies into the VA genre; the *Materials Section* introduces the VAs under analysis, while the *Methods Section* presents the theoretical frameworks adopted. The *Analysis and Results Section* describes the subphases and phases identified in the VAs and their realization. The *Discussion Section* discusses the way in which subphases and phases operate in these VAs and reflects on the added value of the VA.

## 2. State of the art of the video abstract

The first VA was published in 2009 (Berkowitz 2013), yet after a decade, research into this genre is still very limited in the field of discourse analysis as shown by the few studies carried so far (Plastina 2017; Coccetta 2020; Liu 2020) which have mainly focused on the VA's rhetorical structure.

Plastina (2017) analyses the rhetorical structure of a corpus of 30 written abstracts (henceforth: WAs) and their video counterparts taken from three online medical journals applying Swales' (1990, 2004) move analysis framework. She observes that both the WAs and VAs in her corpus follow the five-move structure (i.e. *Introduction*, *Purpose*, *Method*, *Product* and

*Conclusion*) described by Hyland (2004), but in the VAs new constituent steps are used in different moves serving rhetorical functions not found in the WA. A case in point is *Stating professional identity* which provides information about the author. Plastina's work represents a first step towards the understanding of the VA, yet it seems to privilege the linguistic component as the move analysis is applied to the transcriptions of the VAs' soundtrack.

In a similar vein, Liu (2020) adopts Swales' model to analyze 12 VAs published on *Cell Press*. He observes that the VAs consist of distinct core moves and optional moves. The former include: 1) Claiming authorship; 2) Describing a research niche; 3) Specifying a research focus or intent; 4) Delineating a research process, a procedure, or a technique; 5) Illustrating main findings; 6) Concluding the research; and 7) Presenting the title. The latter include: 1) Acknowledging research contributors, institutional or funding support, or media production support; 2) Showing research significance, implications, or future directions; 3) Providing instructions; and 4) Entertaining viewers. Liu (2020, p. 440) concludes that the VA should not be considered the same as the WA but "as an emerging genre, characterized by an innate bond with the genre family of the RA and by a propensity for independence and recognition". In addition, he cautions against the use of move analysis as it:

> does not appear as useful as expected for exploring the structure and quality of the information flow incorporated in VAs […] [nor] for exploring the sociocultural and political contingencies that have been shaping the VAs' structure. (Liu 2020, p. 441)

In her pilot study, Coccetta (2020) investigates the structure of five Medical VAs taken from *The BMJ* and their respective WAs using Baldry and Thibault's framework for video genre analysis (Thibault 2000; Baldry 2004; Baldry, Thibault 2006) which takes into consideration both the VAs' soundtrack and the videotrack. To understand the differences between the VAs and the WAs, she examines their duration in seconds. As regards the WAs, she obtained their duration with the software tool Text2Speech.org[1] which converts a written digital text into an mp3 file. She observes that with respect to their written counterparts, one VA is shorter, two are almost twice the length, and two are almost the same length, thus suggesting that some VAs provide something the WAs do not. In line with the studies referred to above, her analysis shows that the VAs tend to replicate the generic structure of their WAs, but also include other subphases/moves, some of them taken from other academic genres such as the Conference Presentation and the RA. This seems to suggest the VA is a hybrid genre undergoing the phenomenon of

[1] https://www.text2speech.org (18.11.2020).

interdiscursivity (Bhatia 2017, Chapter 3) whereby it has appropriated some established conventions (i.e. structural elements) and semiotic resources (e.g. tables, figures and animations) typical of these academic genres.

These studies are very limited in terms of the number of VAs analysed with the result that their conclusions on VAs' rhetorical structure are far from being definite. Yet, they have paved the way for future corpus-based studies. In particular, Liu (2020) and Coccetta (2020) have raised the question of the methodological framework for the analysis of VAs, specifically the appropriateness of the move model developed for written genres.

## 3. Materials

This study analyses 15 VAs which accompany RAs published in three international journals in the fields of Medicine, Biology, and Chemistry. The journals taken into consideration are *The BMJ*,[2] *Cell*,[3] and the *European Journal of Inorganic Chemistry*[4] (henceforth: *EurJIC*). These journals are ranked in the first quartile of the SCImago[5] scientific journal rankings. In keeping with Coccetta (2020), the present study is designed to take into consideration just one VA per year for each journal in the 2013-2017 period. Hence for each journal, five VAs, listed in Annexe 1, were randomly selected with the exception of the *EurJIC*, for which only VAs taken from the 2016-2017 period were considered as, at the time when the study was conducted (February 2019), no VAs seemed to have been published by this journal for RAs written before 2016. As illustrated in Table 1, the VAs embody different video formats[6] and are addressed to a wide audience ranging from subject specialists to non-specialists.[7]

[2] https://www.bmj.com (18.11.2020).
[3] https://www.cell.com/cell/home (18.11.2020).
[4] https://onlinelibrary.wiley.com/journal/10990682c (18.11.2020).
[5] https://www.scimagojr.com (18.11.2020).
[6] The type of video format was defined on the basis of the guidelines provided by *Pediatrics* (https://pediatrics.aappublications.org/content/video-abstract-guidelines, 10.02.2020).
[7] Space does not allow further characterization of these distinctions, an issue to be addressed in a subsequent article.

| VA no. | Target audience | Journal | Date | Format |
|---|---|---|---|---|
| 1 | Specialists | The BMJ | 2013 | "Slice of life" |
| 2 | Specialists | The BMJ | 2014 | Main points and data slides |
| 3 | Specialists | The BMJ | 2015 | "Slice of life" |
| 4 | Specialists | The BMJ | 2016 | Main points and data slides |
| 5 | Non-specialists | The BMJ | 2017 | Video infographic |
| 6 | Specialists | Cell | 2013 | Mixed format |
| 7 | Specialists | Cell | 2014 | Mixed format |
| 8 | Specialists | Cell | 2015 | Mixed format |
| 9 | Semi-specialists | Cell | 2016 | 3D scientific animation |
| 10 | Non-specialists | Cell | 2017 | whiteboard animation |
| 11 | Semi-specialists; non-specialists | EurJIC | 2016 | Video infographic |
| 12 | Semi-specialists; non-specialists | EurJIC | 2016 | Video infographic |
| 13 | Semi-specialists; non-specialists | EurJIC | 2016 | Video infographic |
| 14 | Semi-specialists; non-specialists | EurJIC | 2017 | Video infographic |
| 15 | Semi-specialists; non-specialists | The BMJ | 2017 | Video infographic |

Table 1
Overview of the VAs under analysis.

## 4. Methods

To analyse the VAs, this study draws on Baldry and Thibault's framework for film genre analysis (Thibault 2000; Baldry 2004; Baldry, Thibault 2006) which holds that texts are organized as a system of hierarchical and interacting levels. In other words, a specific text will consist of a number of units on different scales which mutually interact with each other and in so doing play their part in the creation of the text's overall meaning. They also point out that "[i]n theory, the system of scalar levels could continue indefinitely in any given direction, though, in practice, there are always limits on the number of levels that the analyst needs to work with" (Baldry, Thibault 2006, p. 144). For film texts, they propose the following levels, arranged in ascending order of size (smaller to larger): *visual transitivity frame*, *shot*, *subphase*, *phase*, *macrophase*, and *whole text*. In their view, the *phase* is "[t]he basic unit of textual sequencing", defined as "a set of copatterned semiotic selections that are co-deployed in a consistent way over a given stretch of text" (Baldry, Thibault 2006, p. 47; see also Gregory 2002; Malcolm 2010). Typically, a *phase* consists of *subphases* which relate to specific aspects of the phase they belong to. Baldry and Thibault (2006) illustrate the workings of this model in relation to a set of TV advertisements.

For the analysis of VAs, the current study focuses on two units of analysis, namely the *subphase* and the *phase*, but considers the *subphase* as the

pivotal unit of analysis, that is, the meaning-making block performing crucial communicative functions in VAs. For example, in the case of the VAs under analysis, the *Experimental Procedures* subphase provides precise details of all the procedures carried out in a research project, while the *Findings* subphase provides information about that project's results. Indeed, the current study aligns the concept of *subphase* with that of *move* in Swales' (1990, 2004) model, but considers the former appropriate for the analysis of VAs as it sees the various semiotic modalities (e.g. written discourse, oral discourse, figures and action) deployed in a video text as functioning together to make meaning. In passing, we may recall that Swales (1990, 2004) uses the term *move* to indicate a "discoursal or rhetorical unit that performs a coherent communicative function in a written or spoken discourse" (Swales 2004, p. 228) and, by contrast with the notion of *subphase*, does not explicitly consider the co-deployment of different semiotic modalities in a given text.

This research is also grounded in Hasan's (1978, 1984, 1985, 2004) research into genre analysis, particularly the concept of *Generic Structure Potential* (henceforth: GSP), which was introduced to account for consistency in structure across the instances of a given text type (Halliday, Matthiessen 2014). In particular, GSP specifies the range of obligatory and optional structural elements open to a text type which represent what Halliday (1988) defines as the *recognition criteria* for the text type in question. This is illustrated in Hasan's work on service encounters (Hasan 1985) and nursery tales (Hasan 1984), where she identifies the potential items of text structures associated with these text types and specifies the obligatory and optional items. She also considers their syntagmatic ordering and observes that some items occur in a fixed place in the sequence while others can move along the sequence. For example, in nursery tales, she identifies three obligatory items arranged in the following fixed order: Initiating Event ^ Sequent Event ^ Final Event. The Initiating Event is the event which triggers the whole story and is followed by a series of events (i.e. Sequent Event) which culminate in the Final Event which ends the tale. Optional items are the Placement, the Finale and the Moral. The Placement provides the time, place, persons and their habitual activity, and, if present, is always placed before the Initiating Event. The Finale and Moral, which respectively provide the final part of the tale and the lesson that the tale tells, are always placed after the Final Event but their order can be swapped.

In this study, it is argued that the identification of the various subphases and phases in the texts under analysis should give a very preliminary idea of the GSP of the VA genre, which, however, should be further investigated with a larger corpus of texts. In the furtherance of this underlying goal, the VAs were divided into subphases; subsequently, subphases were grouped into phases in order to understand whether the VAs display consistency in structure.

An example of subphase and phase analysis with respect to VA #10 is provided in Table 2. Besides subphases and phases, the starting and end point for each subphase was also recorded in the analysis, in order to gain some insight into the distribution of subphases in relation to the VA's overall duration.

| Starting Point | End Point | Subphases | Phases |
|---|---|---|---|
| 00:00 | 00:03 | Research Question(s) | Abstract |
| 00:03 | 00:13 | State of Knowledge | Abstract |
| 00:13 | 00:21 | Gap | Abstract |
| 00:21 | 00:27 | Findings | Abstract |
| 00:27 | 00:31 | Experimental Design | Abstract |
| 00:31 | 00:37 | Findings | Abstract |
| 00:37 | 00:44 | Opening Theme | Opening |
| 00:44 | 00:55 | Objective(s) | Introduction |
| 00:55 | 01:04 | State of Knowledge | Introduction |
| 01:04 | 01:15 | Hypothes(i/e)s | Introduction |
| 01:15 | 01:27 | Experimental Design Justification | Methods |
| 01:27 | 01:35 | State of Knowledge | Methods |
| 01:35 | 01:39 | Materials | Methods |
| 01:39 | 01:59 | Experimental Design Justification | Methods |
| 01:59 | 02:20 | Materials | Methods |
| 02:20 | 02:26 | Recap | Results |
| 02:26 | 03:19 | Findings | Results |
| 03:19 | 03:38 | Transferability | Discussion |
| 03:38 | 03:42 | Closing Theme | Closing |

Table 2
Example of subphase and phase analysis of VAs.

## 5. Analysis and Results

The analysis of the VAs has led to the identification of an inventory of subphases, or to use Hasan's (2004, p. 23) words, "a specification of the possibilities of structural shapes open to [the VA] variety". As shown in Table 3, subphases can be grouped into four general categories. As their name suggests, 'research-dissemination' subphases are connected with the dissemination of research, including indicating the research question or a hypothesis investigated in the study. They provide information about the experimental design of the study and the justification for its application, as well as the extent to which research findings are likely to be applied to settings other than those in which they were originally tested. Similar to descriptive metadata in library catalogues, 'descriptive subphases' provide information to identify the VA and/or the RA that the VA accompanies by, such as the name of the researcher(s), their academic position and affiliation, the name of the journal where the VA's RA was published and the RA's DOI. With 'socializing subphases' the researchers directly address the viewers to establish some contact with them. The last category, 'other subphases', includes subphases

that do not fall into any of the previous categories and deal with formal aspects such as credits, copyright and legal considerations.

| **Subphase category** | **Subphases** |
|---|---|
| Research-dissemination subphases | Claiming Centrality, Experimental Design, Experimental Design Justification, Experimental Procedures, Findings, Future Research, Gap, Hypothes(i/e)s, Interpretation, Materials, Objective(s), Participants, Present Research, Previous Research, Research Question(s), Review Process, State of Knowledge, Topic Announcement, Transferability |
| Descriptive subphases | Journal Identification, Journal Website, RA Author(s), RA DOI, RA Reference, RA Title, Researcher(s) Academic Position, Researcher(s) Affiliation, Researcher(s) Identification, Text Genre, Video Abstract Producer, VA Title |
| Socializing subphases | Acknowledgements, Encouraging Contact, Encouraging Further Reading, Greeting, Thanking |
| Other subphases | Closing Theme, Credits, Opening Theme, Sponsor, Terms and Conditions |

Table 3
Subphases identified in the VAs.

As video texts, VAs naturally consist of a soundtrack and a videotrack with the result that subphases can be realized either in the former, or in the latter, or in both simultaneously. Many examples of subphases that prioritise the soundtrack can be found such as the *Experimental Procedures* subphase in VA #1 where the researcher talks directly to the camera and describes what they did:

> For some years we focused on the adverse outcomes in pregnancy, particularly preeclampsia, preterm birth and small babies, but we've chosen to take a different approach and to look at which factors are associated with subsequent normal outcome.

By contrast, Table 4 shows that in VA #3 the *RA Reference* subphase is realized visually using written discourse while in the soundtrack the researcher announces the research topic.

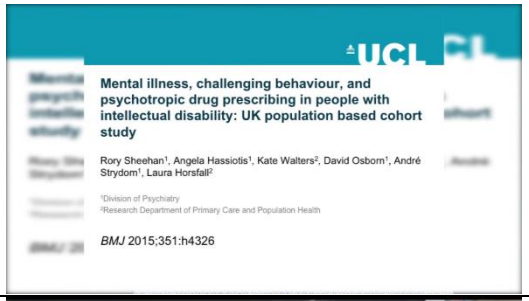
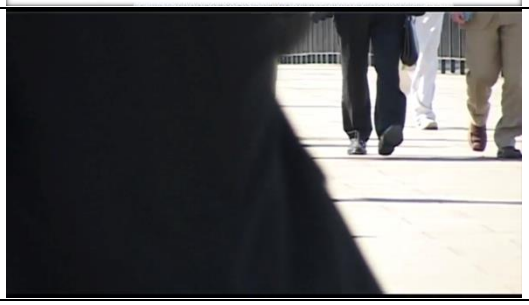
| Time | Videotrack | Soundtrack |
|---|---|---|
| 00:14 → 00:21 |  | **Subphase: Topic Announcement**<br><br>ON-SCREEN MALE SPEAKER: Together with colleagues, I have conducted a study investigating mental illness, challenging behaviour |
| 00:21 → 00:24 | **Subphase: RA Reference**<br><br>  | *cont.* **Subphase: Topic Announcement**<br><br>OFF-SCREEN MALE SPEAKER: and psychotropic drug use in people with intellectual disability. |
| 00:24 → 00:26 | | **Subphase: State of Knowledge**<br><br>OFF-SCREEN MALE SPEAKER: People with intellectual disability |
| 00:24 → 00:55 |  | *cont.* **Subphase: State of Knowledge**<br><br>OFF-SCREEN MALE SPEAKER: have impairment of intellectual functioning along with difficulties in one or more life skills. […] |

Table 4
A subphase analysis of an extract from VA #3.

Finally, Table 5 provides an example of a subphase simultaneously realized in the soundtrack and in the videotrack, specifically the *Findings* subphase. The example is taken from VA #7. Here, when on-screen, the researcher describes the findings of their research using oral discourse only (33-41 sec); subsequently, however, (41-38 sec) a microscope image accompanies oral discourse which shows what the researchers observed during their studies.

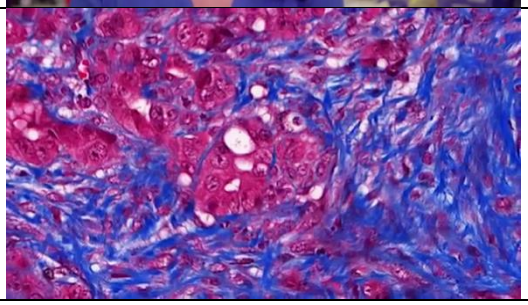
| Time | Videotrack | Soundtrack |
|---|---|---|
| 00:33 → 00:41 |  | ON-SCREEN FEMALE SPEAKER: We discovered vitamin D and synthetic vitamin D analogues that were able to crank down this wound healing response and found that |
| 00:41 → 00:48 |  | OFF-SCREEN FEMALE SPEAKER: by treating with vitamin D analogue plus chemotherapy we were able to augment the effects compared to chemotherapy alone. |

Table 5
A subphase analysis of an extract from VA #7.

Let us now consider the way in which the subphases combine with each other to form phases, and in particular the phase types they realize. Table 6 shows the various phases arranged in alphabetical order and their distribution in the VAs under analysis.

What emerges from the data is the typical presence of the *Introduction*, *Results* and *Discussion* phases, while the *Methods* phase may be omitted. The *Promotion* phase is also frequent in the VAs. Other phases occur very frequently, such as the *Opening* and *Closing* phases, and the *Journal Identity* phase. However, Table 6 shows the frequency is highest in *EurJIC* VAs, which were produced by the Research Square company[8] and sponsored by ChemPubSoc Europe[9] in what appears to be a specific marketing strategy[10].

[8] https://www.researchsquare.com (09.07.2019).
[9] https://www.chemistryviews.org/details/society/134d1eb2456/ChemPubSoc_Europe.html (09.07.2019).
[10] https://www.chemistryviews.org/view/0/videoabstracts.html (09.07.2019).

| **Journal and VA no.** | **The BMJ** | | | | | **Cell** | | | | | **EurJIC** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Phases** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** | **12** | **13** | **14** | **15** |
| Abstract | × | × | × | × | × | ✓ | × | ✓ | × | ✓ | × | ✓ | × | × | ✓ |
| Acknowledgements | × | × | ✓ | × | × | ✓ | × | × | × | × | × | × | × | × | × |
| Closing | × | ✓ | × | × | × | × | × | × | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Credits | ✓ | × | × | × | × | × | × | × | × | × | × | × | × | × | × |
| Discussion | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Introduction | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Journal Identity | × | × | × | × | × | × | × | × | × | × | ✓ | ✓ | ✓ | ✓ | × |
| Methods | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | × | ✓ | × | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Opening | × | ✓ | × | × | × | × | ✓ | × | × | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Promotion | ✓ | ✓ | ✓ | ✓ | × | × | ✓ | ✓ | × | × | ✓ | ✓ | ✓ | ✓ | ✓ |
| RA Identity | × | × | ✓ | × | × | ✓ | × | ✓ | ✓ | × | × | × | × | × | × |
| Research Question | × | × | × | × | ✓ | × | × | × | × | × | × | × | × | × | × |
| Researcher(s) Identity | ✓ | ✓ | ✓ | ✓ | × | ✓ | ✓ | ✓ | × | × | × | × | × | × | × |
| Results | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Socializing | × | ✓ | ✓ | × | × | × | × | × | × | × | × | × | × | × | × |
| VA Identity | × | × | × | × | × | × | ✓ | × | × | × | × | × | × | × | × |

Table 6.
Phases identified in the VAs and their distribution.

As far as their order in the VA is concerned, due to the small size of the corpus, it is difficult to identify any recurrent pattern. For example, in VA #10, whose phasal analysis is shown in Table 2, the following linear order is observed: Abstract ^ Introduction ^ Methods ^ Results ^ Discussion, as in RAs. While this pattern is replicated in other VAs, this is not the case in VA #4, which has the following generic structure: Introduction ^ Methods ^ Results ^ Discussion ^ Results ^ Discussion, where the Results ^ Discussion sequence occurs twice.

# 6. Discussion

## *6.1. The workings of subphases and phases in the VAs*

The analysis of the VAs provides some insights into the way in which subphases and phases operate in the texts. As indicated in previous studies concerned with video text analysis (e.g. Thibault 2000; Baldry 2004), subphases interact with each other and form phases. As an example, we can cite the analysis of VA #10 shown in Table 2. In this VA, the *Experimental Design Justification* subphase, the *State of Knowledge* subphase and the *Materials* subphase combine to form the *Methods* phase, i.e. a textual block which provides information about how and why research experiments were carried out, so that other researchers can replicate them. However, what emerges from the study is that subphases can be recursive. For example, in VA #10 the *Findings* subphase occurs twice, in the *Abstract* phase and in the *Results* phase. This suggests that paradigmatic and syntagmatic relations co-exist in predictable ways in VAs, which the analyst needs to identify. In other words, those who create VAs tend to choose from an inventory of subphases (i.e. "the structural shapes" identified in the *Analysis and Results Section*) but can also arrange them sequentially in original combinations. For example, in the *Abstract* phase of VA #10, subphases are arranged, somewhat unusually but innovatively, as follows: Research Question(s) ^ State of Knowledge ^ Gap ^ Findings ^ Experimental Design ^ Findings. While this example highlights the recursive potential of structural units, the current study also confirms the default conception that structural units are arranged sequentially in texts (e.g. Hasan 1978, 1984, 1985, 2004; Swales 1990, 2004). A case in point is the *Researcher(s) Identity* phase in VA #2, where the researcher provides her name, academic position and affiliation in the syntagmatic sequence as shown in Table 7.

| Starting Point | End Point | Subphase | Phase | Oral discourse |
|---|---|---|---|---|
| 00:06 | 00:07 | Researcher(s) Identification | Researcher(s) Identity | ON-SCREEN FEMALE SPEAKER: My name is Nienke de Glas |
| 00:07 | 00:11 | Researcher(s) Academic Position | Researcher(s) Identity | ON-SCREEN FEMALE SPEAKER: I'm a medical doctor and I'm doing a PhD on breast cancer in older women |
| 00:11 | 00:14 | Researcher(s) Affiliation | Researcher(s) Identity | ON-SCREEN FEMALE SPEAKER: at the Leiden University Medical Centre in the Netherlands. |

Table 7
Example of sequential arrangements of subphases.

However, the study also reveals that subphases can be merged as part of the same sequence, that is, they can be superimposed. This is illustrated in VA #3 (see Table 8).

| Time | Videotrack | Soundtrack |
|---|---|---|
| 00:08 → 00:09 |  | **Subphase: Researcher(s) Identification**<br><br>ON-SCREEN MALE SPEAKER: My name is Rory Sheehan |
| 00:09 → 00:11 | **Subphase: Researcher(s) Identification**<br>**Subphase: Researcher(s) Affiliation**<br><br>  | **Subphase: Researcher(s) Academic Position**<br><br>OFF-SCREEN MALE SPEAKER: and I'm a psychiatrist and medical researcher |
| 00:11 → 00:13 | | **Subphase: Researcher(s) Affiliation**<br><br>OFF-SCREEN MALE SPEAKER: at University College London. |

Table 8
Example of subphase superimposition.

Here the *Researcher(s) Identity* phase is realized not just through oral discourse in the soundtrack, as in the case of VA #2, but also visually through written discourse displayed on screen as an overlay. In other words, the VA fully exploits the soundtrack and videotrack affordances of the video format. This

provides further evidence into the workings of subphases and phases in video texts that, in particular, adds data about subphase and phase superimposition to the findings presented in previous studies of phase types that describe characteristic patterns of subphase inclusion and, of course, omission (Baldry 2004).

The study also shows that phases tend to share some characteristics typical of subphases. In particular, as pointed out with regard to VA #4, phases can be recursive. They tend to be arranged sequentially but can also co-occur as illustrated in VA #7, where the *Researcher(s) Identity* phase is instantiated visually in the videotrack with a grey rectangle over which the *Researcher(s) Identification*, *Researcher(s) Academic Position*, and *Researcher(s) Affiliation* subphases are superimposed. In other words, potentially we have a new phase type made up of three subphsases which are recognizably subphase types. Further investigation will reveal the prevalence of this kind of transformation of subphase types into phase types.

## *6.2. Subphase and phase distribution in the VAs*

We can now consider some striking aspects of the distribution of subphases and phases employed in the VAs. What emerges from the analysis is the fact that the *Transferability* subphase occurs 14 times out of 15 thus suggesting that it is an important component of the VA genre. In this subphase, researchers comment on the extent to which their research findings are likely to be applied to settings other than those in which they were originally tested and the extent to which their research can impact other disciplines. We can give three examples:

> The major impact here will be a … a resource, ah, for eukaryotic cell biologists to be able to go to our website in our database and understand where the proteins that they're interested in are localized and how they change is response to various perturbations. (VA #8)

> These findings are just the start of a whole new area of research. Now that scientists are able to make ants with genetic mutations they can make all kinds of weird ants to figure out even more about their life underground. They can also use the Orco mutants they have right now to study how pheromones are processed in the ant brain. (VA #10)

> While it may be not for everyone, this unique approach to low gravity experiments offer scientists a new tool for controlling the properties of an increasing important family of advanced materials. (VA #11)

In addition, through the *Transferability* subphase researchers highlight the extent to which their research can affect different sectors in society. This is illustrated in the following examples where the findings of the studies carried

out might benefit people suffering from obesity and Type 2 diabetes (VA #6), and cancer (VA #7), but also might be of interest to people who are concerned with their skin (VA #15):

> Modulation of KSR2-mediated effects may be a novel therapeutic strategy for patients with obesity and type 2 diabetes. (VA # 6)
>
> This is a new way to attack cancers. It opens up an entirely new opportunity for treatment. (VA #7)
>
> A mixture of silicon and titanium dioxide, these special particles could be a key ingredient in boosting the performance of everything from sunscreen and anti-aging creams to solar cells and pollution fighting materials. (VA #15)

It can be argued that the reference to serious issues such as cancer, but also to lighter ones such as anti-aging creams is not by chance. According to Carrada (2005), addressing the audience's interests, needs, expectations as well as fears is one of the key points in science communication. He observes that the more relevant and appealing to the audience's interests a subject is, the more visibility it will acquire, and visibility is extremely important for researchers as regards widening their readership and gaining more research funds in a period characterized by large cuts in government funding for scientific research. This idea is also highlighted by SAGE. In its video abstract guidelines, SAGE encourages authors to consider the following question: "How might your paper be of interest to a layperson, or how might it impact policy or society?".[11]

It can be argued that the occurrence or absence of some subphases, and phases as well, is connected with the VA's target audience. As an example, we can consider the *Researcher(s) Identity* phase, which does not occur in the VAs targeting non-specialists and semi-specialists, namely VA #5 and VA #9-15 where the names of the researchers are mentioned nowhere.[12] In these VAs, researchers are referred to in general terms as "researchers" and "researchers from…" as illustrated in the following extract from VA #10:

> A new paper from researchers at Rockefeller University has uncovered the genetic basis of pheromone detection and they did that by creating genetically modified ants.

In other words, in these VAs, what is important is the research outcome, which is presented as a piece of news being delivered to the audience, with the

[11] https://us.sagepub.com/sites/default/files/sage_video_abstract-external_guidelines.pdf (15.07.2019).

[12] The only exception is the *Opening* phase in VA #11-15, where the names of the researchers appear in small size below the VA title.

researcher's identity irrelevant and thus sidelined. What emerges from the extract above is the fact that while the researchers disappear, the institution for which they work is foregrounded by an explicit reference to it (i.e. researchers at Rockefeller University). This is indeed a promotion strategy which is implicit in this VA, but which can be made explicit in the Promotion phase found in some VAs.

### *6.3. The added value of the VA*

Watching a four-to-five-minute VA takes researchers more time than skimming a WA. This begs the question: why should they spend their time watching a VA in the first place? It can be argued that researchers expect to find *something* the WA does not provide. What is that *something*? If we consider the generic structure of the VA, we can see that the VA tends to follow the same structure as the RA but with some variation in the *Methods* phase. Otherwise, the IMRAD structure clearly emerges in the VAs under analysis (see *Section 5*). This seems to suggest that, due to the lack of detailed guidelines from publishers on the production of VAs, researchers tend to rely on the genre that they, and their audience, are more familiar with, i.e. the RA. Even so, we can expect innovations in VAs that will make them less like WAs. For example, there are structural elements such as the *Researcher(s) Identity* phase that are characteristic of the VA format. The degree to which the VA genre is detaching itself from the WA genre, however, needs to be further investigated with a much larger corpus.

A further answer to this question is that the VA provides audiences with visual information that the traditional WA does not typically provide. Illustrative of this is the extract from VA #7 shown in Table 5 where a microscope image, presumably relating to the research described in the VA, is displayed. The image is striking as it is not included in the RA, presumably due to space constraints or limitations in the number of figures/tables imposed by the journal. In addition, this VA also shows a 3D scientific animation which visualizes how the therapy described in the VA cures the tumour. Scientific animations like this are usually confined in the RA to the supplementary materials that readers need to download from the journal's website.

As regards the omission of visual-graphical representations in WAs such as graphs, pie charts and tables, which, as Lemke (1998) observes, are typically used when communicating research among researchers, there are of course exceptions. For example, some disciplines and journals allow researchers to include them in the WA: a case in point is *The New Journal of Physics*[13]. However, generally speaking, since the WA typically consists of written

[13] https://iopscience.iop.org/journal/1367-2630 (10.02.2020).

discourse only, its multimedia counterpart can potentially give audiences information they would otherwise expect to find only when reading the whole RA.

Besides making information about the research immediately available to audiences, the VA can potentially assist better comprehension of results. Indeed, Jakhar and Kaur (2018: 20) observe that scholarly articles related to dermoscopy are:

> full of descriptive terms which are almost impossible to comprehend without the aid of an image. Sometimes it becomes difficult to understand the perspective of the author with one or two images. In such a scenario, the reader loses interest in the article and goes on to search for an alternative research work. This way the articles lose their impact on the readers.

In their view, the VA decreases the likelihood that readers will discard articles.

The VA gives researchers the opportunity to give their take on their research and "talk about their article with feeling"[14], affordances that are hardly given by traditional academic genres such as the WA and the RA, thus freeing them from the straitjacket of distance and objectivity these genres typically impose in the communication of research. This means that when they appear physically in the VA, researchers can, for example, express their enthusiasm and excitement for their work and findings. In this regard, Coccetta (2020) observes the use of attitudinal language, particularly adjectives and adverbs (e.g. *exciting*, *interestingly*, and *desperately*), some of which also characterize some of the VAs under analysis. However, this enthusiasm could also be conveyed with facial expressions, gestures and prosodics. This is illustrated in VA # 10 where the speaker transmits a positive feeling for the discovery by using effectively the pace, pitch and volume of her delivery. It goes without saying that this can have an impact on the viewer who, at the end, might be more willing to read the article and have a positive attitude to it.

## 7. Conclusions

In the digital age, scientific knowledge dissemination has transcended the confines of well-established academic genres such as the RA, the WA and the Conference Presentation and embraced new genres including the Blog, the TED Talk Lecture and, most notably, the VA. Accordingly, this study has focused on the VA, reflected upon methodologies in VA analysis and proposed an approach that takes into account the multimodal nature of this complex

[14] https://www.elsevier.com/authors/author-schemas/artwork-and-media-instructions/media-specifications (10.02.2020).

emergent genre. In so doing, it has supported Coccetta's (2020) postulate which suggests there is a need to switch from a series approach, typically applied in the analysis of the WA genre, where moves are arranged in a rigid sequence one after the other, to a parallel series based on visual/verbal choices, where scientific information can be simultaneously conveyed verbally, visually, or verbally and visually. In support of this change in methodological focus, the study has described both the syntagmatic and paradigmatic relations that exist between subphases and phases, and the fact that at specific points in a VA's sequence of events, different types of subphases and phases appear to co-occur. Finally, although to some limited extent, the study has also speculated on the GSP of VAs by predicting the occurrence of subphases and phases as well as their likely order in the overall sequence of events in a VA. However, in order to make more accurate generalizations about the VA genre, there is a need to further consolidate the move from the phase as instance (Gregory 2002) to the phase as type (Baldry 2004; Baldry, Thibault 2006). In other words, in making the transition from phasal analysis as the study of instances to the study of types, this article has laid the premises for a more extensive corpus-based study of the qualitative and quantitative aspects of the findings described here.

In spite of its small-scale nature, the present study has laid the foundations for future lines of research which can include, for example, an analysis of gestures and their supporting role in making knowledge more accessible to audiences, or the role of voice which was touched upon in *Section 6.3* and many other issues that require a truly multimodal approach to studies on VAs.

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# Annexe 1

VA 1. "Lifestyle Factors Linked to a Healthy Pregnancy." Video, 2:18. https://www.youtube.com/watch?v=D_Vq4KhZfDw.
VA 2. "Breast Cancer Screening for over 70s doesn't Prompt Expected Sharp Fall in Advanced Disease." Video, 5:30. https://www.youtube.com/watch?v=NJsEcLaiwF4.
VA 3. "Concern over Inappropriate Use of Psychotropic Drugs in People with Intellectual Disability." Video, 3:25. https://www.youtube.com/watch?v=XrB360yAMWQ.
VA 4. "Late Mortality after Sepsis." Video, 3:06. https://www.youtube.com/watch?v=v4j695IWObk.
VA 5. "Education and Coronary Heart Disease: Mendelian Randomisation Study." Video, 2:42. https://www.youtube.com/watch?v=edBBHJLWueE.
VA 6. "KSR2 Mutations are Associated with Obesity, Insulin Resistance, and Impaired Cellular Fuel Oxidation." Video, 3:06. https://www.youtube.com/watch?v=XbvXRCnLGqk.
VA 7. "Vitamin D Lends a Hand to Chemo." Video, 2:57. https://www.youtube.com/watch?v=c7N676qZs6w.
VA 8. "Protein Maps of Single Cells." Video, 2:35. https://www.youtube.com/watch?v=vKbR0v1cNfk.
VA 9. "Cancer Cell Biology: Mutated KRAS & Reciprocal Signalling." Video, 2:24. https://www.youtube.com/watch?v=GU-QZp5FwM8.
VA 10. "The MutAnts are here." Video, 3:54. https://www.youtube.com/watch?v=M476cn6X5zM.
VA 11. "Researchers Take Materials Science to Now Heights." Video, 2:25. https://vimeo.com/185381050
VA 12. "Molecular Triads May Bridge the Efficiency Gap in Artificial Photosynthesis." Video, 2:36. https://vimeo.com/190267147.
VA 13. "Hand in Hand: Experimental-Theoretical Approach to Investigating Dioxygen Activation." Video, 2:35. https://vimeo.com/192778164.
VA 14. "Researchers Get a Grip on Radioactive Tracers for Medical Imaging." Video, 2:32. https://vimeo.com/220384242.
VA 15. "Newly Fashioned Nanomaterials are Hollow but Full of Potential." Video, 2:07. https://vimeo.com/214767039.