The Benefits of the Video Abstract as a Newly Emerging Academic Genre

Las ventajas del video abstract como un nuevo género académico emergente.

Abstract
After detailed research done on the existing literature, the present article aims at conceptualizing the genre video abstract by focusing on its defining characteristics and the benefits it may bring to both researchers and also the non-academic community. This newly emerging type of scientific summary presents some technical, material and social characteristics which will be developed in this paper. As multimodal artifacts, video abstracts provide authors with the opportunity to make use of an array of semiotic resources in order to convey meaning and communicate research findings. Having insurmountable semiotic potential, this genre offers several advantages, but one of the most relevant ones for the scientific community is the possibility of using the video abstract to propel the dissemination of science and knowledge to a wider audience.

Keywords: Democratization of knowledge; discursive genre; Academic research; multimodality; semiotic resources; video abstract.

Resumen
Después de realizar una investigación detallada de la literatura existente, este artículo apunta a la conceptualización del género video abstract, enfocándose en las características que lo definen y en los beneficios que puede traer para los y las investigadores/as, y también para la comunidad no académica. Este nuevo tipo de resumen científico presenta algunas características técnicas, materiales y sociales que serán desarrolladas en este artículo. Como artefactos multimodales, los video abstract proveen a los/las autores/as la oportunidad de hacer uso de un despliegue de recursos semióticos para transmitir significado y comunicar hallazgos de investigación. Al tener un insuperable potencial semiótico, este género ofrece varias ventajas, pero una de las más relevantes para la comunidad científica tiene que ver con la posibilidad de usarlo para fomentar la divulgación de conocimiento científico a una audiencia más amplia.

Palabras clave: Democratización de conocimiento; género discursivo; investigación académica; multimodalidad; recursos semióticos; video abstract.


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1. Introduction

Nowadays with just a click, researchers are able to explore other fellow researchers’ ideas, exchange opinions, maintain constant feedback and dive into the grand narrative of academic investigation swiftly. However, these valuable results or findings may be brought closer to different spectators who are not directly involved with the academic community. Even though “information access is recognized as a fundamental human right” (Oliveira, 2019, 3), it is argued that when it comes to the dissemination of scientific productions to the general public, the academic world struggles since “science is too isolated from society” (Holbrook, 2019, 1), and, therefore, scientific productions generally remain trapped inside the academic sphere. As a result, as researchers we could ask ourselves how we can achieve the fostering and promotion of scientific investigations and awaken an interest for knowledge in the general public. An answer to this concern could be found in the idea of open science. According to Britt Holbrook, *Open Science* may be defined as “an effort to close the gap between science and society by democratizing scientific knowledge” (2019, 1), which is directly connected to the concept of *open access* as it involves the “making [of] scholarly publications (and other products, including data) freely available for anyone with an internet connection to read, download, and reuse for any purpose that accords with community standards” (2019, 1). Therefore, new ways to outstretch the academic sphere and connect to a more heterogeneous and different audience should be sought. In this regard, “social media and other digital spaces have been increasingly used by researchers and institutions to share their research with society, changing the way we measure the social impact of academic production” (Oliveira, 2019, 2). In fact, “technologies allow us to not only increase the visibility of science related to traditional science assessment spaces, but also serve as a space for democratizing scientific knowledge” (Oliveira, 2019, 5).

One of such ways is the use of videos. In the current online world, audiovisual productions have emerged as a content-share bandwagon. “Given the potential of online videos for the communication of science” (Luzón, 2019, 2), academic publishers and professionals are increasingly relying on this fascinating genre to theorize, analyze, characterize and discuss a large variety of content from diverse fields. These videos are uploaded in an array of massively popular platforms which are accessed by users from around the world, who may or may not be part of the academic field. Thus, communities are formed and individuals are able to expand their knowledge on a topic or simply get informed about it for the first time. In this article, the video abstract will be developed as an example of how videos can be used to promote the dissemination of scientific knowledge. However, before delving into defining and characterizing this genre, two other types of videos will be provided as examples of audiovisual productions working as vehicles of scientific content.

A widely known, non-profit organization which is “devoted to spreading ideas, usually in the form of powerful talks (18 minutes or less)” (TED. Ideas Worth Spreading) is *TED. Technology, Entertainment and Design*. The main aim of this organization is to disseminate content and propel discussions about a myriad of disciplines while connecting people through concepts and encouraging critical thinking. This platform popularizes “speeches delivered by experts in different fields and which touch upon a variety
of topics, ranging from the ‘hard’ disciplines to the social sciences and the humanities” (Compagnone, 2015, 1). This community grew abruptly when the first TED conferences were posted online in 2006, and, from then on, the TED website and its YouTube channel have been visited by more than two millions of curious viewers, who, by watching a recorded talk or an elaborated education-oriented animated video may have broaden their understanding of the world from several perspectives. As Compagnone explains, “TED talks provide a clear example of the way in which web-mediated popularization discourse has spurred the emergence of new genres, which result from the contamination of different discursive and professional practices and purposes” (2015, 3).

Another popular example of an online community which relies on producing and sharing online videos is Crash Course, a YouTube channel which counts with more than thirteen million subscribers. The channel has more than forty courses on a variety of topics and each course is composed of several animated and non-animated videos. What Crash Course does is to create audiovisual productions with educational content “by presenting information in a fast-paced format, enhancing the learning experience” (Crash Course, 2022). Regarding the audience, “while the show is an immensely helpful tool for students and teachers, it also has a large viewership of casual learners who seek out online educational content independently” (Crash Course, 2022). One of the founders of this project is the well-known novelist John Green. In 2015, he gave a TED talk conference in which he explained how the idea for creating this YouTube community was born and that nowadays, people are learning about the world through the audiovisual format (Green, 2015). In this regard, Crash Course is another example of using videos in order to rich a wider audience and promote the spreading of scientific knowledge.

In the same way that TED talks and Crash Course videos contribute to the sharing of science, the video abstract, a newly born and not so popular video genre, presents an enormous potential to do the same. The focus of this article will be the conceptualization of this genre and its implications for the academic community.

2. What Is a Video Abstract? Attempts to Define the Genre

To answer this question, it is important to trace back the origins of the term. Videoabstracting as a concept first appeared in 1997 in a publication by Lienhart, Pfeiffer and Effelsberg, who noted that in the age of multimedia, certain products suffered from a loss of information when they were turned into plain text. This intersemiotic translation created a gap between the original source video or production and its summary in the form of an abstract or any other textual product. To solve this problem, they asserted that “an audiovisual abstract, to be interpreted by a human user, is semantically much richer than a text”, and, in that way, by respecting the same medium, they would be able to create “a sequence of moving images much shorter than the original yet [preserving] its essential message” (Lienhart, Pfeiffer & Effelsberg, 1997, 1).

These researchers also noticed that the purpose of the abstract might vary widely, including examples of movie trailers and other multimodal artifacts, and proposed categories of analysis such as shots,
shot-clusters, close-ups, scenes, scripts, soundtrack, keyframes and camera operation. Finally, they concluded that video abstracting was a very young research field and that “video abstracts would be a much more powerful browsing technique than textual abstracts” (Lienhart, Pfeiffer & Effelsberg, 1997, 11).

To continue with the evolution of the term, Scott Spicer (2014), a researcher who was interested in exploring the state of the art of video abstracts in the field of the hard sciences, found out that the first attempts of video abstract production were published in the Journal of Visualized Experiments (JoVE), launched in 2007, in which the researcher usually described their research process in the format of a video interview. Those videos could be viewed exclusively on the journal website, and they were only available for paid journal subscriptions.

After analyzing many examples, Spicer (2014, 4) proposed the following definition of video abstracts: “a video presentation corresponding to a specific science research article, which typically communicates the background of a study, methods used, study results and potential implications through the use of images, audio, video clips, and text”. Although this definition is quite accurate in terms of the purpose of the genre, it lacks details on the technical guidelines for making a video abstract. He also notes that this genre, as previously anticipated by Lienhart, Pfeiffer and Effelsberg, was an excellent “opportunity to briefly communicate their research through a more personal, media rich medium that is better adapted for Internet sharing” (Spicer, 2014, 4).

Until then, although the genre had been used for a few years, Spicer realized that it had not been thoroughly investigated. Before his publication, where he systematically examined a corpus of abstracts from the fields of medicine, biology, chemistry, math, and physics, there had not been many successful attempts to characterize the genre in full. One of those previous attempts had been Berkowitz’, in 2013, when he noticed the birth of one of “the first major innovations to the scholarly article in the past century: [the] peer-to-peer video summaries, three to five minutes long, of academic papers” (Berkowitz, 2013, 5). As one of the pioneers in the study of video abstracts, Spicer statistically demonstrated the potential of video abstracts as a tool to spread scientific knowledge through different platforms.

Furthermore, it can be observed that the focus of attention of research was on the effectiveness of video abstracts as opposed to other types of research paper summaries. Spurred by this interest, Kate Bredbenner (2019) conceptualized different types of research summaries: graphical abstracts, video abstracts, and plain language summaries.

To proceed with her study and to contrast the concept of video abstract and graphical abstract, Bredbenner introduces Cell’s (2019) definition of the graphical abstract as “one single-panel image that is designed to give readers an immediate understanding of the take-home message of the paper” and whose “intent is to encourage browsing, promote interdisciplinary scholarship, and help readers quickly identify which papers are most relevant to their research interests (Cell, 1).

Despite not specifying the technical characteristics except for the duration of video abstracts, Bredbenner states that “each of these summaries takes time to make [as] video abstracts can take
over 20 hours to complete and graphical abstracts aren’t far behind [as] they also require specialized equipment and skills to be effective” (2019, 2). In her research, she demonstrated that both “videos and plain language summaries are the most effective summaries, based on comprehension, understanding, and enjoyment”.

Although the previously-mentioned characteristics may help to have a rough idea of the genre, one of the most appropriate definitions is the one proposed by David P. Jackson (2017, 2) who sustained that a video abstract is:

a brief overview of what is discussed in the article in the format of a short video, and acts as a supplement to a traditional abstract. However, unlike a regular abstract a video abstract provides a much richer environment to describe the article, and can include pictures, diagrams, voiceovers, animations, simulations, and, of course, video footage that might highlight a specific dynamic phenomenon or provide a detailed look at an experimental setup. When used appropriately, this media-rich environment has the potential to deliver an abstract that is much more useful and compelling than one that is constrained to the written word.

To illustrate his definition of the concept, he provides in the same publication an example of a video abstract. In a less than three-minute video he summarizes the content of the article. He explains a Physics experiment using varied semiotic resources, which are defined by Van Leeuwen (2004, 16)

as the actions and artefacts we use to communicate, whether they are produced physiologically – with our vocal apparatus; with the muscles we use to create facial expressions and gestures, etc. – or by means of technologies – with pen, ink and paper; with computer hardware and software; with fabrics, scissors and sewing machines, etc.

In this example, as the researcher explains the phenomena, he accompanies the demonstration with short texts, diagrams, soundtrack and other semiotic resources. Not only does the video provide an illustration of a real experiment, but also the different elements included complete the meaning of the abstract. It is also worth mentioning that this video abstract was published in the American Journal of Physics and that it was embedded in its webpage.

After exploring all these definitions, it could be stated that initially any accessible research summary (Bredbenner & Simon, 2019) in the format of a video, which combined a variety of semiotic resources was considered a video abstract. Gradually, these videos became more complex and, agreeing with Spicer’s assertions, it is undeniable that this type of summary is “a natural evolution of science communication into multimodal environments” (2014, 2). In that sense, video abstracts are very much like traditional abstracts as both are accurate summaries of a source text or product of an investigation. However, its production implies significant work from the researcher’s side due to the need of a skillful combination of diverse digital semiotic resources in a very limited amount of time to communicate scientific findings and engage viewers.

Considering and reflecting upon the previous ideas, some comments on the audience need to be made. As it is unquestionable that research articles come from the scientific community, the addressee of this new genre needs to be analyzed. For that reason, we propose the following diagram and its corresponding explanation.
In this Venn diagram (Figure 1), the addresser of video abstracts is any member of the scientific community who does research and wants to share its findings. In this regard, the video is an academic genre as it is a product of the scientific community and aims at sharing research findings. Despite the fact that we can quickly agree on the addresser, when analyzing the addressee, it is more difficult to establish the limits. Undoubtedly, other scholars will read and profit from these academic audiovisual summaries of research papers. However, if the video circulates in open access massive platforms, it will certainly reach a wider audience. Thus, a hybrid audience is a more accurate way to characterize the phenomenon. Going back to the diagram (Figure 1), video abstracts are located in the middle of the two spheres, since although the genre originates in an academic context, it might also reach non-academic audiences. As observed by Literat and other authors, “by communicating research conclusions in multiple modes and on multiple platforms, scholars can reach beyond traditional academic audiences” (Literat et al., 2017, 572).

The previous analysis raises the question of why this audience is broader. One of the possible reasons is that, semiotically speaking, as a product, a video abstract is in its inherent nature multimodal as it includes many semiotic resources making it more appealing and accessible for a non-academic audience. In fact, Van Leeuwen asserted that semiotic resources are ‘the actions, materials and artifacts we use for communicative purposes’ (2004, 282). In his social semiotics definition he also points out that these resources “have a meaning potential, based on their past uses, and a set of affordances based on their possible uses, and these will be actualized in concrete social contexts where their use is subject to some form of semiotic regime” (285). Thus, the blending of semiotic resources and the dynamics of media integration of video abstracts may lead to the analysis of this compositional-visual phenomena according to the characteristics proposed by Serafini (2022), which were taken from Rose (2016). Basically, these two researchers noted that there are three aspects that could be analyzed in video abstracts: technical, or how video abstracts are created or experienced, compositional, or which materials or resources are used, and social, or the relations between social institutions and their practices, which were previously anticipated in the diagram above.
Taking the first two categories previously mentioned -technical and compositional-, it can be observed that video abstracts are a genre which demands from the creator to cleverly select the appropriate digital tools and semiotic resources which will help them to transmit their message and explain their research accurately.

After analyzing the literature review, it is observed that the use of multiple digital mediums and semiotic resources (moving images, voice, special effects, animated text, music, coding) is one of its most important characteristics of video abstract as these resources enhance the meaning-making potential of the artifact.

When producing a video abstract, there is a clear intention of exploiting the richness of the visual component of the message due to its natural affinity to multimodal scholarship. As the video is the medium for the message, this format is highly valuable for both viewers and producers. Agreeing with Ioana Literat and other authors, the video as a component of multimodal research offers more comprehensive and inclusive inquiries, analyses, and representations [of the subject of study] that can be socially, culturally and politically transformative (...) and consequently produce more comprehensive depictions of the phenomenon [researchers] seek to understand” (Literat et al., 2017, 570). These researchers mentioned previously also noted that not only does multimodal research offer the opportunity for including previously marginalized or silenced voices, but also contributes to access and represent embodied, affective and other dimensions of social life not captured by textual modes. In a similar way, multimodal research methodology has an inherent potential to capture the multimodal phenomena, where the video is one of the richest communication channels to use.

In relation to its content, its main thematic concerns explored in a video abstract corresponds to “a specific science research article, which typically communicates the background of a study, methods used, study results and potential implications” (Spicer, 2014, 4), yet it is more than just the article. Thanks to the possibilities of combining visual, and oral (and interactive) media and experimenting with them, meaning is being shaped and adjusted by the semiotic resources used.

In all cases, video abstracts have to respect the same copyright terms as the associated article and are initially published in specific webpages or platforms, where usually their submission and production guidelines are specified. For instance, in the British Medical Journal the limited duration or length of the video is clearly specified in its Top Tips for a Good Video Abstract section which states that a video abstract should last no more than 4 minutes. Similarly, this guideline suggests minimum technical specifications such as: Frame rate-25 frames per second-and Widescreen (16:9) projects and mp4 format and how to solve or avoid technical problems.

Finally, focusing on the last category, social composition, it is usually agreed that an academic text or production should be concise, objective, and logical. Beyond the classical categories of grammar and punctuation, which only apply to written discourse, and focusing on the writer’s use of metadiscourse features, it could be said that communication is more than just the exchange of information, goods or services, but also involves the personalities, attitudes, and assumption of those who are communicating (Hyland & Tse, 2004). Thus, when analyzing research production from a metadiscoursive approach, the limit of the analysis exceeds writing itself, as it is seen as a social engagement and a genre, this latter
understood as culturally independent and culturally variable. In this case, participants of the communicative act are usually specialists on the topic but as noted previously, the audience is not necessarily a research specialist and where both “writer and reader interact with each other, [and] it requires that the writer can understand the receivers’ expectations and needs” (Farahani & Mohemmed, 2018, 3).

3. The Benefits of Videos Abstracts

Some of the advantages that can be found in working with video abstracts are a result of the wide array of semiotic resources that they present.

First, academic scholars may struggle when trying to convey intricate ideas through the written word. However, “for the author, the video abstract provides an opportunity to use the visual and audio affordances of the medium to communicate complex information” (Spicer, 2014, 3). In this way, academic scholars may find themselves with greater freedom when it comes to combining different techniques to summarize their works.

This can be seen in the following example: In the video abstract, How Tumors Escape VEGF Blockade (Cell Press, 2014b), the editors decided to include a variety of elements to explain the most relevant aspects of their research. At the beginning, Gabriel Rabinovich states that the study is about “how the interactions between a lectin and carbohydrates on the VEGFR2 receptor allow for continued vessel growth in tumors treated with anti-VEGF antibodies” (Cell Press, 2014b). This is stated through verbal language. Nonetheless, the researchers also decided to produce a dramatization with two actors dressed up with suits with tango as background music. They even designed a fake newspaper (Figure 2) with information from the research and a drawing representing the title of the news as it can be appreciated in the picture.

![Figure 2. Screenshot of How Tumors Escape VEGF Blockade (2014).](image)

The incorporation of an artistic production in the video abstract may facilitate the understanding of the research’s subject which is especially useful for a non-academic public who is not in continuous contact with scientific language. When performing the topic of the research as if it were an episode of
a detective series, the level of complexity, maybe, is lowered and at the same time the quality, accuracy and seriousness of the content is maintained. Another semiotic element that could be spotted on this video is on minute 3. As it has already been explained, one of the most typical resources to use in a video abstract is animated pictures. Generally, researchers tend to combine moving pictures with their explanation since it does not only clarify the content of the video, but also provides the possibility of showing concrete examples to the audience. In this case, the animation is accompanied by the researcher’s explanation.

In addition, the researcher begins a comparison between sensitive tumors and refractory tumors. In a traditional abstract, the readership would be found with a complex and very detailed explanation which could be quite difficult to understand. However, in the video abstract, the researcher is able to include a diagram (Figure 3) which summarizes the speaker’s description. This visual aid does not only illustrate the ideas that are being developed in the video, but also contributes to the understanding of the viewer who may find it difficult to follow the thinking process of the researcher. In this abstract, the researcher is able to reflect the stages and general process they went through in order to carry out their investigation.

Another example in which the combination of different semiotic resources can be identified is in the video abstract *A 3D Map of the Human Genome* (Cell Press, 2014a). The video producers decided to create a stop motion production with origami figures. The clip also presents some background music and a voice-over, which is in charge of explaining the concepts which are being represented with the origami creations. Like the previously analyzed video, here the way in which it was designed allows for the possibility of reaching a wider audience who would be attracted to watch it, not only because of the content, but also due to its variety of technical features that may catch the viewer’s attention.

Multimodal scholarship could be defined

by the use of multiple digital mediums (e.g., still and moving images, interactive digital objects, audio, data sets, geospatial data, and text), often composed, displayed, or linked together, and disseminated across an array of digital publishing platforms (e.g., websites, blogs, mobile applications, and social networks) (Spicer, 2014, 1).
As a result, it is undeniable that the two videos recently described are multimodal artifacts because of the variety of semiotic resources applied. However, in the second video, another aspect could be considered when thinking about its multimodal nature. As stated in the Oxford Handbook of Language and Society “multimodality is a concept introduced and developed (...) to account for the different resources used in communication to express meaning” (García & Flores, 2017, 451). In other words, the different semiotic resources are combined in a variety of ways in order to convey different ideas. In the video abstract *A 3D Map of the Human Genome*, the choice of using origami figures to represent the theory and the processes of the research is not whimsical. At the beginning of the video, a very long piece of green paper starts to unfold revealing the following question: “if we unfold the DNA inside one of your cells it would measure two meters end to end…but it has to fold up inside of a nucleus that is only 6 microns wide! how does the genome folds?” (Cell Press, 2014a). In addition, the idea of folding and unfolding genomes is repeated throughout the video. Finally, at the end of the production, the speaker makes the explicit comparison between the art of folding paper to create different figures with the topic of his research; the idea of using origami figures was a metaphor to represent the subject of their study. In this regard, the semiotic resource of a stop motion video is chosen not only to show the scientific processes through images, but also, in order to emphasize the meaning of the video. Here, it can be appreciated how beneficial the use of the video abstract genre is. The viewer, apart from having the oral input which explains the research, also relies on the visual representation which helps to move from the abstract field to a more concrete one, emphasizing the content of the video.

Another benefit of video abstracts is connected to the educational field. Videos are widely used in classrooms for different purposes as they bring some benefit to the classes. For example, videos display “in a few seconds something that needs several pages when written” (Vieira, Lopes & Soares, 2014, 750) and they contribute to the understanding of the content. In addition, “students may see them whenever they can and play it as many times as they need it” (Vieira, Lopes & Soares, 2014, 750). In this regard, video abstracts could be used in the same way. Teachers may take advantage of well-developed, professional videos which could be used to clarify or further explain curricular content.

The final advantage of using video abstracts is concerned with the way in which a video abstract may be used to reach a wider audience. In fact, “a video abstract offers the potential to do more by providing authors an opportunity to communicate their research in a personal, media rich medium” (Reupert, 2017, 2). As a newly emerging video genre which contributes to the dissemination of knowledge, not only do video abstracts present the authors with the possibility of reaching more people through the use of a variety of tools, but also, they can be easily shared on different platforms. Nowadays, there has been a “greater use of social media platforms for post publication promotions of research articles” (Gupta, Gupta & Joshi, 2021, 1). This is particularly true for the video format since “the fact that online videos can be embedded in several websites and shared on social media contributes to this widening of their audience” (Luzón, 2019, 170). Authors may use Instagram or Facebook to post their video abstract just as a publication or in a story format. Even though the videos will not be fully
comprehended by everyone, it may work as a hook to attract people who already know about the subject or whose curiosity is awakened thanks to the video abstract. As it has already been mentioned, the different resources included in a video abstract both contribute to understanding the article and work as ways of entertaining the audience and catching the viewers’ attention. This is an advantage when researchers use the video abstract to contribute to the democratization of knowledge by making science more accessible for everyone.

4. Conclusion

Video abstracts work as traditional abstracts in the sense that they are a precise summary which anticipates the content of an article, investigation or thesis, yet this genre is composed of certain aspects related to their audiovisual nature, which differentiate them from traditional abstracts and allow researchers to convey meaning in a completely non-traditional but highly-valuable way. Among its most common characteristics are its short duration, richness in semiotic resources and strictly research content.

Regarding its benefits, due to its audiovisual nature the video abstract does not only engage the audience but it may also help researchers in the spreading of academic content and facilitate the understanding of the research. In addition, the wide variety of semiotic resources used work as vehicles of content. Meaning is carried and conveyed through the different elements used which contribute to the understanding of the summary. Finally, this kind of abstract may be used in the educational field as a way to contribute to the teaching of different topics.

All in all, the video abstract as an academic genre poses an exciting challenge for investigators who can make use of this versatile format to communicate their ideas and share their scientific discoveries. By doing this, they may even post their productions on different free online platforms which would boost its dissemination, help to reach a wider audience and ultimately contribute to the democratization of knowledge.
Bibliographic references


Reseñas curriculares
