

Mood and Modality in Audiovisual Research Articles

Modo e Modalidade em Artigos Audiovisuais de Pesquisa

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Abstract

An emergent genre in the academic field, the “audiovisual article”, brought new possibilities to the scientific publication. The objective of the present study is to carry out a Critical Genre Analysis of such genre, having Systemic Functional Grammar as an analytical tool. The interpersonal meanings conveyed in such articles and their contributions to describe the rhetorical organization of the genre were examined. Among the six audiovisual articles composing the corpus, belonging to different areas of study, results reveal predominance on imperative mood, mainly on the basic speech function of demanding goods and services, with provision of categorical information and instructions.

Keywords: *Critical Genre Analysis. Systemic Functional Grammar. Interpersonal Metafunction. Audiovisual Articles.*

Resumo

Um gênero emergente no campo acadêmico, o “artigo audiovisual”, trouxe novas possibilidades à publicação científica. O objetivo do presente estudo é conduzir uma Análise Crítica de Gêneros desse novo gênero, tendo a Gramática Sistêmico Funcional como ferramenta analítica. Os significados interpessoais encontrados nestes artigos e sua contribuição para descrever a organização retórica do gênero foram examinados. Dentre os seis artigos audiovisuais que compõem o corpus deste estudo, pertencentes a diferentes áreas de estudo, resultados revelam a predominância no modo verbal imperativo, principalmente na função de fala de demanda de bens e serviços, com fornecimento de informações e instruções categóricas.

Palavras-chave: Análise Crítica de Gêneros. Gramática Sistêmico-Funcional. Metafunção Interpessoal. Artigos Audiovisuais.

1 Introduction

According to Swales (1990, p.58), a genre “comprises a class of communicative events, [...] the members of which share some set of communicative purposes”, which influence how genres are realized in terms of organization, content, and style. Fairclough (2003) adds that genres follow social and technological possibilities, especially electronic information technologies. Thereby, genres respond to social demands and technological affordances, leading to the emergence of new genres and modification of existing ones.

In the academic field, a prominent genre is the research article (SWALES, 1990, 2004). It is, usually, a written genre, consisting, briefly, of a tool used by scientists to report their findings to the scientific community, with the purpose of making them public. Research articles are published in journals, such as *The New England Journal of Medicine*, *Journal of Cell Biology*, or *Journal of English for Academic Purposes*, whose origin is associated with the printed context.

Recently, in 2006, a journal based on the digital context – JoVE (*Journal of Visualized Experiments*) – added new possibilities to the dissemination of scientific discoveries:

audio and video. By means of these semiotic technologies, research procedures can be exposed, demonstrated visually with clarity and accuracy in terms of time, space and manner.

Audiovisual research articles are an innovating alternative to traditional scientific publications, and since its creation, JoVE has grown in popularity and credibility. Because of the recency of this kind of publication, studies about the audiovisual research articles within the field of Applied Linguistics are still inexistent. Nevertheless, the increasing use of JoVE, which can be verified by the growth in the number articles published by issue since its origin, suggests that it is relevant to study this new kind of publication to inform the field of English for Academic Purposes - EAP as well as inexperienced researchers about the production and consumption of this genre, as it mobilizes multiliteracies (CAZDEN *et al.*, 1996): digital literacy, multimodal literacy, scientific literacy, foreign language literacy. Finally, this study might be meaningful to help establish audiovisual articles as a new genre.

In this context, the main objective of this study is to analyze audiovisual research articles with focus on interpersonal meanings¹, as a way of mapping how this emergent genre is

1 Other studies, with focus on the textual and ideational metafunctions, are being guided simultaneously to this study.

organized in terms of the author-reader interaction, within the theoretical-methodological perspective of the Critical Genre Analysis (MOTTA-ROTH, 2006, 2008).

The specific objectives are:

- i. to examine the interpersonal meanings conveyed by the verbal language (oral and written) in the audiovisual articles, from a systemic functional perspective (HALLIDAY, 2004), to see if and what patterns emerge;
- ii. to draw a profile of how patterns (if any) of interpersonal meanings are distributed throughout the audiovisual research articles, in search for cues about the rhetorical organization of the genre;
- iii. to compare the obtained profile with previous literature on the traditionally written experimental research article (HYLAND, 1996; VARTALLA, 1998).

Due to lack of time and space, it is out of the scope of the current study to examine the interpersonal meanings conveyed by the visual language and by sound in the audiovisual research articles. Such analyses, however, are seen here as a necessary step for a future study about the interpersonal meanings in the genre, as the audiovisual research articles are essentially a multimodal genre, and neglecting one of the semiotic modes that constitute them will only provide a partial description of the genre.

2 Development

2.1 Review of the literature

2.1.1 Research articles and critical genre analysis

Research genres have received a great deal of attention, particularly by the scholar John Swales (1990, 2004). The nature of such genres, their configurations, theoretical and methodological issues are some of his interests.

Regarding research articles, Swales (2004) explains that the overall rhetorical structure of the genre follows the IMRD pattern: Introduction, Methods, Results and Discussion.

The Introduction section is the moment of “creating a research space”, as described by the CARS model (SWALES, 2004). For that, moves associated with this section of research articles are: (i) establishing a territory; (ii) establishing a niche; and (iii) occupying the niche (SWALES, 1990). Strategies used by authors to realize such moves are, for example, generalizing, indicating research gaps, and outlining purposes of their research articles (SWALES, 1990). Therefore, this is the moment of providing background information of the research, situating it in the field, indicating gaps related to the topic, and providing a rationale for the study, indicating its importance to the given research area.

The Methods section is less standardized than the Introduction in terms of the moves that constitute it, depending significantly on disciplinary principles. Swales (2004) points out two forms of classifying the Methods section: *clipped* section and *elaborated* section. Features of *Clipped* Methods sections are: assumption of background knowledge, running series of verbs in the same sentence, few justifications for

methodological choices, focus on techniques rather than on reiterations of subjects/objects of research (SWALES, 2004). Features of *elaborated* Methods sections are: provision of background knowledge, with subsections, one finite verb per clause, descriptions rather than citations, justifications and rationale (SWALES, 2004). Such differences indicate two major types in the Methods section: one with vague explanation of details, another with detailed provision of facts and choices regarding methods and techniques.

Moves associated to the Results, Discussion (and Conclusion) sections are: (i) background information; (ii) statement of results; (iii) (un)expected outcome; (iv) reference to previous research; (v) explanation; (vi) exemplification; (vii) deduction and hypothesis and (viii) recommendations (SWALES, 1990). Therefore, results must be illustrated, commented and compared to other studies. Also, flaws and future research needs are commonly stated in this section.

In spite of the vast literature about the research article, the number of studies that has described the genre using a systematic tool as Systemic Functional Grammar (HALLIDAY, 2004) is limited. In this sense, the present study examines audiovisual research articles using this tool, with focus on interpersonal meanings.

The use of Systemic Functional Grammar in genre analysis is one of the principles of Critical Genre Analysis (MOTTA-ROTH, 2008). In this approach, concepts, tools and analytical procedures of Critical Discourse Analysis, Genre Analysis, and Systemic Functional Linguistics are combined to investigate how genres function (MOTTA-ROTH, 2008). It includes textual analysis and contextual analysis, which are seen as two inseparable dimensions of any study of language in use (MOTTA-ROTH, 2008). In the present study, both dimensions are considered, as explained in the Methods section.

2.1.2 The interpersonal metafunction

The Interpersonal metafunction (HALLIDAY, 1994, 2004) concerns the way language is used to enact social relationships (HALLIDAY, 2004), which means, language used as a form of interaction. As interaction, language involves the initiation and/or response to the exchange of commodities (HALLIDAY, 2004). The means by which interpersonal meanings are analyzed are the Mood system and the Modality system.

The Mood system refers to the mapping of clause structures used to exchange such commodities, and it is the main grammatical system in this metafunction. Mood choices consist of Imperative, Declarative or Interrogative choices, which are realized by the manipulation of the Mood element (*Subject+ Finite*, i.e., the nominal group given responsibility for the validity of the clause and the first element in the verbal group, respectively) (HALLIDAY, 2004). The commodity being exchanged by clauses regards the Speech Function: giving goods-and-services; demanding goods-and-services;

giving information or demanding information (HALLIDAY, 2004).

Modality, within the Interpersonal metafunction, can be regarded as the extent of validity of the propositional content in the clause (HALLIDAY, 2004). The exchange of information can be seen as having two poles: the “*It is*” pole, and the “*It isn’t*” pole. In between these two extremes, there are different degrees of probability and usuality, normally realized by Modalization (HALLIDAY, 2004). Meanwhile, the space in between “*Do*” and “*Don’t*” is normally stated by Modulation, showing different degrees of obligation and inclination (HALLIDAY, 2004).

Therefore, in case the commodity being exchanged is information, the clause is defined as a proposition, and modality refers to the validity of the propositional content in the clause (subtypes probability and usuality). In case the commodity being exchanged is goods and services, modality expressions are defined as proposals, and termed as modulation, which refers to the form commands are approached by the speaker (subtypes inclination and obligation).

These categories of the Mood and Modality systems will be used in the analysis of the audiovisual research articles carried out in this study.

2.2 Methodology

2.2.1 Corpus selection

The *corpus* of this study comprehends six audiovisual

research articles, published in JoVE during 2010 and 2011. The corpus selection criteria were: 1) recency; 2) access; and 3) scope. Regarding the first criteria, only videos released after December 2010 were considered, as latest articles are more standardized than early articles. The standardization is a result of the “instruction for authors” policy, which, after undergoing constant modifications since the publication of the journal, has recently established a clear and single structure for the articles submitted to JoVE after 2010. The recency criterion then meets our aim of describing the state of the art of the JoVE audiovisual research articles. In addition, given that access to most of JoVE’s content demands a paid subscription, but that “sponsored articles” are available for free, it was established that only free access exemplars would be collected. Finally, for an encompassing view of the genre, audiovisual research articles of all the six areas of study offered by JoVE were selected: general, neuroscience, immunology and infection, clinical and translational medicine, bioengineering and basic protocols, in order to verify to what extent disciplinary characteristics influence the genre.

Based on these criteria, 50 audiovisual research articles were initially identified, out of which six was selected following the order they were shown in the result list of the JoVE website searching tool. The final corpus is described in Table 1.

Table 1: Details about the *corpus*

Article	Publication Date	Area	Title	Duration (min)	E-address
Jove#1	12/27/2010	Immunology and Infection	Genotypic Inference of HIV-1 Tropism Using Population-based Sequencing of V3	11:10	http://www.jove.com/video/2351/genotypic-inference-hiv-1-tropism-using-population-based-sequencing
Jove#2	3/15/2011	Basic Protocol	DNA Microarrays: Sample Quality Control, Array Hybridization, and Scanning	09:27	http://www.jove.com/video/2546/dna-microarrays-sample-quality-control-array-hybridization
Jove#3	9/01/2011	Neuroscience	Habituation and Prepulse Inhibition of Acoustic Startle in Rodents	08:37	http://www.jove.com/video/3446/habituation-and-prepulse-inhibition-of-acoustic-startle-in-rodents
Jove#4	10/20/2011	Bioengineering	Video-rate Scanning Confocal Microscopy and Microendoscopy	14:10	http://www.jove.com/video/3252/video-rate-scanning-confocal-microscopy-and-microendoscopy
Jove#5	11/06/2011	Clinical and Translational Medicine	Intracranial Implantation with Subsequent 3D <i>In Vivo</i> Bioluminescent Imaging of Murine Gliomas	09:46	http://www.jove.com/video/3403/intracranial-implantation-with-subsequent-3d-vivo-bioluminescent
Jove#6	12/12/2011	General	Multiplexed Fluorometric ImmunoAssay Testing Methodology and Troubleshooting	08:05	http://www.jove.com/video/3715/multiplexed-fluorometric-immunoassay-testing-methodology

Source: Research data.

2.2.2 Analytical procedure

The first stage of this study consisted of an analysis of the verbal language of the six audiovisual research articles. To do so, it was necessary to transcribe the corpus. Then, using the Systemic Functional Grammar (HALLIDAY, 1994, 2004) as framework, each text was parsed into clauses. Only simple clauses and the main clause in clause complexes were considered for the next step of the analysis: the classification of the clauses into one of the three Moods: Declarative, Imperative or Interrogative. Such delimitation is given by matters of time and also by the fact that the texts analyzed presented a small number of subordinate clauses. The classification in terms of Mood is based on the analysis of the Mood Block of each clause. Another relevant description for the interpersonal analysis of the texts is the identification of the basic Speech Function of each clause: giving or demanding information, giving or demanding goods-and-services.

As explained by Halliday (2004), Mood choices may be congruent or incongruent with these Basic Speech Functions. In other words, sentences in the declarative mood, imperative mood and interrogative mood may assume different speech

roles, not following a permanent or pre-defined pattern.

Whenever an incongruent form is chosen, there are particular relevant contextual reasons that triggered that choice (HALLIDAY, 2004). The use of modality can help in the identification of incongruent choices; therefore, the final step of the analysis of the verbal language is to examine Modality in the audiovisual research articles.

The mapping of Mood and Modality choices will consider as background a study of the context of publication of JoVE (JOVE, 2012a), mostly through documents such as journal policies.

2.3 Discussion

The parsing of the audiovisual articles in clauses revealed a total of 553 clauses (Figure 2). Only main clauses were considered for the analysis. This number does not include the titles and the initial part of articles, where the abstract of the article is presented. The abstract is considered mandatory in the instructions for authors by JoVE (2012b), but was not considered for this analysis due to the fact that it is seen as representing a different genre (SWALES; 1990).

Table 2: Quantification of clauses by exemplar of the *corpus*

Video Reference	JOVE #1	JOVE #2	JOVE #3	JOVE #4	JOVE #5	JOVE #6	Total
Total of clauses	101	90	70	151	86	55	553

Source: Research data.

Figure 2 shows that the distribution of the clauses in the corpus is irregular, with a minimum of 55 and a maximum of 151 clauses by exemplar, the average being 92 clauses. Such variation may be related to the flexibility allowed in the instructions for authors given by JoVE (2012b), which delimit the extension of audiovisual articles by minutes – from 10 to 15 minutes.

2.3.1 Analysis of mood and basic speech function

The 553 clauses were classified into one of the three Moods

- Declarative, Imperative, and Interrogative - and in one of the four Basic Speech Functions - Giving information, Demanding information, Giving goods and services, Demanding goods and services - proposed by Halliday (2004). As for the first aspect, a predominance of the Imperative Mood, totalizing 62% of clauses, was observed; meanwhile clauses in the Declarative Mood totalized 38% (Table 3). No clause was in the Interrogative Mood.

Table 3: Quantification of Mood by exemplar of the *corpus*

Video Reference	JOVE #1	JOVE #2	JOVE #3	JOVE #4	JOVE #5	JOVE #6	Total
Imperative Mood	74	63	32	107	44	26	346
Declarative Mood	27	27	38	44	42	29	207
Interrogative Mood	-	-	-	-	-	-	-

Source: Research data.

Regarding the Basic Speech Functions (HALLIDAY, 2004), 70% of the clauses were classified as Demanding

goods and services and 29% of the clauses were classified as Giving information, as illustrated in Table 4.

Table 4: Quantification of Basic Speech Functions by exemplar of the *corpus*

Video Reference	JOVE #1	JOVE #2	JOVE #3	JOVE #4	JOVE #5	JOVE #6	Total
Demanding goods and services	80	70	39	116	56	29	390
Giving information	21	20	31	35	30	26	163
Demanding Information	-	-	-	-	-	-	-

Source: Research data.

These results reveal that the audiovisual articles have a predominant instructional nature, aiming at the reproduction of experiments. Such nature is different from written experimental research articles – where the objective is to report a research to the scientific community, by showing positioning, relevance of studies and contributions to the area (SWALES, 2004) – presenting clauses in the Declarative mood, with the Basic Speech Function of Giving information to do so. In the audiovisual articles, the researchers provide viewers with direct commands detailing each step to be taken in order to duplicate the protocols. Consequently, audiovisual articles are presented mainly with Imperative clauses, with the Basic Speech Function of Demanding goods and services.

The combination between the total number of clauses in the Imperative Mood and Basic Speech Function of Demanding Services (respectively, 346 and 390; Tables 3 and 4) reveals partial incongruence between the Mood choice and the Basic Speech Function. According to Halliday (1978), incongruence means “not expressed through the most typical (and highly coded) form of realization”. A congruent realization (HALLIDAY, 1984) would, then, be one which can be classified as typical – “which will be selected in absence of any good reason for selecting another one”. In this sense, the Declarative Mood would be the congruent form of realizing the Basic Speech Function of Giving information; the Interrogative Mood would be the congruent form of realizing the Basic Speech Function of Demanding information, and the Imperative Mood would be the congruent form of Demanding goods and services.

Nonetheless, in the audiovisual articles in the corpus, Declarative clauses are used to provide viewers with commands (i.e., to Demand goods and services) (Box 1). Such occurrence could be interpreted as a form of modalizing commands, explaining how to follow the procedures instead of ordering how to do them.

Box 1: Examples of Declarative Clauses found with the Basic Speech Function of Demanding Services

“Reactions will be performed using the V3O2F and SQV3R1 primers.” (JOVE#1)
“FASTA files are acceptable.” (Jove#1)
“Quality control analysis begins with the preparation of the 2100 Bioanalyzer instrument and chip priming station as directed in the written procedure.” (JOVE#2)
“The beads pass one at a time through a detector, where they are exposed to two lasers.” (JOVE#6)

Source: Research data.

The clauses exemplified in Box 1 are mostly realized by passive constructions – bringing the focus to the procedure, not to the Actor (“*Reactions will be performed using the V3O2F and SQV3R1 primers*”, in opposite to, for example, “*Perform the reactions using the V3O2F and SQV3R1 primers*”, or also, “*Use the V3O2F and SQV3R1 primers to perform the reactions*”). Although not being in the form of explicit orders, the clauses in Box 1 were interpreted as essential methods to be taken in order to duplicate the protocols. Such interpretation was attributed to the fact that the actions seem to characterize indispensable procedures to the execution of the experiments, which must be conducted by a scientist. Therefore, such sentences were interpreted as constituting a Demand of Services.

2.3.2 Analysis of modality

Another aspect that was analyzed was the degree of modality of each clause. Even though modality can be realized in a number of ways, for the purpose of this study only modal auxiliaries working as finite operators were considered. The result of this mapping is shown in Table 5, which shows that 13% of the total number of clauses shows the presence of modal auxiliaries.

Table 5: Quantification of clauses containing modal auxiliaries by exemplar of the *corpus*

Video Reference	JOVE #1		JOVE #2		JOVE #3		JOVE #4		JOVE #5		JOVE #6		Total	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Clauses Containing Modal auxiliaries	7	7%	13	14%	8	11%	9	5%	15	17%	8	14%	60	10%

Source: Research data.

The highest occurrence of a modal auxiliary is on *should* performing modulation, which can be related to the results of the speech function analysis (predominance on demanding of services). In the English language, modulation is typically realized by modal markers such as *should*, *must* and *ought to*.

Such features of modalization and modulation give the audiovisual research articles distinct characteristics from the known written research articles. A form of modalization found in written research articles has been named “hedging”.

Hedging can be defined as “the expression of tentativeness and possibility” (HYLAND, 1996, p.433). A feature attributed to hedging is the low modality, used in order to make affirmations less categorical, as a form of face-saving strategy. Therefore, hedging can be understood as the act of assuming instead of making categorical observations (VARTTALA, 1998, p. 177).

Tables 6 and 7 show the classification of the modal auxiliaries according to the function they are performing in the clauses.

Table 6: Classification of modal auxiliaries in terms of modalization and modulation

Video	Modalization			Modulation		Total
	Will	Can	May	Should	Must	
	Probability	Probability	Probability	Obligation	Obligation	
Jove#1	2	2	2	1	-	7
Jove#2	4	1	-	8	-	13
Jove#3	-	3	2	3	-	8
Jove#4	5	1	-	3	1	10
Jove#5	4	5	1	4	1	15
Jove#6	3	-	-	4	2	9
Total	18	12	5	23	4	62

Source: Research data.

Table 7: Summary of predominant Interpersonal features in each of the sections of audiovisual articles

Section	Mood Choice	Basic Speech Function	Modality
Rationale	Predominantly Declarative	Predominantly Giving information	Not Significant
Protocols	Predominantly Imperative	Predominantly Demanding goods and services	Not Significant
Final Comments	Predominantly Declarative	Predominantly Giving information	Significant

Source: Research data.

Examples of the modal auxiliaries performing each function are shown in Box 2.

Box 2: Examples of modal auxiliaries performing each function shown in Table 5

Obligation (i)	“Spectators and researchers not actively aligning or working with the beam should always wear glasses.” (Jove#2)
Probability (i)	“In addition, long-term habituation can be a confounding variable in measuring PPI.” (Jove#5)
Probability (ii)	“If animals deviate considerably from these values, animals may have hearing or motor disabilities.” (Jove#5)
Obligation (ii)	“The assay must be repeated.” (Jove#6)

Source: Research data.

Hyland (1996, p. 433) claims that hedging in academic writing has received a great deal of attention, and can be found with functions such as (a) “creating conviviality, facilitate discussion, show politeness and oil the phatic wheels”; (b) “conveying purposive vagueness” and (b) “achieving distance between a speaker and what is said”. According to the author (HYLAND, 1998), hedging constitutes a central aspect in the process of scientific argumentation.

About the role of hedging in science, Hyland (1996) claims that “hedges play a critical role in gaining ratification for claims from a powerful peer group by allowing writers to present statements with appropriate accuracy, caution and humility” (p. 434).

It can be noted that the modality in audiovisual research articles follows a different nature, mostly of showing obligation and inclination. The high occurrence of “should” as finite operator of modulation suggests an instructional nature

in the audiovisual articles, when scientists make clear what the viewer should have learned and/or done after watching the procedures and what kind of knowledge and physical results they expect the viewers to have reached.

Such idea can be noticed by the fact that the conclusion of the audiovisual research articles in the *corpus* concentrates the largest number of modulation operators. In this section, scientists are making final comments on the experiments and claiming what they expect the viewer to have achieved after watching the procedures. The possible association of Mood and Modality patterns with rhetorical structure is discussed with more detail in the next section.

2.3.3 From Mood and Modality to rhetorical structure

Based on the results and the occurrences of different linguistic features and patterns throughout the articles in terms of interpersonal meanings, it was possible to find different blocks of content (sections) in the audiovisual research articles. Each of these blocks is briefly discussed in the following sub-sections.

2.3.3.1 Block1 - Rationale

The first section of the audiovisual articles consists of a rationale for the protocol that is being presented, in the Instructions for Authors referred to as “Introduction” (JOVE, 2012b). Regarding mood, the predominant choice in this block is of Declarative clauses, meanwhile, the predominance regarding Basic Speech Function is of Giving Information. The Mood Choice and Basic Speech Function combination in this section is found in all of the six articles. Examples are shown in Box 3.

Box 3: Exemplification of clauses realizing the Rationale, initial section of the audiovisual articles

1. *“The primary advantage of this technique as a tropism (...) over existing methods, such as phenotypic cell-based assays, is that it can be performed in any laboratory you can put sequencing apparatus for reduced cost and less amount of time with less starting material.” (Jove #1)*
2. *“The main advantage of this protocol over purchasing a commercially available microscope is the low cost and the ability to customize the instrument to specific needs of an emerging project.” (Jove #4)*
3. *“The main advantage of this technique over existing methods, such as MRI, is that bioluminescence imaging identifies live tumor cells only, and does not require a specially trained MRI technician.” (Jove #5)*
4. *“The main advantage of using this technique, over the existing method like the ELISA, is that MFIA is a multiplexed assay.” (Jove #6)*

Source: Research data.

Explicit linguistic items such as “the main advantage” and “the primary advantage” show that in this part of the audiovisual articles, scientists explain benefits and, thus, relevance of their experiments. This is done by specifying contributions and innovations such experiments can bring to their scientific areas. Once this is the main purpose of this section, researchers are incisive, making categorical affirmations. Therefore, low modality markers are absent in this part.

2.3.3.2 Block2 - Protocols

The second block of information in the audiovisual research articles consists of what can be defined as “instructions for reproducing the experiments”, referred to as “Protocol” in the Instructions for Authors (JOVE, 2012b). This section is usually the longest in all of the articles, consisting predominantly of clauses in the Imperative Mood (Box 4), and Basic Speech Function of Demanding Goods and Services. Also, a number of clauses in the Declarative Mood with the Basic Speech Function of Demanding goods and services was noted (Box 1). Such clauses are used to explain some procedures to be followed, in this sense, contributing to the instructional feature of this section.

Box 4: Exemplification of clauses realizing the Protocols

1. *“Animals should be handled one to two times before being placed into non-restraining animal holders and exposed to background noise.” (Jove #3)*
2. *“Remove all shiny or reflective watches or jewelry. Most importantly, be sure to follow and control the beam at all times, by terminating its path using a beam block or mounted business card.” (Jove #4)*
3. *“Place the loaded syringe into the microinjector.” (Jove #5)*
4. *“Pipete fifteen microliters of each 2x testing control serum to the test plate, based on a predefined plate map.” (Jove #6)*

Source: Research data.

2.3.3.3 Block 3 - Final Comments

The third and final section of the articles can be understood as a closing section, referred to in the Instructions for Authors as “Discussion”, “Acknowledgements” and “Disclosures” (JOVE, 2012b), as three different sections, but in this article will be identified as one section due to similar interpersonal features. Here, the scientists are making final considerations on the protocols, as what kind of result is expected or what possible errors can happen, and giving steps for redoing the experiments, if necessary. Also, scientists are saying what is expected that the spectator has learned after watching the articles and/or obtained when reproducing them.

Box 5: Exemplification of clauses realizing the Final Comments

1. *“So, once mastered, this technique can be performed in roughly 4 days from beginning to end, that’s from extraction to analysis.” (Jove #1)*
2. *“Good quality signals should also be in a dynamic range such that the signal histograms fully overlap as seen in the scatter plots of the array image.” (Jove #2)*
3. *“Following the standard procedure, some parameters may be altered in order to address specific questions.” (Jove #3)*
4. *“The finished video-rate confocal scanning microscope and microendoscope should appear as shown here.” (Jove #4)*
5. *“After watching this video, you should have a good understanding of how to perform an intracranial implantation and 3D in-vivo imaging of Murine Glioma cells.” (Jove #5)*
6. *“This will enable you reduce labor while gathering more information from each test sample well.” (Jove #6)*

Source: Research data.

The interpersonal features found in clauses belonging to this section of the articles are Declarative clauses, giving information. Modality plays an important role in this section, and most of the occurrences of modal verbs are concentrated here, in all of the six exemplars of the corpus.

Although the sections “Rationale” and “Final Comments” have similar features in terms of Mood choice and Basic Speech Function, they are different in terms of Modality. In the first section, Modality is not found with significant occurrence, once scientists are making categorical claims about the relevance of their studies. In the third section, the presence of modality is more significant. This can be related to the fact that in this section, scientists are making final considerations regarding possible errors in reproducing the procedures, as well as possible results.

Table 8: Occurrence of clauses by section

Video Reference	JOVE #1	JOVE #2	JOVE #3	JOVE #4	JOVE #5	JOVE #6	Total
Rationale	2	3	2	7	4	5	23
Protocols	83	74	52	132	62	36	439
Final Comments	16	13	16	12	20	14	91

Source: Research data.

It was found that 79% of the total number of clauses belongs to the Protocols section, while 4% to the Rationale section, and 16% to the Final Comments. The distribution of clauses in each section of the articles is illustrated on Table 8.

These results reveal that the audiovisual articles carry a great emphasis on reporting the procedure, that is, on the Methods section. This feature is what differs audiovisual research articles from the traditional written research article, in which the Methods is one of four sections (SWALES), and, usually, especially in the so-called hard sciences field, shorter than the Results section, for example.

3 Conclusion

This study has investigated interpersonal features in a new form of scientific publication: the audiovisual research article. Even though the study is limited in number (only six exemplars were analyzed) and scope (only the verbal language component of this multimodal genre was described), the findings reveal a particular pattern of interpersonal meanings. The results indicate this emergent genre, audiovisual research articles, has a different nature in comparison with the traditional research article, serving more as visual instructions on how to replicate a specific procedure than a reflection on specific research results, showing a primarily instructional nature. Such results are an initial step towards classifying the audiovisual research article as a new genre.

For the area of English for Academic Purposes, the audiovisual research article is seen as a rich genre for developing scientific literacy in terms of the reading, the listening and the speaking skills, involving both verbal and visual language. Considering that audiovisual articles are created primarily in the English language, this study may help non-English speaking researchers explore features of the oral language, and may increment the discussion about English as an international language. The genre is also seen as extremely relevant within the multiliteracies pedagogy approach.

The present work indicates that further research about the genre is relevant and necessary, as it seems to be a new genre about which little is known.

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