Proposed methodology for studying and analysing the new documentary forms

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Resumo: O artigo apresenta uma metodologia original para estudar e analisar o documentário transmedia e interativo. Proponho diretrizes para o ensino de três módulos independentes que apresentam o objeto de estudo na sua relação com três fases estruturadas: 1) precedentes e antecedentes, aparência da forma de expressão; 2) emergência e experimentação; e 3) consolidação e possível institucionalização.
Palavras-chave: documentário; meio digital interativo; documentário interativo; metodologia de ensino.

Resumen: Este artículo presenta una propuesta metodológica original para estudiar y analizar el documental interactivo y transmedia. Propongo directrices para la enseñanza de tres módulos independientes que presentan el objeto de estudio en relación con tres fases estructuradas: (1) los antecedentes y antecedentes, la apariencia de la forma de expresión; (2) emergencia y experimentación; y (3) consolidación y posible institucionalización.
Palabras clave: género documental; medio digital interactivo; documental interactivo; metodología de enseñanza.

Abstract: This article presents an original methodological proposal for studying and analysing interactive and transmedia documentary. I propose guidelines for teaching three independent modules that present the study object in relation to three structured phases: (1) the precedents and antecedents, appearance of the expression form; (2) emergence and experimentation; and (3) consolidation and possible institutionalisation.
Keywords: documentary genre, interactive digital medium, interactive documentary, teaching methodology.

Résumé: Cet article présente une proposition méthodologique originale pour étudier et analyser le documentaire interactif et transmédia. Je propose des lignes directrices pour l'enseignement de trois modules indépendants qui présentent l'objet de l'étude en relation avec trois phases structurées : (1) les précédents et les antécédents, l'apparence de la forme d'expression ; (2) l'émergence et l'expérimentation ; et (3) la consolidation et l'institutionnalisation possible.
Mots-clés : genre documentaire ; support numérique interactif ; documentaire interactif ; méthodologie pédagogique.

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1. Introduction

This article presents a proposal for an original methodology for studying and analysing interactive and transmedia documentary. It is based on three basic pillars: first, an original theoretical framework for studying interactive documentary, developed over the research period 2007-2017, including a doctoral thesis from which we take some ideas and particularly the structure of the evolution of the interactive documentary (1980-2010); second, an education program to be applied initially in training and postgraduate courses, and which is divided into three fundamental stages (1 – Towards interactive documentary; 2 – The study object; and 3 – Issues to resolve); and third, an interactive meta-documentary that acts as a support tool and proposes stages and video viewing. The combination of these three parts has resulted in a unique approach for exploring the new documentary forms that are based on interaction and multiplatform production.

2. Approach to new documentary forms

Glorianna Davenport, North American pioneer in interactive narrative, started to experiment in the 80s at MIT with cinematography and interaction. Placing emphasis on documentary, in 1995 she defined the result of the relationship between documentary and interactivity as "evolving documentary" (1995:1). At the conceptual level, except for a few short works – such as those by Mitchell Whitelaw or Dayna Galloway – there is a gap between this seminal point of the 1980s and the year 2009, when authors like Sandra Gaudenzi (2009, 2012), Denis Porto Reno (2008, 2011), Jon Dovey and Mandy Rose (2012, 2013), Kate Nash (2012), and important compilations by Kate Nash, Craig Hight, and Catherine Summerhayes (2014), or Judith Aston, Sandra Gaudenzi and Mandy Rose (2017), among others, started to systematically investigate this new form of expression.

As this is a constantly changing and evolving form, the term used most has been 'interactive documentary' (Almeida and Alvelos, 2010; Dovey and Rose, 2013), although other terms are also used interchangeably, like "i-Docs" (Gaudenzi, 2012), "Open docs" (Rose, 2012; MIT Open Documentary Lab, 2013), "Expanded documentary" (Sucari, 2009; Català, 2011) and "New Media Documentary" (Ocak, 2014).

However, what does seem to be true is that interactive documentary can now be considered a potential genre in gestation composed of multiple supports and platforms for production, distribution and exhibition. In its beginnings the supports were offline (CD-ROM, DVD-ROM, videodisc in the 80s and

90s), but now its supports are the Web (webdocumentary), physical supports (installations), visual media (cinema and television), multiplatform production and transmedia narrative, among others. For this reason, in this article we use the concept 'new documentary forms', as the proposed methodology can be used to study all of the manifestations that result from the documentary genre combining with the new media.

3. Proposed methodology

3.1. The pillars that support the proposed methodology

As explained in the introduction, this methodological proposal is based on three basic pillars: an original theoretical framework for the study of interactive documentary, a education program initially developed to be applied in training and postgraduate courses, and an interactive meta-documentary as a support tool. We will now explain in detail these three components that are the foundation of this methodological proposal.

3.1.1. Dividing history into periods-phases

In our previous research (2013), we analysed the evolution of the documentary genre in the new media by characterising four specific periods: Appearance (1), Emergence (2), Consolidation (3) and Diversification (4). We placed each period over one or two decades to give a rough idea and obtain a starting point for discussion and reflection.

Digital media have made it possible for interactive documentary to flourish after an initial phase of experimentation for finding ways to contain the traditional audiovisual genres and have interactivity as the central factor. Everything began with the impulse from the French museums that made it possible to experiment with the form at the end of the 1980s and beginning of the 1990s based on the technology of optical supports such as the videodisc and CD-ROM. From this first phase or period (Appearance), we apply the double birth theory of Gaudreault (2005) to characterise the following phases: the Emergence phase (2), as the second period emerging when interactive documentary could be distinguished from its linear form, making it possible to relate to the contents in new ways; and the current phase (Consolidation), which comprises between its second birth –the explosion of the form during the years 2008 and 2009– and its true consolidation (3), which has yet to occur. During these three short decades of life until the present, we can determine the three main phases quoted by Gaudreault and which we use to develop this proposal of dividing the history of the expression form into periods or stages

(appearance, emergence and consolidation/constitution). We would also like to include a fourth phase, which we are now entering, and which we call "diversification/institutionalisation".

When this new form of expression appeared (1), it borrowed attributes from other media and genres due to its lack of identity and constitution as an independent genre. With the second stage, emergence (2), experimentation made it possible to enrich the interactive discourse that differentiates the new form from its parents: the documentary genre and digital media. The constitution phase of the media has now become a reality although the distance from its consolidation (3) is still tangible because this phase needs institutionalisation to take place. This would result from the relationship between all the agents and factors involved and lead the expression form to an autonomy and identity that Gaudreault termed "second birth", which will only occur if a culture and market is generated around the expression form. However, despite this, the transmedia documentary has appeared on the media stage based on a diversification (4) of the media and platforms that we characterise as the fourth stage in this chronological review. Based on this preliminary contextualisation, below is an initial outline of the proposed chronological evolution presented in this work:

Figure 1. Summary of periods and phases
of the evolution of the new documentary forms

Period or Phase	Brief Description
1. Appearance of the interactive documentary (1980-1990). Precedents and antecedents. Birth of the interactive documentary	During the years 1980-1990 there were a small number of precedents and antecedents, which led, at the end of this decade, to the birth of the interactive documentary, that is, its appearance in the audiovisual panorama.
2. Emergence and experimentation of the interactive documentary (1990-2000). Emergence and experimentation with the interactive documentary for different supports	During the last decade of the 20th century an intense experimentation period began for the interactive documentary with different supports, taking advantage of the appearance of the Web, the emergence phase led to the constitution of interactive documentary as an individual expression form.

3. Constitution and consolidation of the interactive documentary (2000-2010). Consolidation and expansion of the exhibition supports for interactive documentary	During approximately the next ten years (2000-2010) interactive documentary was consolidated as a multimedia and hypermedia audiovisual format.
4. Diversification of the interactive documentary. Towards a possible institutionalisation	We currently find ourselves immersed in the fourth stage of development. Production has increased considerably and we can now start to talk tentatively about a certain degree of diversification of projects, platforms, practitioners, businesses and in general the constitution of the format as a genre and meta-genre with its own specific characteristics, giving rise to the possibility of the second birth.

3.1.2. Previous training in the study area

We believe that the documentary is a unique narrative expression form and medium for telling stories and communicating emotions to the audience, and can ultimately influence our acts and values as individuals in society. The university degree and postgraduate degree allowed us to go deeper into this non-fiction genre; however, the Master of Digital Arts of the University Pompeu Fabra showed us a trend that, in time, we believe will become unstoppable: interactivity in audiovisual works. Keeping this in mind and two clear passions –telling non-fiction stories and interaction– we focused our doctorate on studying and analysing interactive documentary. This format is as yet fairly unknown in Spanish speaking countries, although it is better known in French and English speaking countries. It was difficult to carry out a doctoral thesis on a topic that was virtually inexistent in 2007 and in which various disciplines intersect. The almost five years we dedicated to our thesis allowed us to specialise in an exciting field and develop a versatile and up-to-date teaching programme, which we present in this work. As we acquired experience in this field, we developed a specific agenda divided into three areas: the path towards interactive documentary, in which we analyse its two basic progenitors (the documentary genre and interactive media); the interactive documentary as study object, in which we provide a basic literacy of this area; and finally, the issues that need to be resolved, that is, key areas that need to be worked on for

this expression form to become institutionalised in a solid and definitive way (market and culture).

3.1.3. Meta-documentaries

As we pointed out in other works (2013; 2014), interactive documentary is a versatile tool that is very useful for educational purposes because it incorporates various processes and behaviours that are difficult to obtain from the viewing of a traditional documentary. There are now new proposals that use interactive documentary to teach contents. They are called meta-documentaries because they try to explain what is a documentary or similar concept using a documentary as an information system. Some examples that illustrate this trend and which could be used in a classroom setting are *Capturing Reality. The Art of Documentary* (Pepita Ferrari, National Film Board of Canada, 2009), *The Journey of Documentary* (Atalanti Dyonisus, 2012), *What's up webdoc* (Elisa Aviones, Gabriel Melendez, Nathalie Assouline, Eric Arnaud and Rémi Gomis, 2013), *MetamentalDOC* (Ingrid Blasco, Gloria campos, Myriam Figueira, Marc Molinos and Arnau Gifreu, 2012) and *COME/IN/DOC* (Arnau Gifreu, Bernat Torras and Catalina Acelas, 2013).

3.2. Breakdown of the methodological proposal

Below is the complete breakdown of the program for the proposed methodology for studying interactive and transmedia documentary.

3.2.1. Precedents and antecedents. Appearance of the expression form

3.2.1.1. The documentary genre

To begin learning about interactive documentary we need to look back to the origins of cinema. We need to learn about the basic concepts of renowned authors in the field of traditional documentary, such as Bill Nichols, Michael Renov, Carl Plantinga and Erik Barnouw, among others. Despite the difficulties and divergences in the proposals of the main classifications of the documentary genre (Nichols, 1991 and 2001; Barnouw, 1993; Meran Barsam, 1993; Renov, 1993; Plantinga, 1997), there are some works that are good starting points and interesting methodological tools for studying documentary and its discourse.

To complete this initial exploration we recommend reading the book *Documentary. A History of the Non-Fiction Film* (1993) by Erik Barnouw, which is an enjoyable read that takes you into the history of the documentary through

its social functions. Also the book *Nonfiction Film: a Critical History* (1992) by Richard M. Barsam is good for exploring the field of non-fiction. As a complement, and for those people who don't wish to go too deep into theory, we propose an approach based on some meta-documentaries of reference. These documentaries, both linear and interactive, explain what is or how to make a documentary. We recommend viewing, browsing and working with the following list of meta-documentaries in the classroom:

Figure 2. List of meta-documentaries to work with in the classroom

Work	Author, Country, Year of Production	Description
Biology of Story	Amnon Buchbinder, Geneviève Appleton, Canada, 2015	All documentaries tell a story, and therefore understanding the basic narrative elements of storytelling is essential. This work proposes a universe of relationships and authors who explain the ins and outs of storytelling. Only available in English.
Capturing Reality. The Art of Documentary	Pepita Ferrari, National Film Board of Canada, 2009	Produced by the National Film Board of Canada, it looks at the documentary genre through interviews with more than 40 personalities from the documentary world. Only available in English.
What's up Webdoc	Elisa Aviones, Gabriel Melendez, Nathalie Assouline, Eric Arnaud and Rémi Gomis, France, 2013	Produced by students of the University Paul-Valéry Montpellier III, it is an interesting look at the webdoc world in France. Only available in French.

MetamentalDOC	Ingrid Blasco, Gloria campos, Myriam Figueira, Marc Molinos and Arnau Gifreu, Spain, 2012	Produced by students of the University of Vic-University Central of Catalonia, it is an interactive platform that contains a linear documentary and an interactive documentary. It explains the experience of a group of students trying to produce a multiplatform documentary. Only available in Spanish.
COME/IN/DOC	Arnau Gifreu, Bernat Torras and Catalina Acelas, Spain, 2012-2016	Interactive meta-documentary that attempts to answer the question of what is an interactive documentary. Only available in English.

3.2.1.2. The interactive digital medium

The second key ingredient at this first level is the interactive digital medium. As for the documentary genre, we can start by soaking ourselves in the theories of the main experts in this field, among which we can highlight: Lev Manovich, 2002; Janet Murray, 1999; Goerge Landow, 2005; Espen Aarseth, 2003; Ted Nelson, 1997; Marshall McLuhan, 1985 and 1987; and Carlos Scolari, 2009 and 2013. We propose reading about the pioneers of interactive digital media, inventors and mathematicians who devised and designed the current computational and artificial intelligence systems. We propose four key stages that correspond to the initial ideas of computers, the development of the machine (the hardware), interactive programs (the software), and finally the languages that have made the Internet and computers possible. The following table shows the four teaching units proposed in this section:

Figure 3. Development periods of the interactive digital medium

Period – Stage	Context	Pioneers, Inventions, Contributions
1 – Pioneers of the digital medium	During approximately two centuries (the 19th and 20th centuries), there were some key people and their respective contributions[1] in different fields: a first group of inventors became pioneers of the digital medium and digital technology during the 19th century and the beginning of the 20th century.	Charles Babbage, differential machine, 1822, and analytical machine, 1833-1842; Herman Hollerith, Tabulating Machine Company, 1896, IBM, 1924; Alan Turing, cellular automata and Turing test, 1950; Norbert Wiener, automation, cybernetics and feedback, 1948; Claude Shannon, mathematic theory of communication, 1948; Konrad Zuse, Z-1, 1936-1939, series Z, 1936-1956; Jack Kilby, integrated circuits, the microprocessor, 1959, microelectronics; Joseph Carl Robnett Licklider, Galactic Network and ARPANET, 1962.
2 – Development of the first interactive programs	Based on the contributions of the pioneers of the new media, interactive programs were initiated and consolidated during the first half of the 20th century.	Morton Heilig, sensorama, 1958, virtual reality and the virtual helmet, 1962; Joseph Weizenbaum, the computer ELIZA, the concept of artificial intelligence, 1965; Raymond Kurzweil, artificial intelligence.

3 – Multimedia, hypermedia and the WWW	In the third state of the interactive digital media, placed between halfway and the end of the 20th century, the media and technologies converged and hypermedia, multimedia and the Internet appeared	Douglas Engelbart, the mouse, windows, online help, text processor, advanced mail, digital systems of collective production; Ted Nelson, Project Xanadu, hypertext and hypermedia, 1965; Jaron Lanier, virtual reality, HCI – Human-Computer Interaction, virtual gloves and visual programming; Tim Berners-Lee, the Internet, the language HTML, the protocol TCP/IP, the consortium W3C, 1991-1993; Steve Jobs, Apple, first Macintosh computer, producers NeXT and Pixar, iMac, iPod; Steve Wozniak, Apple, Apple II computer, creator of hardware and software.
4 – Hypertext	In the last stage an individual language was established based on the origins, concepts and development of hypertext.	Vannevar Bush, differential analyser, 1930, Memex, 1945; John Cage, music: the silence, indeterminacy in music and the prepared piano; Fred Waller, Cinerama, 1939; Ivan Sutherland, infographics, sketchpad, interaction, tridimensional model, visual simulation, computer-aided design (CAD), virtual reality.

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1. Our intention is not to mention all of the people and inventions that have made it possible to develop the interactive digital medium, but rather a selection of those that we believe have led to the appearance, emergence and consolidation of this medium.

3.2.1.3. Fusion of the documentary genre and digital media

At this junction, and after looking at the two predecessors separately, we will explore the meeting point of the two areas that make up interactive documentary by browsing two projects:

Figure 4. Projects that explore the intersection
between documentary and digital media

Work	Author, Year of Production	Description
Moments of innovation	MIT Opendoclab, IDFA Doclab and Upian, 2014	This is the first large project by Open Documentary Lab from MIT. It explores the key moments of intersection between the documentary genre and interactive media over the centuries.
COME/IN/DOC	Arnau Gifreu, Bernat Torras and Catalina Acelas, Espill Media, 2012-2016) Section: Learn – Compared Evolution	This is an interactive meta-documentary fruit of the doctoral thesis of the author of this article. It is the result of 4 years of intensive research (2012–2016) and presents a set of more than 60 video interviews with experts in the field of interactive documentary with the aim of answering one basic question: What is an interactive documentary?

To explore the key antecedents and precedents of the new documentary forms of the 21st century we propose browsing and analysing the following projects:

Figure 5. Antecedent and precedent projects of interactive documentary

Work	Author, Year of Production	Description
Aspen Movie Map	Andy Lippman. MIT Media Lab, 1980	This work proposes an interactive virtual drive through the city of Aspen, Colorado, in which the user can choose different possibilities by changing different parameters, like the direction, speed, etc. It is one of the first interactive systems that responds in real time to the action, at the same time that it documents differently an experience in a simulated physical space.
Sim City	Will Right. Maxis, 1989	Sim City is a videogame in which the user is the city mayor who needs to build the city. This is the first interactive story recognised as being more than just a game. It shows us the generative, participatory and evolutionary capabilities that interactive documentary now has.
Moss Landing	Kristina Hooper Woolsey. Apple Multimedia Lab. Apple Computer, 1989	First project that documents a real occurrence with digital technology and which was called "interactive documentary". It recounts an event that took place in the North American port town of Moss Landing through a mosaic structure of hypertext.

To support these projects at a theoretical level, we suggest looking at the pioneering work of Glorianna Davenport, which are considered experiments in this format. Davenport made her first interactive piece, *New Orleans in Transition*, during the years 1982-1986. At that time there were no browsers, so the project could only be experienced by one person at a time in a computer room at MIT.

One year later, in 1987, Davenport created and coordinated the Interactive Cinema Group at the MIT Media Lab, a research group whose aim was to envisage how computing would shape the future of cinema and especially documentaries. In 2004 this group became the Media Fabrics Group. In 1989 Davenport began to teach a course in which students worked together to create a multimedia journal, which gave rise to *The Elastic Charles*, in which 18 students went out to document the Charles River in Boston (Helminen, 2015:23). From among her more ambitious projects, we highlight these two works for analysis:

To conclude this first block, in which we are heading towards the interactive documentary, we propose a parallel task in class (or at home) which consists in viewing parts of the documentary series *COME/IN/DOC*.

Figure 6. Most representative projects of Glorianna Davenport

Work	Author, Year of Production	Description
Boston renewed Vistas (1995-2004)	Glorianna Davenport. MIT Interactive Cine Group.	Project that analyses the process and the progress of the urban changes in the centre of Boston, as this city underwent the largest public works project in the United States during the last decade of the 20th century and the first decade of the 21st century. The interactive system is original because the story evolves as the sequences are added to a database, mixing superimposed visual information and advancing key aspects of what we know today as augmented and virtual reality.

| *Jerome B. Wiesner, 1915-1994: A Random Walk through the 20th Century (1994-1996)* | Glorianna Davenport, Cheryl Morse, Michael Murtaugh, Freedom Baird, Richard Lachman, Peter Cho, Phillip Tiongson, Laughton Stanley. | A project that invites us to explore the 20th century through an extendable collection of stories and memories of the figure of Jerome Wiesner, a multi-talented man who focused on science, government, education and the problems of cultural humanism. The polyhedral life of Wiesner is presented in a multiplicity of perspectives and directions. |

Complementary work:

1.1. The evolution of documentary (4 episodes of approximately 15 min)

To answer the research question: Do you think that the interactive documentary is a natural evolution of the linear documentary?

Figure 7. Documentary series COME/IN/DOC
– Evolution of the linear documentary

Part 1: https://vimeo.com/156773685
Part 2: https://vimeo.com/156773690 http://opendoclab.mit.edu/comeindoc-interactive-documentary-evolution-part-2
Part 3: https://vimeo.com/156773683 http://opendoclab.mit.edu/comeindoc-interactive-documentary-evolution-part-3
Parte 4: https://vimeo.com/160216643 http://opendoclab.mit.edu/comeindoc-interactive-documentary-evolution-part-4

1.2. Explosion of the documentary form (4 episodes of approximately 15 min)

To answer the research question: Can it be considered that there was an explosion of the interactive documentary form in the period 2008-2009?

Figure 8. Parts of the documentary series COME/IN/DOC – Explosion of the form

Part 1: https://vimeo.com/161020792 http://opendoclab.mit.edu/comeindoc-interactive-documentary-explosion-of-the-form-part-1
Part 2: https://vimeo.com/161744117 http://opendoclab.mit.edu/comeindoc-interactive-documentary-explosion-of-the-form-part-2
Part 3: https://vimeo.com/161744115 http://opendoclab.mit.edu/comeindoc-interactive-documentary-explosion-of-the-form-part-3
Part 4: https://vimeo.com/161745633 http://opendoclab.mit.edu/comeindoc-interactive-documentary-explosion-of-the-form-part-4

3.2.2. Emergence and experimentation

Before establishing a possible definition of interactive documentary, we propose looking at certain key concepts related to the field of study in order to develop a basic ABC of the documentary genre and new media. It is also relevant here to look at the current state of development of this field and the type of language that is usually used. The figure below shows some key concepts that need to be explained in the beginning in order to understand the most important elements that make up an interactive and/or transmedia production.
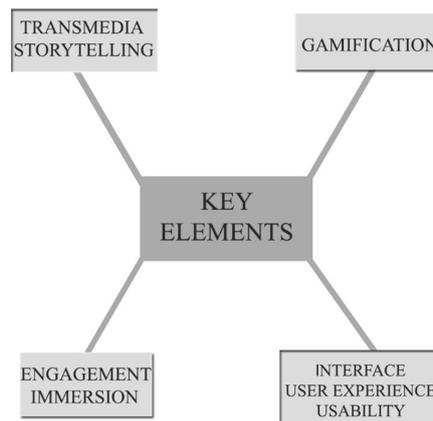

Figure 9. Key concepts associated with interactive and transmedia production

After first defining and characterizing some essential concepts, it is recommended to start by reading the works of experts as well as a selection of the main publications of the field (you can find the full references and links in the bibliography), such as:

Figure 10. Reading list of relevant works

Works (Articles and Books)	Author and Year of Publication
ConText: Towards the Evolving Documentary	Glorianna Davenport and Michael Murtaugh, 1995
Interactive Documentary: Towards an Aesthetic of the Multiple	Sandra Gaudenzi, 2009
El Documental expandido: pantalla y espacio (*The expanded documentary: screen and space*)	Jacobo Sucari, 2009
An Interactive Documentary Manifesto	André Almeida and Heitor Alvelos, 2010
Reflujos de lo visible. La expansión post-fotográfica del documental (*Reflow of the visible.The post-photographic expansion of the documentary*)	Josep Maria Català, 2011
Webdocs... a survival guide for online filmmakers	Matthiew Lietaert, 2011
Documentary and New Digital Platforms: An Ecosystem in Transition	Observatoire Du Documental, Documentary Network, 2011
Real/Unreal: Crafting Actuality in the Documentary Videogame	Cindy Poremba, 2011
Interactive documentary: setting the field	Judith Aston and Sandra Gaudenzi, 2012
Documentary Producing and Interactive Platforms: Opportunities, Evolving Processes and the Changing Craft	Atalanti Dionysus, 2012
Modes of interactivity: Analysing the Webdoc	Kate Nash, 2012
The Living Documentary: from representing reality to co-creating reality in digital interactive documentary	Sandra Gaudenzi, 2012

El documental interactiu com a nou gènere audiovisual. Estudi de l'aparició del nou gènere, aproximació a la seva definició i proposta de taxonomia i d'un model d'anàlisi a efectes d'avaluació, disseny i producció (*The interactive documentary as a new audiovisual genre. Study of the appearance of the new genre, approach to its definition and proposal for a taxonomy and analysis model of the effects of evaluation, design and production*)	Arnau Gifreu-Castells, 2013
Narrativas transmedia. Cuando todos los medios cuentan (*Transmedia narratives. When all the media count*)	Carlos Scolari, 2013
New Documentary Ecologies. Emerging Platforms, Practices and Discourses	Kate Nash, Chris Hight and Catherine Summerhayes, 2014
Evaluating Interactive Documentaries: Audience, Impact and Innovation in Public Interest Media	Sean Peter Flynn, 2015
Producciones transmedia de no ficción. Análisis, experiencias y tecnologías (*Transmedia nonfiction productions. Analysis, experiences and technologies*)	Fernando Irigaray and Anahí Lovato, 2015
Mapping the Intersection of Two Cultures: Interactive Documentary and Digital Journalism	MIT Open Documentary Lab, John D. and Catherine T. MacArthur, 2016
i-Docs: The Evolving Practices of Interactive Documentary	Judith Aston, Sandra Gaudenzi and Mandy Rose, 2017

Below is a table showing the current state of development of the expression form divided into five key areas: Related events and conferences (1); Companies, TV and production companies (2); Researchers, laboratories and research groups (3); Producers, directors and important actors (4); and, Business model – funding (5).

Figure 11. Summary table of the current state of development

	Spain	Latin America	International
Related events and conferences	interDocsBarcelona, Docs21, Medimed Cross Training, How to make a webdoc	MIDBO, DocsBarcelona+Medellín, FICCI (Colombia), etc.	IDFA Doclab (The Netherlands), i-Docs Conference (UK), Webdox (Belgium), i_doc workshop (Switzerland), ¡F Lab (Europe)
Companies, TV and production companies, etc.	RTVE, TVC, Barret Films, IntropiaMedia, Espill Media, etc.	Canal Encuentro (Argentina), Señal Colombia, etc.	National Film Board (Canada), ARTE (France), Upian (France), Submarine Channel (The Netherlands), Honkytonk Films (France), Helios Design Labs (Canada), etc.
Researchers, laboratories and research groups	María Yañez, Eva Domínguez	Fernando Irigaray, Alvaro Liuzzi, Denis Porto, André Paz, Valentina Moreno, Joanna Camargo, etc.	MIT Open Documentary Lab, i-Docs, Glorianna Davenport, Sandra Gaudenzi, William Uricchio, Mandy Rose, Kate Nash, etc.
Producers, directors and important actors	RTVE Laboratory of Audiovisual Innovation, Alex Badia, Ferran Clavell, Miriam Hernanz, etc.	Documedia UNR (Argentina), Webdocumentario (Brazil), Fernando Irigaray, Alvaro Liuzzi, Jorge Caballero. etc.	Katerina Cizek, Alexandre Brachet, Florian Thalhofer, Arnaud Dressen, etc.
Business model – financing	Calls from RTVE and TVC, ICAA, ICEC.	Crea Digital, Motivation program of the Ministry of Culture (Colombia), etc.	Crossmedia Forum (IDFA Doclab), Sheffield Docfest, Cross video Days, Sunny Side of the Doc, etc.

As in each block, the project *COME/IN/DOC* can be used to support and enrich the proposed sessions. In this case, the blocks proposed are:

Complementary work:

1.3. Definition of the interactive documentary (4 episodes of approximately 15 min)

To answer the research question: How would you define the concept of interactive documentary?

Figure 12. Parts of the documentary series COME/IN/DOC – Definition

Part 1: https://vimeo.com/163979828 http://opendoclab.mit.edu/comeindoc-interactive-documentary-definition-part-1
Part 2: https://vimeo.com/163979826 http://opendoclab.mit.edu/comeindoc-interactive-documentary-definition-part-2
Part 3: https://vimeo.com/163979827 http://opendoclab.mit.edu/comeindoc-interactive-documentary-definition-part-3
Part 4: https://vimeo.com/163940096 http://opendoclab.mit.edu/comeindoc-interactive-documentary-definition-part-4

1.4. Characteristics of interactive documentaries (2 episodes of 15 min)

To answer the research question: What characteristics differentiate the interactive documentary from the linear documentary?

Figure 13. Parts of the documentary series COME/IN/DOC – Characteristics

Part 1: https://vimeo.com/167402443 http://opendoclab.mit.edu/comeindoc-interactive-documentary-features-part-1
Part 2: https://vimeo.com/167402440 http://opendoclab.mit.edu/comeindoc-interactive-documentary-features-part-2
Part 3: https://vimeo.com/167402442 http://opendoclab.mit.edu/comeindoc-interactive-documentary-features-part-3
Part 4: https://vimeo.com/167402441 http://opendoclab.mit.edu/comeindoc-interactive-documentary-features-part-4

1.5. Factors that have made the emergence of interactive documentary possible (2 episodes of 15 min)

To answer the research question: Besides the documentary genre mixing with interactive media, are there any other factors involved in the interactive documentary?

Figure 14. Parts of the documentary series COME/IN/DOC – Other factors

Part 1: https://vimeo.com/171214917 http://opendoclab.mit.edu/comeindoc-interactive-documentary-other-factors-part-1
Part 2: https://vimeo.com/171214913 http://opendoclab.mit.edu/comeindoc-interactive-documentary-other-factors-part-2
Part 3: https://vimeo.com/171214915 http://opendoclab.mit.edu/comeindoc-interactive-documentary-other-factors-part-3
Part 4: https://vimeo.com/171214916 http://opendoclab.mit.edu/comeindoc-interactive-documentary-other-factors-part-4

The blocks of key concepts proposed are:

Figure 15. Parts of the documentary series COME/IN/DOC – Other key blocks

2.1 – Definition of interactivity (4 episodes of 15 min)
How would you define the term interactivity?
2.2 – Definition of collaboration (4 episodes of 15min)
How would you define the term collaboration?
2.3 – Definition of gamification (4 episodes of 15 min)
Do you think that there is a relationship between the strategies of games and documentaries?

In this block it is also interesting to analyse a set of projects that are representative of the works of recent years. This could include projects made between 1990 and 2010, such as:

Figure 16. Representative projects for the analysis period 1990-2010

Work	Producer, Year of Production, Support, Url	Description
The Day after Trinity. J. Robert Oppenheimer and the atomic bomb	Jon Else. Voyager (1994). CD-ROM	Production in optical media (CD-ROM) about the documentary called *The Day After Trinity*, from the same author, Jon Else (1980). Reflection on the effects of making the atom bomb and the short- and long-term consequences.
Rehearsal of Memory	Graham Harwood. Bookworks/ARTEC (1995). CD-ROM and installation	CD-ROM and interactive documentary installation that reflects deeply on the concept of mental health based on the exploration of a high-security psychiatric hospital and conversations with the residents.
Dans un quartier de Paris	Gilberte Furstenberg and Janet H. Murray (1996). Web.	Interactive documentary that gives users the opportunity to explore a unique French cultural area: a neighbourhood located in the area of Le Marais, in Paris.

Inmemory	Chris Marker (1997). CD-ROM	Project in which the frontiers of experimentation, multiplicity of levels and sociopolitical reflection on technology lead to a free and open construction of eight areas: War, Poetry, Museums, Photography, Travel, Cinema, Memory and Xplugs.
Joan Miró. El color de los sueños.	Foundation Joan Miró, Audiovisual Institute of University Pompeu Fabra, Club de Investissement Media of the European Union (1998). CD-ROM	CD-ROM on the painter Joan Miró. As the theme is universal, this production uses four languages simultaneously that can also be interchanged at any time: Catalan, Spanish, English and French.
Bleeding Through, Layers of Los Angeles, 1920-1986	Rosemary Comella and Andreas Kratky. ZKM. The Labyrinth Project. (2001) CD-ROM	DVD exploration of the city of Los Angeles through the story of a character. Production by The Labyrinth Project, university group that researches the narrative through databases and the territories of intersection between fiction and nonfiction.
34North, 118West	Jeff Knowlton, Jeremy Spellman and Naomi Hight,. The 34 North, 118 West Collective (2003). Mobile app. http://34n118w.net/34N/	Historical fiction set in downtown Los Angeles that documents the past of this city. Depending on the GPS position of the person walking, the participant hears a story of the historical past of the city of Los Angeles. A mobile phone can be used to view the location of the participant on a map, while the audio content can be heard through headphones.
Filmmaker-in-residence	Katerina Cizek. National Film Board of Canada (2006). Web. http://filmmakerinresidence.nfb.ca/	Work in which the director lived with the patients, nurses, family and doctors at the hospital St. Michael of Toronto. The result of this exchange is one of the most recognized web documentaries.

Hope: Living and Loving with HIV in Jamaica	Pulitzer Center on Crisis Reporting. Bluecadet Interactive. (2006). Web. www.livehopelove.com/	Interactive documentary on the reality of AIDS in Jamaica. Based on visits and interviews in Jamaica, audiovisual content is available linked to poems by Kwame Dawes inspired by his visits to the country.
Thanatorama	Alexandre Brachet. Upian (2007). Web. www.thanatorama.com/	Project about what happens after death. To show this, it places the user in the role of "dead character", exploring the funerary rituals of the modern world, governed by religious and marketing laws. The aim is to make the interactor "experience"his own death before actually dying.
Haiku Media. *Guernica, pintura de Guerra*	CCRTV Interactive (Catalan Corporation of Radio and Interactive Television) (2007). TV, Web and Media Centre. www.tv3.cat/30minuts/guernica/home/home.htm	Multiplatform project developed by the prestigious team of the program "30 Minutes"of Television of Catalonia and CCRTVI (Catalan Corporation of Interactive Radio and Television).
Journey to the End of the Coal	Samuel Bollendorff and Abel, Ségrétin. Honkytonk Films (2008). Web. www.honkytonk.fr/index.php/webdoc/	Interactive documentary that tells the story of China's coal miners who must risk their lives to satisfy the appetite of their country and fuel its economic growth. The project takes us on a journey of discovery to the mines of Shanxi Valley.

The Big Issue	Samuel Bollendorff and Olivia Colo. Honkytonk Films. CNC New Media. Canon France. France 5. Curiosphere.tv (2009). Web. www.honkytonk.fr/index.php/thebigissue/	Interactive documentary focused on research carried out by the World Health Organization on the causes for the sharp rise in obesity worldwide. The project invites users to evaluate several factors in the obesity epidemic, while questioning our modern way of life, trying to determine the degrees of responsibility that the food and agriculture industries as well as the public authorities have.
Out my Window	Cizek, Katerina. Highrise. National Film Board of Canada (2010). Web and interactive installation. http://outmywindow.nfb.ca/#/outmywindow	Multiplatform documentary on the residents of different parts of the world and their points of view in relation to the planet and the urban population, trying to improve their quality of life through the documentary and digital technology.
Welcome to Pine Point	Michael Simons and Paul Shoebridge. National Film Board of Canada (2010). Web. http://pinepoint.nfb.ca/#/pinepoint	Interactive documentary that explores the memories of the residents of the Pine Point mining community in the northeast of the United States. It looks at how they remember the past and their personal memories of a place that no longer exists in the present.
Collapsus	Tommy Pallotta. Submarine Channel. VPRO Backlight (2010). Web. http://www.collapsus.com/	Project that mixes fiction and nonfiction in a proposal about how the impending energy crisis affects ten young people, while the international battle with political powers is being waged and this affects the population during the transition from fossil fuels to alternative fuels.

Planet Galata	Florian Thalhofer and Berke Bas. Korsakow (2010). Web. www.planetgalata.com/	A documentary portrait of the Galata Bridge and its surroundings in Istanbul, Turkey. It captures a microcosm that reflects the rich cultural diversity of the city as a whole.

3.2.3 Consolidation and possible institutionalization (issues to be resolved)

3.2.3.1. Production, distribution and exhibition models

This first issue can be discussed and debated in the classroom: a key issue to analyse and discuss is the transformations of the production processes as well as how the new documentary forms are circulated, looking at the new logics and dynamics of recent years. We are currently witnessing a widespread change in the traditional roles of production, distribution and exhibition of the interactive genres. This translates into a set of new practices that are beginning to generate innovative business models in these sectors and for interactive non-fiction in general. These dynamics require new professionals who have developed skills according to the new level of complexity in question. This new scenario that is currently being constructed favours a type of professional who is versatile and multitasking, and who finds themselves with the "historic opportunity and obligation"to invent new ways of telling stories.

3.2.3.2. The role of the author

The second discussion that we propose is about the role of the author and the control that they have (or believe they have) over the narrative. The greatest difference (and conflict) between the objectives of the traditional documentary and those of the interactive documentary is in the area of authorship and the control over the narrative discourse. In essence, the role of the filmmaker is to create meaning from reality. The interactive documentary, on the other hand, allows users, in certain projects, to take control of the storytelling, which could threaten the documentary filmmaker's role of author, and therefore, their capacity to create meaning.

The traditional documentary proposes and defends a point of view (that of the documentary filmmaker), but the interactive documentary has the potential to offer many points of view. In summary, adding interactivity can mean and lead to, in some cases (and depending on how the material is treated), losing control over the meaning of the film.

Authorship is an intrinsic objective of the traditional documentary, and therefore, this issue can lead to resistance in the consolidation of the interactive media and their way of constructing discourse. This does not mean to say that filmmakers do not use the Web as a platform. On the contrary, documentaries are discovering this platform for distribution at a time when this industry is supersaturated due to strong competition between companies and documentary filmmakers.

3.2.3.3. The business model

The third key issue to resolve is funding. We will start with three models to explain the possible business models: the audiovisual, the interactive and the transmedia. In the traditional model of producing a documentary, the idea usually comes from a broadcasting company or producer and they look for alliances. The television companies most active in this format (BBC, ARTE, NFB, RTVE, CANAL+, TVC, etc.) normally have sufficient resources and funds to produce the documentary themselves, but this may not be true for regional broadcasting entities. A producer needs to find partners (broadcasters or other producers) to co-produce a project with certain guarantees, obtain alliances for specific funds for the production (ICEC, ICAA, ICUB), make pre-sales of the film, or find formulas such as downloads on online cinema platforms, DVD sales or sponsorship.

In the second and third models (interactive and transmedia), broadcasters are also an important part of achieving the budget (they may provide a third of it); however, at the moment not many television companies are interested in this format. The television companies that are interested usually come from countries that are concerned about cultural issues, the documentary as narrative form and technological development. Examples of this are NFB, Arte and RTVE. As a general rule, a television company (public or private) usually allies itself with a production company or multimedia studio. To this base we add funds earmarked for development by the government or private institutions and it is sometimes also possible to look for the complicity of a technology developer. This structure, with greater or lesser variation in the components and their degree of involvement in each project, is becoming consolidated in leading countries in the production of this genre, such as Canada and France, as well as in Spain

Blocks pending from the project COME/IN/DOC:

Figure 17. Parts of the documentary series COME/IN/DOC – issues to be resolved

2.4 – Technological aspects (4 episodes of 15 min)
To answer the research question: What is the future technology for this type of project?
2.5 – The field of education (4 episodes of 15 min)
To answer the research question: Could the interactive documentary field contribute to the educational process and vice versa?
3.1 – New models of production, distribution and exhibition (4 episodes of 15 min)
To answer the research question: Are there any changes in the logics of production, distribution and exhibition of interactive documentaries compared to those of linear documentaries?
3.2 – The role of the author (4 episodes of 15 min)
To answer the research question: What is the role of the author in interactive documentaries?
3.3 – Business model (4 episodes of 15 min)
To answer the research question: How can a strong, sustainable business model be achieved over time?
4.1 – Producer countries (2 episodes of 15 min)
To answer the research question: Why are Canada and France the main producer countries of this type of documentary?
4.2 – Representative projects (2 episodes 15 min)
To answer the research question: Which projects do you consider representative and why?

This is when the first forms of transmedia documentary appear on the stage, which is summarized in the following chart:
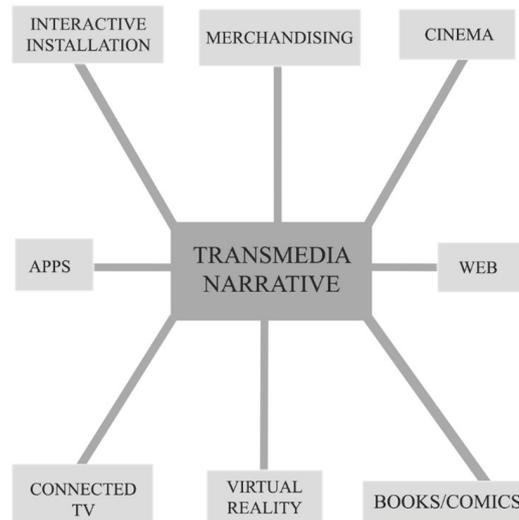
Figure 18. Main supports and platforms of the transmedia narrative applied to the
documentary genre

At this advanced stage of the course we recommend watching and analysing the following projects, which we consider the most significant projects produced during the second decade of the 21st century:

Figure 19. Selection of interactive documentaries to analyse (2010-2016)

Work	Producer, Year OF Production, Support, Url	Points to Consider
Prison Valley	David Dufresne and Philippe Brault, ARTE 2010 http://prisonvalley.arte.tv /?lang=en	**Gamification Moderation – Feedback** - User registration - Directors managed a forum for a month after release - Large budget (+ 240,000 EUR)
Clouds over Cuba	The JFK Presidential Library, The Martin Agency, 2012 http://cloudsovercuba.com	**Aesthetic Beauty and Functionality** - Subject - File for storing content - Visual aesthetic of the documentary

Bear 71	Jeremy Mendes, NFB 2012 http://bear71.nfb.ca/#/bear71	**Metaphore and Interface Design** - Animal-person role - Multi-camera tracking - Initial indication of how long the experience lasts
Welcome to Pine Point	Michael Simons and Paul Shoebridge, NFB, 2011 http://pinepoint.nfb.ca/#/pinepoint	**Comic Book Documentary** - Aesthetic beauty - Mix of multimedia elements - Coherence between complex subject transitions - Recovery of the historical memory of a non-existent place
Fort McMoney	David Dufresne, ARTE, NFB, Toxa, 2013 www.fortmcmoney.com/#/fortmcmoney	**Documentary-Game** - Information display - Subject treatment - Large budget (NFB + ARTE + Toxa, 900,000 $ budget)
Alma, hija de la violencia	Miquel Dewever-Plana and Isabelle Fougère, ARTE, Upian, 2012 http://alma.arte.tv/es/	**Transmedia Documentary** - Large budget (550,000 euros) - Emotional value of the story - Narrative proposal through interviews - 'Soft Interactivity': top layer of interaction
Offshore interactive	Brenda Longfelloy and Glenn Richards, Helios Design Labs, 2014 http://offshore-interactive.com/	**Interactive Documentary in 3D** - Web standards GL and Three.js - Recreation of a marine extraction platform - Documentary treatment of the subject - Position indicators - gamification logics

Highrise	Katerina Cizek, NFB, 2009-2015 http://highrise.nfb.ca/ Out my window http://outmywindow.nfb.ca/#/outmywindow *One millionth tower* http://highrise.nfb.ca/onemillionthtower/ *A Short History of the Highrise* www.nytimes.com/projects/2013/high-rise/	**Tecnology for Social Change** - Metaphor of a block of flats - Micro-stories told in relation to photographs and sound - Collaborative project: 120 photographers from around the world - Large budget: 1 million dollars annually
Hollow	Elaine McMillion, 2013 http://hollowdocumentary.com/	**Community and Scrollytelling Technique** - Interactive documentary that works because Parallax is very successful and it becomes linear - Documentary that reaches the social stratum, generating and building community
I love your work	Jonathan Harris, 2014. http://iloveyourwork.net/	**Business Model, Privacy Director – Actors** - Idea of audiovisual and interactive works as healers, as medicine for the soul - Innovative business model - Beauty of the interface - Example of DIY
Last Hijack interactive	Femke Wolting and Tommy Pallotta, Submarine Channel, 2014 http://lasthijack.com/	**Balance Animation – Interaction** - Complex subject - Browsing system - Transmedia project
Type:rider	Théo le Du, Cosmografik Studio, ARTE, , 2013 http://typerider.arte.tv/#/	**Docu-Game** - Transmedia project on the history of typography - Simplicity and functionality of the idea

Montelab	RTVE Audiovisual	**Docu-Game**
	Innovation Laboratory,	- Docu-game about the rise in hou-
	2014	sing prices
	http://lab.rtve.es/montelab/	- Gamification techniques

4. Application and results of the methodology presented

The methodology presented in this work has been applied, partially or completely, in the Degree of Cinema and Audiovisual Media of ESCAC (School of Cinema and Audiovisual Media of Catalonia, 2014-2016), as part of the subject of the 3rd course 'Theories of the Documentary' and in the Master of Documentary of Creation (Pompeu Fabra University, Barcelona, 2014-2016), the Master of Theory and Technique of the Creative Documentary (Autonomous University of Barcelona, 2011-2017) and the Master of Documentary and Transmedia Journalistic Reporting (Carlos III University, Madrid, 2015-2017).

While there were almost 100 students in the four courses per year, we believe that the results from such a small sample of hours and students are not reliable indicators to clearly show an improvement in the students' learning, motivation or participation. The results in the student surveys do show an interest and motivation for the new documentary forms, which indicates that the teaching is attractive and dynamic for the students. Their evaluations of the subject and teacher have always oscillated between very good and outstanding. In these active surveys the students highlight the novelty of the teaching method (based on projects developed for this purpose and case studies) as well as the introduction of certain logics of ludification of the contents.

5. Conclusions

This work outlines the structure of an original methodological proposal for studying and analysing interactive and transmedia documentary that was developed over the past decade based on extensive previous research into this field. We have introduced and proposed guidelines for teaching three independent modules that present the study object in relation to structured phases: firstly, the precedents and antecedents, and the key moment of appearance of the expression form; secondly, the period of emergence and experimentation; and finally, its consolidation and possible institutionalization. Each of these phases is studied using a set of resources and case study examples, thus providing a unique and original method for teaching the current new documentary forms.

With this contribution, we hope to provide useful and sequential guidelines so that other teachers, researchers, producers and those interested in this subject can use them for their benefit.

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