

● Esteban Vázquez-Cano
Madrid (Spain)

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The Videoarticle: New Reporting Format in Scientific Journals and its Integration in MOOCs

El videoartículo: nuevo formato de divulgación en revistas científicas y su integración en MOOCs

ABSTRACT

The new training context in higher education is moving toward a new model of massive, open and free education through a methodology based on video simulation and students' collaborative work. Using a descriptive methodology, we analyze the formats and Web content presentation of 72 journals indexed in the Journal Citation Reports® (2013) in the field of communication, and their presence in the development of massive open online courses (MOOCs) at the leading global platform, «Coursera». The findings show that the vast majority of scientific journals in the field of communication offer few disclosure formats and are difficult to embed in new massive, ubiquitous and collaborative movements which use the self-created «audiovisual pill». Therefore, the integration of articles of international scientific journals in MOOCs is almost nonexistent. Journals are not taking advantage of the great potential of these courses for scientific divulgation, probably because its unique disclosure format is written text. Thus, we propose a new model for scientific publication which shares writing text format with the video article, social media outreach and new formats supported by mobile digital devices to foster greater international visibility of scientific development and social progress in an everyday, more interconnected and visual society.

RESUMEN

Los nuevos escenarios formativos en la educación superior se están orientando hacia un nuevo modelo de formación masiva, abierta y gratuita por medio de una metodología basada en la videosimulación y el trabajo colaborativo del estudiante. En este artículo analizamos a través de un estudio descriptivo los formatos de divulgación y presentación de contenidos de las 72 revistas indexadas del campo de la Comunicación en el Journal Citation Reports® (2013) y su presencia en el desarrollo de cursos online masivos en abierto (MOOCs) en la principal plataforma mundial «Coursera». Las conclusiones muestran que la gran mayoría de revistas científicas del campo de la Comunicación ofrecen pocos formatos de divulgación y poco integrables en los nuevos movimientos masivos, ubicuos y colaborativos que utilizan, como recurso principal, la «píldora audiovisual» de creación propia. El posicionamiento de las revistas de reconocido prestigio internacional es casi nulo y no se está aprovechando el gran potencial que estos cursos suponen para la divulgación científica; probablemente debido a que su único formato de divulgación es el texto escrito. Como consecuencia de esta situación, proponemos un nuevo modelo de divulgación científica que comparta el soporte escrito con el videoartículo, la divulgación en redes sociales y la difusión en formatos soportados por dispositivos digitales móviles que favorezcan una mayor visibilidad internacional del avance científico y social de manera más integrada en la sociedad interconectada y visual en la que vivimos.

KEYWORDS / PALABRAS CLAVE

Videoarticle, scientific publication, MOOCs, communication, journals, ubiquity, digital formats.
Videoartículo, divulgación científica, MOOCs, comunicación, revistas, ubicuidad, soportes mediales.

◆ Dr. Esteban Vázquez-Cano is Associate Professor in the Department of Didactics and School Organization of the Faculty of Education at the UNED in Madrid (Spain) (evazquez@edu.uned.es).

1. Introduction

The current training scenarios in higher education are moving toward a new format that combines three basic principles: free-of-charge, massive and ubiquity (Cormier & Siemens, 2010; Berman, 2012; Boxall, 2012). These three principles are materializing with the acronym MOOCs (massive open online courses). The development of these courses, extended worldwide by their philosophy, opens a new concept of education and training and also a giant door to the scientific world (Anderson & Dron, 2011; Rodríguez, 2012; Regalado, 2012). This new type of formative macro-scenario stems from the philosophy of «open learning movement» which is based on four fundamental principles: redistribute, rework, revise and reuse (Cafolla, 2006; OECD, 2007; Bates & Sangra, 2011; Dezuanni & Monroy, 2012).

The presence of international refereed journals indexed in the most prestigious databases, such as Journal Citation Reports, Scopus or ERIH, perform a kind of academic scientific divulgation, exclusively in writing format, and this hinders its appearance in MOOCs, based on a video-simulation methodology with the format of «audiovisual pill» (Kukulka-Hulme & Traxler, 2007; Özdamar & Metcalf, 2011). From these new social, training and educational parameters, scientific disclosure should be positioned in a free movement to integrate new access formats and content creation to allow an effective divulgation of their contributions in the new training scenarios. This new scientific divulgation should be characterized by audiovisual and social content presentation, which opens massive international dissemination opportunities for authors and journals. For the development of these proposals, the scientific journal should advance on their reporting processes to combine traditional methods based on written format with interactive presentation in the form of video article and integrating within it the major contributions presented and developed in the written article. In this paper, we present a descriptive study in which we analyze the content presentation format, Web pages, and platform capabilities of the 72 journals in the field of communication indexed in the Journal Citation Reports and their presence in MOOCs offered by the most important global platform today, «Coursera». As a result of the study, we also discuss possible new forms of social and scientific divulgation grounded in the new mobile digital devices.

1.1. MOOC characteristics and their implications for the scientific journal

The MOOCs based on network distributed learning

are based on connectivism theory and on its learning model. The MOOCs have been rated as «Direct to Student» by the Council for Higher Education Accreditation (Eaton, 2012; Boxall, 2012; Berman, 2012) and considered the most significant educational innovation in 2012 (Khan, 2012). The main reason for this consideration has been produced by the break in the hierarchical system of higher education. Instead of offering an elite education to a few college students (Harvard, Stanford, etc.), this new training system offers massive free training from two principles: ubiquity and collaboration among students. What really distinguishes these new training scenarios is the opportunity to access a free training and be taught, in many cases, by renowned professors (Fombona & al., 2011; Young, 2012; Vázquez, 2012). The germ that sparked this new idea was born in Stanford University with an initiative called «Stanford's AI Course» which resulted in three methodological approaches in the open education movement based on networks, tasks and content (Traxler, 2009; Ynoue, 2010).

The MOOCs based on network distributed learning are based on connectivism theory and on its learning model (Siemens, 2005; Ravenscroft, 2011). In these courses, the content is minimal, and the fundamental principle is network learning in an adequate context –from learner autonomy– to seek, create, and share information with the rest in a «node» of shared learning (Sevillano & Quicios, 2012). One theory is currently being questioned, but it serves to establish a starting point of learning from distributed nodes using the principles of autonomy, connectivity, diversity, collaboration, and openness (Downes, 2012). A model where traditional evaluation becomes very hard and learning focuses primarily on the acquisition of skills developed through social network conversations and contributions made by its members.

The MOOCs based on tasks are founded on students' skills in solving certain types of work (Winters, 2007; Cormier & Siemens, 2010). The learning is distributed in different formats, but there are a number of tasks that is compulsory to solve. Some tasks are able to be solved by many ways, but the student has to pass them to acquire new skills and be promoted to other modules. What really matters is student progress through different jobs (or projects). Such MOOCs are developed from a mixture of instruction and constructivism (Laurillard, 2007; Bell, 2011).

The content-based MOOCs present a series of automated tests and have great media coverage (Rodríguez, 2012). They are based on content acquisition system with an assessment model very similar to

traditional classes (standardized tests and self-assessed). Their appeal comes from the participation of universities' renowned professors. The major problem with this type of MOOCs is the massive student treatment (without any individualization) and the teaching assessment based on a trial-and-error system already overcome.

These three types of MOOCs are grouped into two classifications: cMOOCs and xMOOCs (Downes, 2012). The first ones are based on network learning and tasks, and the second ones, based on content. The most widely developed –xMOOCs– promote a teaching methodology focused on video-simulation, autonomous learning, and collaborative and (self-) evaluation. Their key features are as follows.

- Free access with no limit on the number of participants.
- No free certification for participants.
- Instructional design based on the audiovisual content with support of written text.
- Collaborative and participatory methodology with minimal teacher intervention.

Current research considers that this new type of format still requires a more elaborate pedagogical architecture to actively promote self-organization, connectivity, diversity, and decentralized control processes of teaching and learning (deVwaard & al., 2011; Baggaley, 2011). Therefore, these emerging training systems must overcome many shortcomings for a sustainable future construction, such as the economic management of the participating institutions, the accreditation of the education, monitoring of training, and authentication of students (Eaton, 2012; Hill, 2012). Alongside these deficiencies, they also have to face imminently a number of challenges:

- The content, conversations, and interaction dispersion; a dispersion is part of the essence of the MOOC, but it is needed to be organized and facilitated to the participants. The MOOC needs «content curators» (one who seeks, collects, and shares information continuously), automating and optimizing resources but keeping in mind that it is the students who must also filter, aggregate, and enrich the course with their participation.

- The lack of certification in some of them, which should lead to more innovative and flexible accreditation models of knowledge and adapted to the needs of a constantly evolving labor market. In this sense, the «badges» (representation of a skill or accomplishment, as an iconographic identification) can be an interesting item to test.

- The design of activities should face reflection on their own practice and instruction for the acquisition of new skills, rather than memorization of theoretical contents.

- Learning in a MOOC requires not only a certain level of participants' digital competence but also a high

This new scientific divulgation should be characterized by audiovisual and social content presentation, which opens massive international dissemination opportunities for authors and journals. For the development of these proposals, the scientific journal should advance on their reporting processes to combine traditional methods based on written format with interactive presentation in the form of video article and integrating within it the major contributions presented and developed in the written article.

level of autonomy in learning, which is not always present in all the students.

- The integration of higher quality audiovisual content with reference in the scientific world, where video article would have greater penetration.

Everyone is aware that the mass movement objectives are not only based on altruism. Performing MOOCs enables free, quality, and global training, but accreditation is not always guaranteed (Eaton, 2012). The business is established in that accreditation, which requires a parallel evaluation to the free one. The overcoming of this assessment and the corresponding payment –in most cases– certifies the training. In this business model, the scientific journal, whose financial difficulties are well known to the international scientific community, has an opportunity for funding with its participation in the accreditation of courses in which they participate with their content. In turn, the MOOC organizers and course developers

save their own production and give higher quality to the content provided on their platform as they come backed by the quality of the journal, its position in international databases, and the blind peer review process that ensures anonymity and quality of the scientific contributions. However, to materialize this process, the journal should move toward new disclosure formats more suited to the digital society and the principles of portability and ubiquity of these digital training environments (Aguaded, 2012; Area & Ribeiro, 2012). We can talk about a new era of knowledge: the «visual thinking» (Pérez-Rodríguez, Fandos & Aguaded, 2009).

2. Method

The method used in this research is descriptive of censal and quantitative character. The research aims to analyze two objectives:

- To test out digital formats of disclosure and interactive possibilities offered by the Web pages of JCR journals in the field of communication using a rubric of analysis.

- To analyze quantitatively the learning resources of 67 «Coursera» MOOCs related to the fields of communication, education, and humanities. The analysis aims to quantify the frequency of articles presented in these courses corresponding to communication journals indexed in the Journal Citation Reports.

For the first dimension, we developed and used the rubric of analysis (table 1) to analyze the Web pages of scientific journals with five quality levels (1: Very Poor, 2: Poor, 3: Average, 4: Good, and 5: Excellent) depending on formats, capabilities, and interactive possibilities offered. This classification was based on the results of the research project I+D+I (Ministry of Education: Research+Development+Innovation Project with public funding), in which researchers have been rated the value of online reporting formats of Web pages to promote ubiquity and interactivity.

For the second dimension, we conducted a des-

criptive study of largest globally MOOC platform, «Coursera». The platform was founded by Daphne Koller and Andrew Ng, professors at Stanford University and obtained a funding of more than \$25 million, and 37 universities worldwide are involved, offering over 200 courses grouped into 20 branches of knowledge. Today, there have been conducting courses for more than three million students, representing twice Spanish university students enrolled in 2012. For this study, we selected the four branches of knowledge offered in «Coursera» more related to the field of communication. We proceeded to pre-enroll in 67 courses to analyze the characteristics and materials (mandatory and optional) in the development of each course. We perform a quantitative study to show the frequency of occurrence of different reporting formats used in its development.

3. Results y analysis

The application of the rubric of analysis to analyze Web sites and reporting formats are shown in table 2 according to the standards established in the project. For its development, we proceeded to identify the editor and journal name by the partial percentage they represent of the total indexed JCR journals in the field of communication.

The results most notable of this classification can be specified in the following items:

- The percentage of journals that are qualified with low levels 1 and 2 is very high (N 57 = 77.77%), with few formats available and with little interactivity in social networks.

- It is noteworthy that one of the editors with the highest percentage of journals in the JCR «Sage» (20 journals in communication area) allows only the articles in HTML and PDF format and tracking numbers using RSS Feeds.

- The number of journals that can be considered as «good» are only three, which represents a small percentage of 4.16%. These journals are the ones that provide more interactive possibilities: «Comunicar»

Table 1. Rubric for analysis of online reporting formats of scientific journals

Value of online reporting formats of JCR® communication journals Web pages								
	HTML Format	PDF Format	EPUB Format	Networks	Video Article	Forum	App	RSS
- Very Poor		x						
- Poor	x	x						x
- Average	x	x		x				x
- Good	x	x	x	x			x	x
- Excellent	x	x	x	x	x	x	x	x

published by Group Comunicar, whose Editor-in-Chief is José Ignacio Aguaded, professor at the University of Huelva, that offers on its Web site different reading format for mobile digital devices (Epub) and complementary audiovisual material, and the journals «International Journal of Public Opinion Research» and «Public Opinion Quarterly» published by Oxford journals and whose editors-in-chief are Claes de Vreese (University of Amsterdam), James N. Druckman (Northwestern University), and Nancy A. Mathiwetz (University of Wisconsin-Milwaukee) that provide the possibility to display digital format in mobile devices (smartphone, tablet, etc.).

The results of the second dimension «Presence of the Communication journals in MOOCs» can be viewed in table 3, where we can find reporting formats employed and classified by type: videos, payment books, free books, free, and payment articles (we identified with symbol * articles indexed in JCR journals).

We can infer a number of considerations from the analysis of the data presented in table 3, among which, we highlight the following:

- The audiovisual pill between 5 and 15 minutes in video format is the most widely used learning resource in MOOCs (N 2308 = 93,51%).

- The percentage of both free and payment article is very low, and it does not represent more than 3.5% of total

resources used in MOOCs.

- The percentage of articles belonging to journals indexed in the JCR is only 0.32%.

- The payment book (primarily offered online at Amazon Library) is the second most used resource but in a much lower percentage to the videos.

We believe that these new learning contexts can

Tabla 2. JCR® communication journals classification according to online reporting formats and interaction in Web pages	
EDITOR/NUMBER OF JOURNALS IN JCR	
LEVEL 1: VERY POOR (N 29 = 40,27%)	
Editor: Sage (N 20 = 27.77%). Journals: Communication Research; Discourse & Communication; Discourse & Society; Discourse Studies; European Journal of Communication; Games and Culture; International Journal of Press-Politics; Journal of Business and Technical Communication; Journal of Language and Social Psychology; Journalism & Mass Communication Quarterly; Journal of social and personal relationships; Management Communication Quarterly; Media Culture & Society; New Media & Society; Public Understanding Of Science; Science Communication; Television & New Media; Visual Communication; Written Communication.	
Editor: Springer (N 1 = 1.38%). Journals: Argumentation.	
Editor: IEEE Prof. Com. Society (N 1 = 1.38%). Journals: IEEE Transactions on Professional Com.	
Editor: Universidad Complutense (N 1 = 1.38%). Journals: Estudios Sobre el Mensaje Periodístico.	
Editor: M.E. Sharpe (N 1 = 1.38%). Journals: International Journal of Communication.	
Editor: European Institute for Comm. and Culture (N 1 = 1.38%). Journals: Javnost -The Public.	
Editor: The University of Queensland (N 1 = 1.38%). Journals: Media International Australia.	
Editor: John Benjamins Publishing Company (N 1 = 1.38%). Journals: Narrative Inquiry.	
Editor: Uitgeverij Boom BV (N 1 = 1.38%). Journals: Tijdschrift voor Communicatiewetenschap.	
Editor: St. Jerome Publishing (N 1 = 1.38%). Journals: Translator.	
LEVEL 2: POOR (N 27 = 37,50%)	
Editor: Routledge Journals, Taylor & Francis (N 20 = 40,27%). Journals: Asian Journal of Communication; Chinese Journal of Communication; Communication Monographs; Continuum-Journal of Media & Cultural Studies; Critical Studies in Media Communication; Ecquid Novi-African Journalism Studies; Health Communication; Information Communication & Society; Journal of Applied Communication Research; Journal of Broadcasting & Electronic Media; Journal of Health Communication; Journal of Mass Media Ethics; Journal of Media Economics; Journal of Public Relations Research; Journalism Studies; Mass Com. and Society; Political Communication; Quarterly Journal Of Speech; Research on Language And Social Interaction; Rhetoric Society Quarterly.	
Editor: German Ass. of Communication Research (N 1 = 1.38%). Journals: Communications.	
Editor: John Benjamins Publishing Co. (N 1 = 1.38%). Journals: Interaction Studies.	
Editor: The Advertising Ass. by Warc. (N 1 = 1.38%). Journals: International Journal of Advertising.	
Editor: Mary Ann Liebert Publishers (N 1 = 1.38%). Journals: CyberPsychology & Behavior.	
Editor: Universidad de Navarra (N 1 = 1.38%). Journals: Comunicación y Sociedad.	
Editor: Society for Technical Communication (N 1 = 1.38%). Journals: Technical Communication.	
Editor: Mouton De Gruyter (N 1 = 1.38%). Journals: Text & Talk.	
LEVEL 3: AVERAGE (N 12 = 16,66%)	
Editor: Wiley (N 7 = 9.72%). Journals: Communication Theory; Human Communication Research; Journal Of Communication; Journal of Computer-Mediated Communication; Communication Theory; Human Communication Research; Personal Relationships.	
Editor: Emerald (N 1 = 1.38%). Journals: International Journal of Conflict Management.	
Editor: Advertising Research Foundation (N 1 = 1.38%). Journals: Journal of Advertising Research.	
Editor: Intellect (N 1 = 1.38%). Journals: Journal of African Media Studies.	
Editor: Elsevier (N 3 = 4.16%). Journals: Language & Communication; Public Relations Review; Telecommunications Policy.	
LEVEL 4: GOOD (N 3 = 4,16%)	
Editor: Oxford University (N 2 = 2.77%). Journals: International Journal of Public Opinion Research; Public Opinion Quarterly.	
Editor: Grupo Comunicar (N 1 = 1.38%). Journals: Comunicar.	
LEVEL 5: EXCELLENT (N 0 = 0%)	

serve as a starting point for many scientific journals to redefine its international position and open up new disclosure formats and obtain new financial opportunities. Scientific journals, offering open and payment article, should take advantage of this new scenario to reorganize its communication processes, facing new forms of scientific divulgation. In this scenario, the videoarticle constitutes one of the formats with highest potential, but today, no journal in the field of communication offers it on their pages or Web platforms. In table 4, we summarize the characteristics, challenges, and difficulties of the journal within the new macro scenario of open learning movement.

4. Toward new disclosure forms in scientific journals

The international scientific journals with high impact factors and indexed in renowned databases have an opportunity to redefine their processes of scientific disclosure and incorporate new media formats that can be projected on several devices from the principles of ubiquity and portability. To do this, the platforms and Web sites that offer journals' content should be rearranged to make them learning digital platforms and not just repositories of published articles. Our proposal consists of a journal platform that integrates, among other possibilities, the following features:

- Videoarticle: video presentation and explanation of the articles by the authors. A «videopill» from 5-15 minutes. Free access with license «creative commons» even in journals with format «pay per view».
- Academic forum: a discussion of the findings and methods used in each article by other researchers would be a new form of scientific reflection.
- Scientific chat: open to ideas and dissemination of registered researchers.
- Audiovisual monographs: the creation of audiovisual monographs could be associated to MOOCs, and in future, to the development of thematic courses.
- Youtube channel: a journal channel with their own themes and videos.
- Mobile APP: journals need to be adapted to

Tabla 3. Digital and printable resources for training in MOOCs (*8 articles indexed in JCR)

Area	Courses	Videos	Payment Book	Free Book	Free Article	Payment Article
Education & Social Sciences	5	N=135 87,09%	N=7 4,51%	N=1 0,64%	N=12* (2) 7,74%	N=0 0%
Humanities	35	N=1211 94,24%	N=36 2,80%	N=3 0,23%	N=32* (5) 2,49%	N=3* (1) 0,23%
Information, Technology, and Design	17	N=698 96,01%	N=22 3,02%	N=2 0,27%	N=4 0,55%	N=1 0,13%
Music, Film, and Audio Engineering	10	N=264 96,70%	N=7 2,56%	N=2 0,73%	N=2 0,73%	N=0 0%
Totales:	67	N=2308 93,51%	N=72 3,22%	N=8 0,40%	N=50 2,98%	N=4 0,09%

mobile paging, e-reader, smartphone, and tablet. Thus, the journal and its production are fully visible and with quality in any digital device, which promotes the portability and ubiquity.

- Accessing video articles in scientific or general social networks and creating a specific account on Twitter for wider dissemination of scientific activity.

These platforms would represent a qualitative step of great importance to scientific journals. The video article finds in them the main disclosure format in conjunction with the written format. For its development, it should take into account some basic performance criteria (Ynoue, 2010; del-Casar & Herradon, 2011):

1) Duration of no more than 10-15 minutes. It is believed that this time is a good compromise that allows to develop the main parts of a scientific paper: introduction, theoretical framework, methodology, results, discussion, and conclusions.

2) High-intermediate level of technical content. The video article is a complement to the written format, containing all technical information, especially the research methodology. The video article must find a balance between lively exposure and scientific rigor in every idea, that it may be useful to the largest possible interested audience. A superficial treatment would provide very little educational value, and a very deep development could hinder its following in the training process.

3) Enhance the visual aspects as opposed to formal ones. This means that the process of developing ideas, even taking a deep mathematical support, will be projected through pictures appoggiatura (both real and animations), introducing the mathematical formulation only when it is absolutely necessary.

4) Use of digital speech by speech synthesis. There are two basic reasons that justify the adoption of this standard. The first one is practical, it is easier to adjust the length of the text to the evolution of the images than if it is done by a more conventional analogical

system. Furthermore, if necessary, it is simpler to reedit and modify a text fragment and incorporate to the video again using this technology (it can be done in few minutes) than perform a real face recording with a microphone (trying to maintain the

same voice, reading speed, etc.) and then incorporate it again with the exact duration and at the precise point of the video matrix. The last option also requires more infrastructure and editing time. Fortunately, the state of digital voice synthesis allows a voice with an acceptable expression and practically no «robotic» effect. It also allows a language conversion very functional to enhance international dissemination of articles and possible integration into MOOCs in different languages.

5) Dissemination via YouTube® platform. We have chosen this site as the Web location more adequate to spread and share the material created. Although other alternatives can be proposed (Moodle Web site of the journal, social networks, etc.), we consider that by capacity, image quality (up to 1920 × 1080 pixels maximum), and audio offered (AAC encoding with two channels at 44.1 kHz), global impact and capacity for online edition (to generate dynamic links among related videos) are the most appropriate channel for divulgation of video articles and their possible integration into MOOC educational experience.

5. Conclusions

The new MOOCs are meaning a new global way of training and a great opportunity to disseminate worldwide scientific production. In this paper, we have analyzed the incidence of written format (books and articles) in the development of MOOCs related to the communication field. The descriptive analysis shows how books or articles in written format have a very low incidence in these courses. Instead, video is the preferred reporting format because it uses a more dynamic, fun, and visual format. We have also analyzed and classified disclosure formats, features, and interactive capabilities of the platforms and Web sites of the 72 journals in the field of communication indexed in the Journal Citation Reports to analyze their compatibility with the new media and ways to access

Tabla 4. Open learning movement and scientific journals' characteristics, challenges and difficulties

	Open learning movement	Scientific journal
Characteristics	Learning for «all», collaborative, massive, video-simulation, free, support feedback, interdisciplinary, intergenerational, and international.	Open, payment, cataloging and indexing in databases, and international outreach.
Challenges	Accreditation, evaluation, dissemination of international relevant content, economic management of accreditation, and creative methodology.	Open platform, audiovisual presentation of the main contributions, collaborative spaces, discussion forums, content and adaptation to mobile digital devices.
Difficulties	Student identification, languages available, disclosure formats, and forum moderation.	Recording content by authors, digital repository of videos, Web location, language recording, and interactivity.

the information. The study concludes that the vast majority of journals related to the field of communication offer few disclosure formats and opportunities for interaction, making it difficult to position them in the digital world. Thus, the classification of the 72 journals in the field of communication indexed in JCR journals shows only three (4.16%): «Comunicar» (edited by Group Comunicar in Spain), «International Journal of Public Opinion Research» and «Public Opinion Quarterly» (edited by Oxford Journals) are positioned in appropriate quality criteria to meet a scientific divulgation in line with current technological principles. This should provoke a reflection about a change in scientific publication toward formats that enhance the classic written article with other media formats that encourage interactivity, ubiquity, portability, and integration into the new formats of higher education training.

These scenarios dominated by visual methods require resources like video article that converted into a «scientific pill», and also, an «educational pill» has many possibilities for disclosure in open courses, in university educational platforms, as part of curriculum of different subjects and also can be a powerful claim for the international divulgation of the journal. Furthermore, if scientific journal advances in formats and resources adapted to the new digital mobile devices (smartphones, tablets, etc.) and incorporates new forms of collaboration and interaction in social networks, promoting the development of new audiovisual channels, it will adopt a role partner and modifier of scientific thinking in the information society, and the informative dimension of scientific thought will acquire greater international relevance.

6. Prospective

The field of MOOCs is a new area of development that is constantly evolving, and it is beginning to

generate new areas of research. The Erasmus consortium is designing a large multilingual portal from over 4000 member institutions to disseminate massive courses, and it is scheduled to start by 2014. The aim is not only to offer courses but interconnect knowledge, research, and transfer of results between universities and where the ubiquitous and mobile audiovisual format will be a priority.

Notes

¹ Web sites JCR journals Rubric of analysis has been developed and evaluated by the researchers that make up the project I+D+I outlined in the section of «acknowledgments».

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