

A scientometric study of media literacy literature based on Scopus record through 2011

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ABSTRACT

The present research is an attempt to describe the quantity and quality of publication trends of media literacy based on Scopus reports. The population under study was composed of 510 documents on media literacy published through 2011. The results were analyzed based on date of publication, type of document, language of the documents, source of publications, subject areas, authors and their affiliations, and the countries involved in developing the articles. Citation indicators formed the second phase of investigation in the present study. With a negligible amount of fluctuation, the number of publications on media literacy has increased steadily over the years, with the greatest number occurring in 2011. The analysis of data based on document types indicated that, of the 510 documents, 330 were articles (64.70%), 85 were reviews (16.66%), and 64 were conference papers (12.54%). 446 documents (84.45%) were published in English and the rest presented in other languages. The United States with 190 documents (37.25%), the United Kingdom with 43 documents (8.43%), and Australia with 14 documents (2.74%) were the most represented countries, with the most prolific authors known as Austin, Hobbs, and Cheung. Thematically, the greatest number of documents were produced in Social Sciences with 360 documents (70.57%), followed by Medicine with 92 documents (18.03%). The largest number of documents has been published in *Comunicar* followed by *American Behavioral Scientist*, and *Simile*. The most cited articles from 1996 up to 2011 included 22 documents on the H-index zone. Analysis of the results of H-index zone by subject categories indicated that most documents on h-index zone belonged to social sciences and Medicine areas. Psychology had the most influence on media literacy, as was shown by the ratio of most cited documents to total number of documents on media literacy in any of the subject categories. The results highlight the multidisciplinary nature of media literacy. As for the H-index zone, 16 documents (73.91%) belonged to the United States. Overall, the United States, with 190 (37.25%) publications (out of a total of 510), had an important role in enhancing the quantity and quality of the media literacy literature.

Keywords: Media literacy; Media education; Scientometric study; Scientometrics; Scopus

INTRODUCTION

As Alvin Toffler states, the present age has been named the information era [1]. According to McLuhan's prediction, we are experiencing an unbelievable movement towards an interconnected global village [2]. Indeed, in this era, Information and Communication Technologies, especially the Internet, have changed all dimensions of human life [3]. Also, requirements of the information age have

brought about considerable changes in the concepts of literacy and have propounded new ones [4]. Along with basic literacy, Information literacy, Computer literacy, Digital literacy, Network literacy, Visual literacy, and Media literacy are the important types of literacy that are essential to have an acceptable and modern life style in the information society [4-6]. Among all types of literacy, media literacy is one of the most important mainly

because of its strong, holistic effect on the development of democracy, human culture, social behavior, personality, and the general life style of a modern human. There is no doubt that media has strongly influenced our identity. This influence has increased even further with the development of globalization media, namely the internationalization of television and radio programming, facilitation of access to the Internet, and developments of information and communication technologies etc. [7-11].

Media literacy has been defined as the ability to access, analyze, evaluate, and create messages in a variety of forms (print, audio, film/video, Internet, etc.) based on an informed, critical understanding of the nature of mass media, the techniques used by producers of media, and the impact of those techniques on the individual and society. As an interdisciplinary field, media literacy has evolved to present the necessary response to the complex, pervasive, ever-changing electronic communication environment of the 21st century [9-11].

Media literacy was introduced by *Marshal McLuhan*, in his book entitled *Understanding Media: Extensions of Man*, in the year 1964. He believed that the global village needed a new literacy, namely media literacy [12]. Walksoz and her colleagues reported that media literacy has its roots in the 1960's through the 1980's through the work of pioneers like McLuhan, Sister Bede Sullivan, and Father John Culkin, among others [13]. Research of media literacy literature via databases indicates that there have been many studies concerning media literacy. Due to the importance of media literacy, an awareness of the quantitative and qualitative growth of these studies is necessary for researchers so that they can be actively involved in this concept. "Scientometric studies" may help them to gain a proper perspective on publication trends [14-15] in media literacy. Scientometrics is the quantitative study of the disciplines of science based on published literature and communications. It intends to identify the emerging areas of scientific research, examine the development of research over time, and explore the geographic and organizational distribution of research [15-16]. Scopus and the citation databases of the Web of Science are the two most important tools for scientometrics studies [17-22]. In order to determine quantity

and quality trends of media literacy publications, in the present study, we have embarked upon a scientometric study of media literacy based on Scopus reports. The results of this research may provide better insights on the scientific status of research articles on media literacy. It is mentionable a pending research on scientometric study on media literacy is currently underway via WOS databases.

MATERIAL AND METHODS

This research is a descriptive study using the scientometric approach. The population under study is composed of 510 articles on media literacy that have been published through 2011. *Scopus*, the citation database of Elsevier, has been used to find the articles and extract the research findings. In order to find the articles we first sought the equivalent terms for "media literacy" in thesauri such as UNESCO and ERIC and HASSET [23-24]. It was found that "media education" is an equivalent term for "media literacy" from the UNESCO thesaurus. We then searched in Scopus with phrases, "media literacy" and "media education." We searched these terms via separate lines of the "Article Title, Abstract, keywords" field with the OR operator. After that, the results were limited to 2011 publications. A total of 846 documents were retrieved. Then, the content of the documents were scanned to ensure their relevance. After excluding the unrelated documents or records with poor relevance, the researchers were left with 510 documents to analyze. The first phase of the analysis included publication date, document types, language, authors and their affiliations, and the countries where the articles were developed. Then, the subject areas of the documents (in total), according to their publication dates, were analyzed. After that, publications sources of the documents were identified. Citation indicators formed the next phase of the investigation in the present study. It is necessary to mention that all the search and retrieval functions were performed on 28 to 30 November, 2012.

RESULT

According to the results, the first article to be found on media literacy belongs to the year 1955. There are few documents (35 records) on media literacy from 1955 to 1996. On the other hand, the year 1996 is the start of citation indexing process of Scopus.

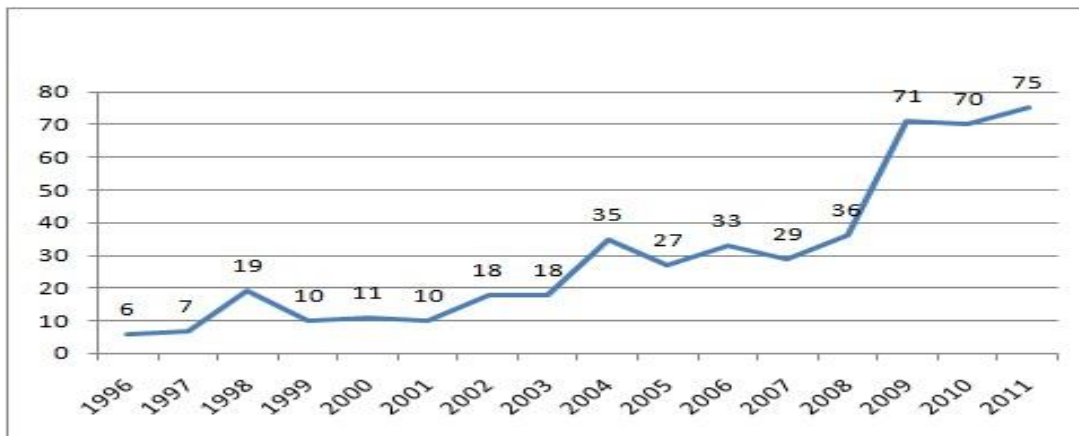


Fig1. Distribution rate of media literacy publications versus their date of publication

For this reason, only the results from 1996 to 2011 (475 documents, 93%) have been presented in figure 1. As figure 1 indicates, with a negligible amount of ups and downs, the number of publications on media literacy has increased steadily over the years from 1996 to 2011, with the greatest number occurring in 2011.

The analysis of data, based on document types, indicated that, of the 510 documents under study, 330 were articles (64.70%), 85 were reviews (16.66%) and 64 were conference papers (12.54%). The remaining 31 items (6.07%) belonged to other types of documents. According to the results, 446 documents (84.45%) were published in English, 41 in Spanish, 11 in Chinese, and the rest in other languages. Figure 2 shows the distribution of countries publishing the documents. As the figure indicates, the United States with 190 documents (37.25%), the United Kingdom with 43 documents

(8.43%), and Australia with 14 documents (2.74%) had the greatest contribution in publishing the documents.

According to the results, three writers from the United States were the most prolific authors as follows: Austin with 8 documents, Hobbs with 7 documents and Cheung with 6 documents. Also, the university of Hong Kong, Washington state university Pullman, and Temple University, each with 7 documents, were the most active universities in media literacy.

A thematic analysis of the total results showed (figure 3) that the greatest number of documents belonged to the following fields, in descending order, as follows: Social sciences with 360 documents (70.58%), medicine with 92 documents (18.03%), computer science with 58 documents (11.37%), psychology with 52 documents (10.19%), and art & humanities with 48 documents (9.41%).

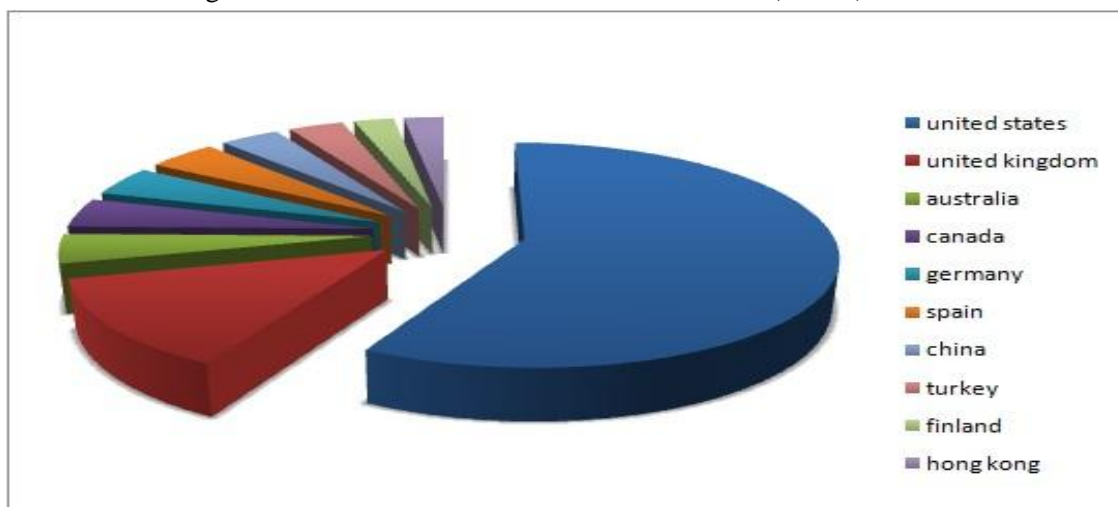


Fig2. Distribution rate of media literacy publications based on their affiliated countries

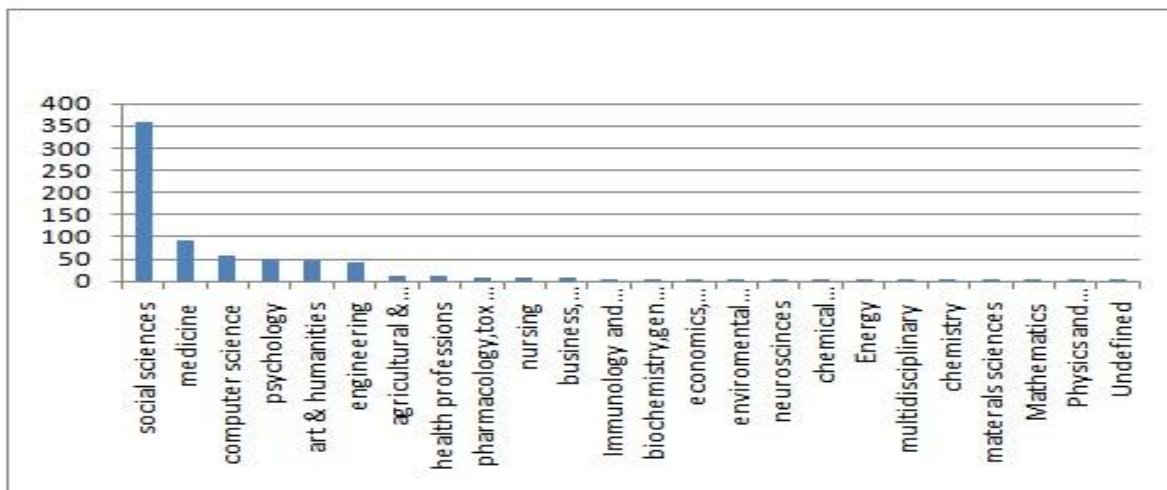


Fig3. Distribution rate of media literacy publications versus their subject areas

According to figure 4, analysis of the data on subject areas for each year indicated that, with a negligible amount of fluctuation,

Social Sciences were the main subject area on media literacy for the time span of the current work.

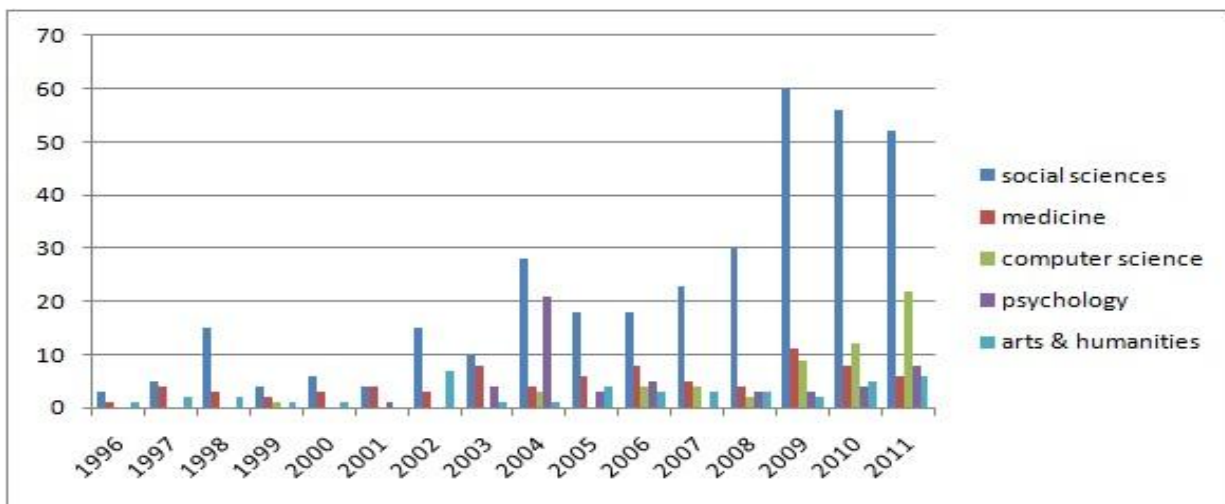


Fig4. Distribution of subject areas of media literacy publications based on their publication years

Regarding the source of publication, the greatest number of publications (39 documents, 7.64%) was published in *Comunicar*, a Spanish journal, with an Impact Factor of 0.470 and SJR of 0.026 in the year 2011. The second greatest number of publications (20 documents, 3.92%) appeared in the *American Behavioral Scientist*, with an Impact Factor of 0.694 and SJR of 0.039 in the year 2011. The third greatest number (13 documents or 2.54%) appeared in *Simile*, a Canadian journal, with no Impact Factor but with SJR of 0.026 in the year 2011. (25)

In an attempt to identify trends related to the citation analysis of media literacy, the necessary data were obtained based on the documents' publication years. Citation tracking in *Scopus* was only available for articles published from 1996 to the present; therefore the current study focused on this time span to analyze the citations. According to the results, from early 1996 to November 2012 (when the data was retrieved), the 475 documents had received a total of 2427 citations, which means an average of 5.1 citations per document.

According to the H-index calculations, 22 documents were above the green horizontal line. Most of the documents in the H-index zone were published in the year 2003 (6 documents), then in the years 1998 (3 documents) and in 2000 (3 documents). 16 documents in the H-index zone belonged to the United States. Of these, two documents appear in *Pediatrics* and Health Communication while three of them are affiliated with Washington State University. Among authors, *Austin*, with 2 documents, was more active in the zone. According to the thematic analysis, 18 documents of h-index zone were in Social Sciences (82%),

17 documents in Medicine (77%), 12 documents in Psychology (54%), 6 documents in Art and Humanities (27%), and 4 in the Computer Science (18%). The media literacy literature in Psychology and Medicine categories (with 23% and 17%) were the most cited articles, as was indicated by the ratio of most cited documents to total documents of media literacy in any of the subject categories under study (Table 1). To present the most cited documents, the average citation per year for each document was calculated. The most cited articles along with the average citations per year are shown in table 2.

Table 1. The portions of subject categories from the H-index zone

Subject category	Record Count of 510	Record Count of H-index Zone (of 22 documents)	Percentage
Psychology	52	12	23%
Medicine	92	17	18%
Art & Humanities	48	6	12%
Computer Science	58	4	7%
Social Science	360	18	5%

Table 2. The most cited articles based on their average citations per year

Bibliographic Information	Total citations	Average citations per year (approximations)
Livingstone, S. 2003. Children's use of the internet: reflections on the emerging research agenda. <i>New media and society</i> , 5(2): P.147-166.	91	7.6
Yamamiya, Y.a, Cash, T.F.b, Melnyk, S.E.b, Posavac, H.D.c, Posavac, S.S.d. 2005. Women's exposure to thin-and-beautiful media images: Body image effects of media-ideal internalization and impact-reduction interventions. <i>Body Image</i> , 2 (1): pp. 74-80	56	7
Wade, T.D., Davidson s. O'Dea J.A. 2003. A preliminary controlled evaluation of a school-based media literacy program and self-esteem program for reducing eating disorder risk factors. <i>International Journal of Eating Disorders</i> , 33 (4): pp. 371-383	60	6
Lam, T.K., McPhee, S.J., Mock, J., Wong, C., Doan, H.T., Nguyen, T., Lai, K.Q., Luong, T.-N. 2003. Encouraging Vietnamese-American women to obtain pap tests through lay health worker outreach and media education. <i>Journal of General Internal Medicine</i> , 18 (7): pp. 516-524	59	5.9
Hogan, M., Bar-on M., Beard, L. et al. 1999. Media education. <i>Pediatrics</i> , 104(2): p. 341-343	81	5.8
Austin, E.W. 1997. Effects of general and alcohol-specific media literacy training on children's decision making about alcohol. <i>Journal of health communication</i> , 2(1):17-42.	86	5.3

DISCUSSION

According to the results, there has been an increasing growth in the publication trends of media literacy from 1955 to 2011. The first document on media literacy was published in 1955. From 1995 to 1996 there were just few more documents, but from 1996 to 2011 there was a rising trend toward more publications. The steady growth in publishing media literacy in this period has apparently coincided with the development of media. Of the 510 documents under study, 446 (84.45%) were written in English, indicating that English is the dominant language of Scopus and those documents written in other languages may lose the opportunity of being published in Scopus. This may also refer to the unique position of English as the most commonly used language of science internationally; scientists from other languages are therefore required to improve their ability to write in English if they are to publish their documents in databases such as the Scopus. Policymakers are also expected to consider suitable training courses for researchers to enhance their capabilities for publishing in English. The affiliated country of 190 documents (37.25%) was the United States. Also, 16 of the 22 documents in the H-index zone belonged to the United States. These results may indicate the noticeable influence of American researchers on the quantity and quality trends of media literacy literature. Social Science was the main subject area of research in media literacy, as expected, followed by Medicine, Computer Science, Psychology, and Art & Humanities, respectively. The order may be rooted in the interplay of media and these fields.

Meanwhile, the greatest numbers of media literacy documents were published in *Comunicar*, *American Behavioral Scientist*, and *Simile*. A review of these journals, however, indicated that media literacy is not mentioned as the main scope except in

Simile. This could indicate the inadequacy of such journals. Hence, considering the cumulative effect of media on all aspects of human life, it is necessary to publish more international journals on media literacy.

Investigations to determine the most cited articles from 1996 to 2011 showed that 22 documents were in the H-index zone. Two documents appeared in *Pediatrics* and Health Communication while Washington State University Pullman was the affiliated organization of three documents. *Austin*, with 2 documents, was the notable author in the zone. Overall, 16 of the documents in the H-index zone (73.91%) belonged to the United States. In addition, as mentioned above, the United States was affiliated with 190 of the documents (37.25%). The United States has accordingly an important role in elevating the quantity and quality of publication on media literacy literature. Analysis the results of H-index zone by subject categories showed that most documents of h-index zone were in social sciences and Medicine areas, respectively. However, regarding the ratio of most cited documents to the total documents on media literacy, in all these subject categories, psychology, with the greatest number of citations, overtook the social science category. This may indicate the impact of psychological studies on media literacy researches on the one hand and the multidisciplinary nature of media literacy on the other.

This study provided some insights on the publication trends of media literacy, but for further information it is necessary to perform additional scientometric studies, using Scopus or other citation databases such as Web of Science and Google Scholar. Also, bearing in mind the increasing influence of the media on people's life, researchers from different academic fields such as sociology, medicine and psychology are recommended to give more priorities to media literacy studies.

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