

LONGITUDINAL STUDY ON EDUCATIONAL INTEGRATION FROM RESEARCHES CONTENDS IN THE THOMSON-REUTERS DATABASES

ESTUDIO LONGITUDINAL SOBRE INTEGRACIÓN EDUCATIVA SOBRE LAS INVESTIGACIONES CONTENIDAS EN LAS BASES DE DATOS THOMSON-REUTERS

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ABSTRACT

This paper inquiries into the productivity on *educational integration* using a list of documents retrieved from the databases *Social Science Citation Index (SSCI)* and *Arts & Humanities Citation Index (A&HCI)*; two products of the *Institute for Scientific Information (ISI)* de Philadelphia, in their sites *Web of Science* and *Web of Knowledge*, belonging to Thompson-ISI, during the period 1956-2005.

We offer scientometrics indicators relative to longitudinal production, authors and institutional productivity, journal of edition, and citations patterns, which allowed portray the international production in this educational field and establishing evaluative inferences about the same.

Key words:

Research evaluation, bibliometric study, integration, integration educative, databases, databases of Thompson-ISI, longitudinal analysis, scientific productivity, citation, research impact, time series, ARIMA models.

RESUMEN

Este trabajo trata sobre la productividad en integración educativa existente en la base de datos Thomson-Reuters utilizando una lista de documentos recuperados de las

bases de datos *Social Science Citation Index (SSCI)* y *Arts & Humanities Citation Index (A&HCI)*; dos productos de Thomson-Reuters (antes Thomson-ISI) en sus sitios Web of Science and y Web of Knowledge, durante el período 1956-2005.

Ofrecemos indicadores cientimétricos relativos a la productividad longitudinal, autores e instituciones, revistas de edición y patrones de citas que permiten describir la producción internacional en este campo educativo y establecer inferencias evaluativas sobre el mismo.

Palabras clave:

Evaluación de la investigación, estudio bibliométrico, integración, integración educativa, bases de datos, análisis longitudinal, productividad científica, citación, impacto de la investigación, series temporales, modelos ARIMA.

1. INTRODUCTION

Nowadays, the big challenge of the target countries with migratory vectors, which, even if not new, currently have, in the framework of the globalisation processes, especial profiles: the creation of integration systems for people looking for a new life in them.

Among these integration systems, the educative one is aware of these precautions, it is rather immersed in the new problematic that the immigration is having in the European societies, particularly, multicultural, and in other parts in the world.

It entails the design of integration programs for the integration and the research helping to understand and improve the phenomena associated to this process. The educational integration is, then, shown to us as one of the most important systems among those that the democratic societies have at their disposal to afford the problem. Therefore, the investigation on education is aware of these needs: it undertakes fruitful inquires.

The election of the topic is not gratuitous and does not mean an outstanding weakness when choosing it; the educational integration nowadays is shown to us as a problematic field emerging, product of the globalisation, of the inexorable migratory movements and the plurality of a post-modern society more and more complex.

The educational integration is, therefore, one of the most important challenges to be afforded by democratic societies. The educational research is not unconnected with these phenomena. There are firmly established reasons for choosing this topic: today, the educational integration is a problematic field, arising due to the globalisation, the inexorable emigrational movements and the plurality of a post-modern society more and more complex (Bueno, 1996). A first question that raises this study is the design of a model to explore the underlying (integration) construct with your twelve factors.

In this sense, we understand *integration* like a combined plan to get a person to reach a harmonious, stable and healthy state, without racial separa-

tion, of those that move from their native origin and allow them to be part of a similar society or different from those of their origins, without any negation type, with the same rights and obligations of the native ones. In connection with the integration there are several factors, some of them are complex and another very subtle, what makes difficult to define the final state of this situation, since even in the country itself there may exist the no-integration of the native population's layers.

Other factors associated to the integration, such as the classroom, the school centre, the ethnical and/or racial characteristics, sensory disabilities, difficulties for learning, and the way in which these aspects are treated in the general development of the centres, together with the intercultural and the multiculturalism, are changeable determinants in the integration of people, and thus they are related to in the thesaurus of the ERIC database, from where we have taken out these topics of analysis.

By *multiculturalism* we understand a social new reality that, as a product of the economic globalisation, makes that the traditional theory of the modern society, the State-nation idea, the territory and identity are in the past. The established relationship between culture and politics is radically questioned in the extent that the State-nation loses its character of a political-cultural unit and it is spread to be restricted to the character of a political-institutional unit, with regulatory functions in the field of the economy and of the conflicts among social actors.

In the educational framework, according to Gimeno Sacristán (1991) "The multicultural curriculum demands for a democratic framework for the decisions on the contents of teaching in which everyone's interests are represented". Naturally, this demands for a change of mind in the educational field, which comprises all the educational community and implies a new definition of the curricular structure, with the purpose of getting a school as a space generating dialogue among different social and cultural groups and getting the true equality of opportunities (Rego, M. y Nieto, S., 2000).

In this sense, the educational system, among others, has the mission of transmitting the models, values and "cultural outlines" that the society wants all their citizens to possess to be able to be unwrapped and to be integrated in the same one. Hence, we consider that the integration would be that final situation, and that the three factors that are to the base of the same one are the multiculturalism like emergent phenomenon, the education like culture system and the culture like the basics in those that it settle a society.

2. PURPOSE OF THIS STUDY

With this study we pretend to give an international view to the scientific development of the studies fulfilled on these topics in different countries, exposing certain indicator of the scientific productivity in the database *Social Science Citation Index (SSCI)* and *Arts & Humanities Citation Index (A&HCI)*,

on them and study the patterns of the recovered works in order to, and from those indicator and patterns, characterize the international investigation on educational integration.

In this sense, the target is an approach to the state of the question for the study on these problems from a bibliometric aspect, using scientiometrical methods and applying the existing methods of scientific evaluation by recovering the indexed international researches in the databases *Social Science Citation Index (SSCI)* and *Arts & Humanities Citation Index (A&HCI)*.

By concentrating this study in this database we pretend an approach from an international perspective to the question to be considered, in order to obtain a more general, comprehensive and multicontextual view of the research in educational integration in the international sphere, together with quality indicators of that literature which, very often, act as a reflection for the investigation in other countries. We assume that such a production will have some of these characteristics which are considered to be twisted positions by certain authors (Fernández Cano, 1995): mainly from works/products, English language products y a major representation of the researches fulfilled in the universities, among others.

This study is complementary to a preceding work (Bueno, Fernández-Cano, Chaikhieva y Ayzemberg, 2006) and is exclusively concentrated in the multicultural problem at a Spanish level, with the end of examining the actual international production and being able to establish the appropriate comparisons from the discoveries obtained from the international databases. This work also comprises wider periods of study and different databases, after the experiences from preceding works; we have used a bigger number of key descriptors for the investigation, which have not been taken into account in those studies.

In this sense, we take into account international aspects of the scientific production in educational integration, since we are aware that the results on this topic will be highly circumscribe to the context where they are generated.

Therefore, the data collected in this document shall allow us to establish radiography on the investigations contained in the database of the *Social Science Citation Index (SSCI)* and *Arts & Humanities Citation Index (A&HCI)* on the topics educational integration, and obtain some valuation indicators.

The scientific research on the topic “educational integration” entails a method problem. Although it seems to be obvious that the methodological design of these types of investigations has been widely taken into account, the scientiometric question, included in the evaluation of the research products multicultural integration and educational integration, has not been much considered in the field of the educational research. Obviously, the central term is integration of the less social, psychological and physical subjects adjusted in the wider sense of the idea taken from Dewey (1916). In fact, we over exceed the reductionism of considered isolated terms proposing its integration in the more useful and comprehensive term that is integration (forgiving the repetition). It is important to present an awareness of the slippery that is to draw a line between these terms. However,

descriptors as integration and multiculturalism are not interchangeable; we take for granted that integration is a more pedagogical, real and desirable ambit. A perfunctory multiculturalism removes any consideration to the vital step of the integration, not the assimilation.

A symptom of the importance and vitality of the educational integration is the diversity of international journals on this subject worldwide as well as on the main functions for the scientific community: evaluation of published works, comparison of the existing knowledge, identification of authors and emerging specialities and control of the investigation towards new areas.

The analysis of the investigation on educational integration could be tackled through a scientiometric approach, that is, operating with eminently bibliometric indicators, although other more paraqualitative approaches might also be used (Fernández-Cano (1995) y Kostoff (1997)). However, the works carried out with scientiometric method, eminently descriptive, can be considered as paraevalative studies of the indicated investigation. (Fernández-Cano y Bueno, 2002).

This concern for measuring, and to a certain extent, evaluate the size and development of the science is not current, but, yet in the 50s and 60s, authors such as Derek John de Solla Price (1965) thought about the difficulty to create a reasonable measure on the scientific efficiency or effort in terms of the number of investigations, written articles, financing, etc. It was Price himself who in 1965 develops a standard for the quantitative study of the science, the “the principle of the growth of the scientific information”.

This work has been made from an on-line bibliographical search on the Topic *integration* in the databases on *Social Sciences Citation Index (SSCI)* y *Arts & Humanities Citation Index (A&HCI)*; two products of the *Institute for Scientific Information (ISI)* of Philadelphia, of Thompson-ISI.

The study comprehends all the indexed documents in these databases on the Topic from the year when the first document appeared and the database started (January, 1956) until the year when such recovery ended (December, 2005).

It was surprising that, after the first review of the obtained documents, we realised that there appeared not only works on the educational integration but there were many articles in connection with the field of medicine, nursery, etc. We thought then that it could be relevant including this type of documents, so we decided not to carry out another crossed search in order to reject those not strictly in connection with the educational field.

3. REVIEW OF THE LITERATURE

In connection with previous investigations, it is necessary to state that the previous works on the scientific production on the topic educational integration in the international context are few and they do not reach a rigorous bibliometric analysis. Even if there is a lack of study we must emphasize the works of Romera, Sáez and Sánchez Valle (1992) published in the journal *Bordón-Revis-*

ta de Educación in which there appears a study of the documents on indexed Multicultural Education in the databases of *Eric*, *Francis-S*, *Eudised*, *Eurydice*, *Dissertation Abstracts* and *Teseo* in the period 1985-1990.

The bibliographic review expounded carried out by Murillo y Muñoz (1993) and the numerous works of Bartolomé (1997) among which we emphasize, in connection with the subject of this study, the study on *General View of the Investigation on Intercultural Education in Europe*, which collects the number of works appearing in 1996 in the *Multicultural Education Abstracts*. In connection with the bibliometric works, on the general Spanish educational production in the SSCI, we must emphasize the quantitative analysis carried out by Fernández Cano (1999).

4. METHOD

4.1. Search strategies

This work has been made from a bibliographical search through wide questions on-line, on the topic (educat* or classroom or colleg* or ethnic* or mainstreaming or racial* or handicap* or school or disable* or sensory or multicultu* or intercult*) in the databases Social Science Citation Index (SSCI) and Arts & Humanities Citation Index (A&HCI). These descriptors were obtained from the Thesaurus of the database ERIC, since Thompson-ISI, using a natural language of search it has no thesaurus at all.

The recovery of the works was carried out in the search fields TOPIC, without carrying out another search sequence that rejected years, type of documents, etc.

TABLE I. TYPES OF DESCRIPTORS AND DOCUMENTS ON INTEGRATION EDUCATIVE CONTENTS AT THE SEARCHING IN SSCI Y A&HCI (1956-2005)

DESCRIPTORS	educat*	classroom*	college*	ethnic*	mainstream	racial*
	1391	191	164	322	33	307
integra*	Handicap*	School*	Disable*	Sensory*	multicult*	intercult*
	231	756	129	515	91	43

4.2. Population-study sample

The study includes all the documents in these databases on the topics from the year when the first document appeared (January, 1956) until the year when the recovery was finished (December, 2005). Through the analysis of several bibliometric indicators, a panoramic view is given of the scientific view of the international view in the field of the educational integration in order to being

able to obtain based inferences on this open field of investigation, and around the sample to be considered. The search was carried out on 17 May.

Once the search was carried out, we build a data matrix in which we empty all the located documents and proceed to the analysis of the following bibliometric indicators: type of document, general productivity, productivity according to authors and institutional productivity, in accordance with the scientometric review model as Fernández-Cano y Bueno (1999) suggested in his tertiary study.

4.3. Design of the study

According to the research purpose, we can classify the method which has been used as descriptive-explanatory-predictive. Basically descriptive, since it is a question of describing a phenomenon, explanatory because it is necessary to explain it according to certain indicators and predictive because it is necessary to deduce the growth of the research on this Topic during the next seven years. As regards to the source of the research it is documental because a bibliographical review is made of all the production container in the databases *Social Science Citation Index (SSCI)* and *Arts & Humanities Citation Index (A&HCI)*, to, afterwards, establish certain opinions. In connection with the type of sampling, it is a censal study in which population and sample are de same.

5. RESULTS

5.1. Type of documents

The type of sources, book, journal or grey literature, in which an investigation is publisher is a characteristic index of the situation of sciences. The most current and original of the “hard” sciences publish mainly in journals meanwhile the social investigations in books.

TABLE II. TYPES OF DOCUMENTS ON INTEGRATION EDUCATIVE CONTENTS IN SSCI Y A&HCI

<i>Type of document</i>	<i>n</i>	<i>%</i>	<i>% accumulated</i>
Article	2817	76,40	76,40
Book Review	432	11,72	88,12
Review	127	3,44	91,56
Meeting Abstract	109	2,96	94,52
Editorial Material	105	2,85	97,37
Note	49	1,33	98,70

TABLE II. TYPES OF DOCUMENTS ON INTEGRATION EDUCATIVE CONTENTS IN SSCI Y A&HCI. (Continuation)

<i>Type of document</i>	<i>n</i>	<i>%</i>	<i>% accumulated</i>
Letter	27	0,73	99,43
Reprint	7	0,19	99,62
Discussion	6	0,16	99,78
News Item	3	0,08	99,86
Biographical-Item	2	0,05	99,92
Correction	2	0,05	99,97
Fiction, Creative Prose	1	0,03	100,00
TOTAL:	3687	100	

The type of documents in the studied databases is varied as shown in the preceding table, although, it is firstly the articles and the books reviews the most notable, followed by the reviews, congresses minutes and editorials. In our case, at an international level, 76.4% has been publisher in a journal article, as a basic type of document.

5.2. *Diachronically analysis of the productivity*

The number of articles per year consists of counting the published works every year, trying to verify the hypothesis of exponential growth suggested by Price. The journal articles are not the unique products to be taken into account, since ISI includes books, presentations, dissertations and even courses which can only be included.

A criticism to the production techniques is when operating with small samples with a trend to be grouped according to the years. In this sense, the productivity is grouped in greater periods of time (in four or five years) in order to infer models with more legitimacy maybe. In our analysis, this is not the case, because the number represents the studied population.

The relevant of the investigations of a longitudinal nature has been stated by authors such as De Miguel (1985, p. 9), Keeves (1997, p. 28) and Bueno (2002, p. 496), establishing that such relevance acquires a greater emphasis when it refers to the field of Education. These longitudinal studies, strongly empiric, have been centred in pupils, classrooms, schools, educational systems and, in general, those entities associated to the investigation of the change.

A field that has not been much taking into account has been the diachronisms of the scientific productions, especially those of an educational character. Therefore, we have thought about carrying out a longitudinal analysis of the productivity in the field of the educational integration, in the international field.

In the following table-resume the number of products per year is explicit, during the time period 1956-2005.

TABLE III. YEARLY INTERNATIONAL PRODUCTION IN EDUCATIONAL INSERTION CONTAINED IN THE DATABASES SSCI Y A&HCI

YEARS	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965
NUM	9	9	6	9	7	6	6	6	15	17
YEARS	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975
NUM	18	21	20	21	18	20	29	21	31	54
YEARS	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
NUM	30	43	57	60	57	63	73	43	52	39
YEARS	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
NUM	55	45	54	44	48	73	119	121	143	182
YEARS	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
NUM	199	166	172	171	188	192	214	203	241	224

The graphical representation of this time series is shown in figure 1, which has been smoothed, in order to being able to reduce the year variations.

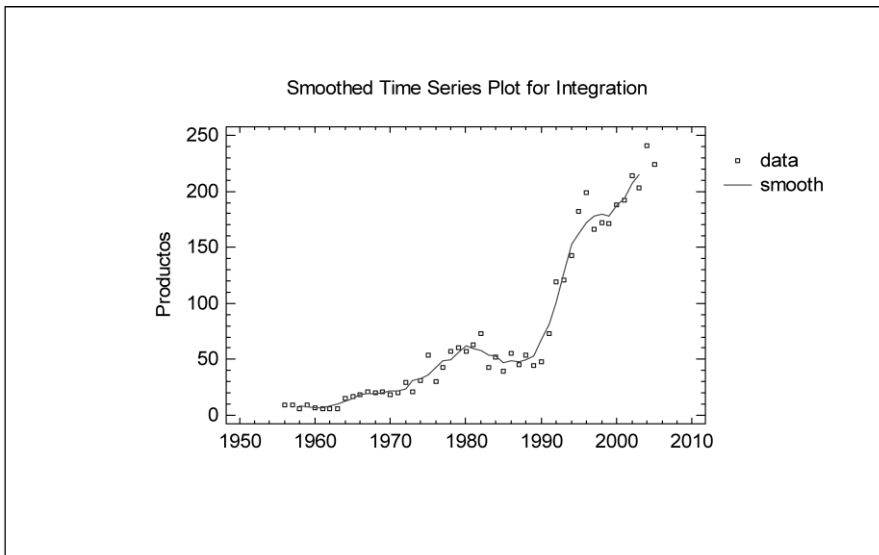


Figure 1. Smoothed time series of the productivity on educational integration contained in the SSCI y A&HCI (1956-2005).

In this first analysis the data distribution can be grouped in three research-production periods on this Topic. The first from 1956 until the middle of the 70s in when the publications appear occasionally, a second period from this date

until 1990 when the level of investigations start being more systematic, with a certain increase, and a final period when the growth in this area accelerates from 1990, acquiring a strong exponential character with a maximum value of 224 products/documents in 2005. On the other hand, this last value seems not to presage any period of saturation as announced by Price (1986) in his principle on the scientific production growth, and explainable in the logistic curve.

An analysis of temporal series will be carried out in order to know if this exponential growth keeps going or, as it seems to be happening in the last few years, it starts a limited-logistic growth. This analysis is made adjusting the productivity details obtained from 5 selected models: an ARIMA model and four so-called classic models:

Model ARIMA (5,1,6) with Box-Cox mathematical adjustment.

Model of constant mean = 74.28.

Model of linear trend = $- 8667.5 + 4.41t$

Simple moving average of five terms.

Simple exponential smoothing with alpha = 0.95

After carrying out this analysis, the best adjustment takes place to the pattern ARIMA (5, 1, 6), unifying (OK) all the contrast tests with a half (RMSE = 8.67) smaller quadratic error.

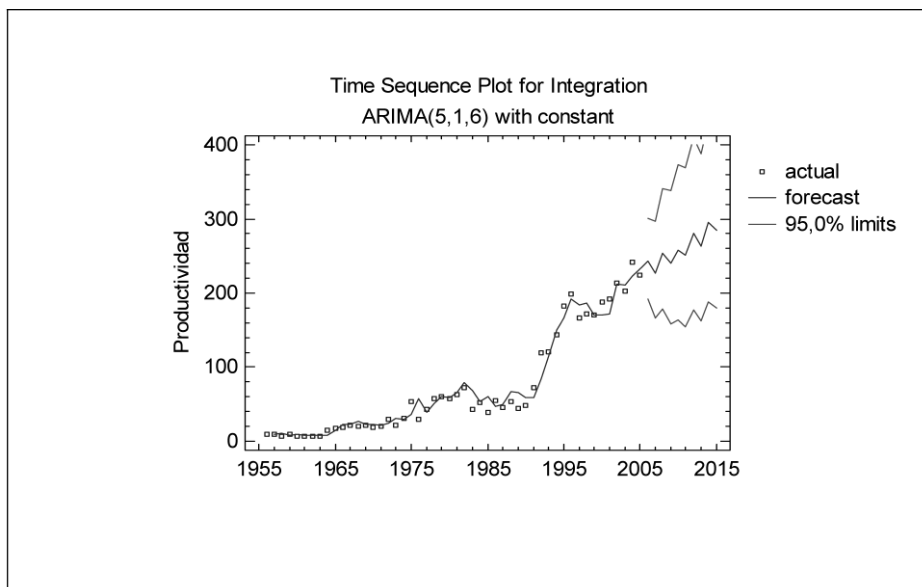


Figure 2. ARIMA of the productivity on the educational integration contained in the SSCI and A&HCI (1956-2005)

The pattern is determinist but fitting the lineal pattern, as we can observe graphically and starting from the given values.

Once it is determined that the best and most plausible adjustment is that of the ARIMA model, we select it in order to determine the prospective values for the next seven years; a period that we consider to be short-medium term. The prospective results and its lower and higher limits appear in table 3.

TABLE IV. FORECASTED PREDICTION VALUES FOR EDUCATIONAL INTEGRATION CONTAINED IN THE DATABASE SSCI AND A&HCI FOR THE NEXT SEVEN YEARS.

<i>Period</i>	<i>Forecast</i>	<i>Limit</i>	<i>Limit</i>
2006	243,41	191,94	301,00
2007	227,26	166,68	297,21
2008	253,24	178,45	341,08
2009	239,63	157,89	338,37
2010	258,30	164,25	373,55
2011	250,55	154,86	369,16
2012	280,87	177,56	407,76

This table shows the forecasted values for educational integration. During the period where actual data is available, it also displays the predicted values from the fitted model and the residuals (data-forecast). For time periods beyond the end of the series, it shows 95.0% prediction limits for the forecasts. These limits show where the true data value at a selected future time is likely to be with a 95% confidence.

The values-predictions for the period 2006-2012 lay down that the production in educational integration will continue progressively growing, laying aside the first inference carried out on a potential saturation or coming to the logistical period. As we can observe in the production table it follows an exponential growth with just several discordant values (*islet*) regarding the year 2007 and 2009, in which the productivity was slightly reduced.

To sum up, from these discoveries we deduce that the international production on multicultural education is going through a very fruitful period and the production is constantly increasing, a reflection of the fact that the analysis and study of this field are growing without having reached the logistic maturity described by Price yet.

5.3. Productivity according to authors

It refers to the distribution of authors according to the productivity, that is, the number of authors publishing 1 article, 2 articles, 3 articles and so on. A derivative of these distributions is the mighty classification of authors as big producers (more than 10 articles), the moderate producers (between 2 and

10 articles) and the occasional producers (only 1 product). The percentage of authors publishing (at least) n articles is called personal productivity index defined by logarithm of n .

TABLE V. TYPOLOGIES AND AUTHORS' DISTRIBUTION BY NUMBER OF DOCUMENTS

<i>Num. Authors</i>	<i>Number of documents by authors</i>	<i>Total</i>	<i>%</i>	<i>% accumulated</i>
1	2788	2788	75.62	75.62
2	316	632	17.14	92.76
3	55	165	4.48	97.24
4	17	68	1.84	99.08
5	5	25	0.68	99.76
6	0	0	0.00	99.76
7	0	0	0.00	99.76
8	0	0	0.00	99.76
9	1	9	0.24	100.00
10	0	0	0.00	100.00
TOTAL		3687		

The analysis on the author's productivity verifies that only a small number of authors have published 4 or more articles on the topic, meanwhile, 2,788 authors (occasional) produced just one document. This distribution hardly fits Lotka's inverse quadratic production, which predicts that the number of authors with n contributions is the same to the number of authors with a contribution divided for n^2 . Obviously, only a small group of researchers are very productive, coexisting with a great number of less productive ones. In the distribution, there are plentiful occasional authors and a lack of big and medium authors.

In this distribution there are plenty of occasional authors and there is a lack of big and medium authors, as it is reveal, since it is show that only one author Publisher 9 articles (0.24%) and a very small number of authors Publisher 5 articles on the studied Topic (0.68%), 17 authors Publisher 4 works (1.84%) and 316 only have 2 works (17.14%), meanwhile the big majority only produced one document, exactly 2,788 (75.62%). It is obvious that none of the researchers is very productive, coexisting a great quantity of researchers publishing just one work.

5.4. *The most productive authors*

An analysis of the number of authors which usually have studied articles mention whether they are individual works or, on the contrary, are signed by several researchers. After the study we could verify that 76.62% of the indexed articles belong to just one researcher, meanwhile 23.46% are works of two up

to four authors, and only 5 authors carried out 5 or more works (0.93%), with a clear non existence of big authors.

TABLE VI. THE MORE PRODUCTIVE AUTHORS' IDENTIFICATION IN EDUCATIONAL INTEGRATION ACCORDING TO SSCI AND A&HCI (1956-2005)

<i>AUTHOR</i>	<i>INSTITUTION</i>	<i>N</i>	<i>FIELD</i>
Ayres, AJ.	Boston University	9	Rehabilitation
Bundy, AC.	Colorado state University	5	Rehabilitation
Center, Y.	Macquarie University	5	Psychology, educational
Furman, JM.	University Pittsburgh	5	Neurosciences
Miller, LJ.	University of Colorado	5	Rehabilitation
Breen, MJ.	University of Wisconsin	4	Psychology, developmental
Dunn, W	University of Kansas	4	Rehabilitation
Eshel, Y.	Ben Gurion University of Negev	4	Psychology, developmental

Among the most productive researchers in the field of the integration, we emphasize A.J. Ayres from the University of Boston, followed by Bundy, Center, Furman and Millar with 5 works each. Finally, they are followed by Bree, Duna and Eshel with 4 articles each. The first 7 authors belong to the American university, except Eshel who works in *Ben Gurion University of Negev* (Israel).

Among the researchers who write on educational integration, there are four big groups: a) Big authors with more than 10 signings (a case which does not appear in our study); b) Medium authors between 5 and 9 signings; c) Initial authors between 2 and 4 signings; d) Occasional authors with only one signing

In accordance with the classification we find 3.178 authors and 3.687 signings distributed as followed:

TABLE VII. TYPOLOGY AND NUMBER OF AUTHORSHIPS IN EDUCATIONAL INTEGRATION ACCORDING TO SSCI AND A&HCI (1956-2005).

<i>Tipo de autor</i>	<i>Contributions</i>	<i>Papers</i>	<i>%</i>
Occasional authors (1 signing)	2,788	2,788	75.62
Initial authors (2-4 signings)	388	865	23.46
Medium authors (5 -9 signings)	2	34	0.93
Big authors (10 or more signings)	0	0	0.00
	3,178	3,687	

After the study of this data distribution, we could verify that 76.62% of the indexed articles belong to just one researcher, meanwhile 23.46% are works made from 2 up to 5 authors and only 5 authors made 5 or more works (0.93%), showing a non existence of big authors.

5.4. *Adjacent disciplines*

The methodological covering and the cooperation in the study and research of the educational integration is another paraevaluative characteristic accessible from the database which has been study.

TABLE VIII. THE TOP 10 ADJACENT DISCIPLINES OR LEVEL OF MULTIDISCIPLINARY COOPERATION IN EDUCATIONAL INTEGRATION ACCORDING TO SSCI AND A&HCI (1956-2005)

<i>Subject Category</i>	<i>Record Count</i>
Education & Educational Research	351
Rehabilitation	169
Sociology	131
Neurosciences	110
Psychiatry	108
Nursing	101
Psychology, Multidisciplinary	96
Public, Environmental & Occupational Health	91
Psychology, Experimental	77
Psychology, Educational	75

As we can emphasize from the previous table, even if the big authors do not belong to the educational field, the most productive area (*Subject Category*) is that of Education and Educational Research. This contradiction seems to show that although at an educational integration level the most productive disciplines are those of the field of education, these, as it seems, have a more fragmented pattern, more individualistic, meanwhile there are other disciplines which rush in the field of educational integration which concentrate more their investigation in few authors. They are disciplines which work the Topic of Educational Integration from areas in connection with health (medicine, nursery, rehabilitation, etc), Sociology and Psychology, where the work in groups is more traditional than in the field of Human and Social Sciences.

5.5. *Languange of publication*

In this section we show data according to the language in which the investigations were written. The publication pattern according to the language is another scientiometric characteristic valuable from this database, which allow us to know the communicative opening way to the society built by the authors.

TABLE IX. PUBLICATION LANGUAGE OF THE AUTHORS ON EDUCATIONAL INTEGRATION ACCORDING TOSSCI AND A&HCI (1956-2005)

<i>LANGUAGE</i>	<i>N</i>	<i>%</i>	<i>% Accumulated</i>
English	3352	90,91	90,91
German	214	5,80	96,72
French	42	1,14	97,86
Spanish	20	0,54	98,40
Russian	15	0,41	98,81
Hebrew	9	0,24	99,05
Czech	7	0,19	99,24
Norwegian	6	0,16	99,40
Italian	5	0,14	99,54
Slovak	4	0,11	99,65
Croatian	4	0,11	99,76
Portuguese	3	0,08	99,84
Swedish	2	0,05	99,89
Croatian	1	0,03	99,92
Danish	1	0,03	99,95
Dutch	1	0,03	99,97
Japanese	1	0,03	100,00
	3687	100,00	

The English language is the most cited, that is, the sources expressed in English collect 90.91% of the total citations. It is followed by the German language with 5.8%, the French language with 1.14% and, in the fifth position, the Spanish language with 0.5%. The publication rate of the rest of the other languages altogether is only 1.6%.

5.6. Institutional productivity

In this section, the institutional affiliations of the authors were taken into account. After counting all the institutions we made a table in which the most productive working centres in connection with the research on educational integration appear.

TABLE X. MOST PRODUCTIVE CENTRES IN EDUCATIONAL INTEGRATION ACCORDING SSCI AND A&HCI (1956-2005)

<i>Institution Name</i>	<i>Records</i>	<i>Country</i>
University of Wisconsin	49	USA
University of California Los Angeles	47	USA
University of Illinois	47	USA
University of Michigan	45	USA
University of Carolina	44	USA
Harvard University	41	USA
University of Texas	40	USA
University SO of California	35	USA
University of Washington	34	USA
Ohio State University	33	USA
Boston University	32	USA
University of Kansas	32	USA

As it can be observed in the preceding table, it is the institutions of USA those with a higher index of scientific production in the field of Educational Integration.

5.7. Productivity according to countries

In this section the productivity of the works according to the institution or the distribution of works produced by each institution is analyzed (usually the university). In this way we will obtain a ranking of the most productive institutions (universities).

TABLE XI. THE MOST PRODUCTIVE COUNTRIES IN EDUCATIONAL INTEGRATION ACCORDING TO SSCI AND A&HCI (1956-2005)

<i>Country</i>	<i>Record Cont.</i>	<i>%</i>	<i>% accumulated</i>
USA	1,988	53.92	53.92
England	211	5.72	59.64
Germany	178	4.83	64.47
Canada	177	4.80	69.27
Australia	80	2.17	71.44
Netherlands	74	2.01	73.45
Israel	71	1.93	75.37
France	56	1.52	76.89
Spain	33	0.90	77.79
Italy	32	0.87	78.65
Switzerland	32	0.87	79.52
Others countries	755	20.48	100.00
TOTALS	3,687	100.00	

United States runs off with as the investigating core on educational integration. A continental level, together one USA and Canada, continues Europe, Australia and Israel in the Proximate East.

TABLE XII. THE TOP 10 INTERNATIONAL JOURNALS INTERESTED IN THE MULTICULTURAL EDUCATION AND ITS IMPACT INDEX

<i>SOURCE TITLE</i>	<i>Records count</i>	<i>Impact Factor (2004 year)</i>
American Journal of Occupational Therapy	126	0.676
Zeitschrift für Padagogik	51	0.194
International Journal of Rehabilitation Research	29	0.495
Journal of Negro Education	29	0.000
Occupational Therapy Journal of Research	22	0.000
Exceptional Children	21	0.982
Perceptual And Motor Skills	21	0.334
Journal of Learning Disabilities	20	0711
Journal of Advanced Nursing	19	0.917
Journal of School Health	17	0.872
Journal of Nursing Education	16	0.480
Mental Retardation	15	1.113
Remedial & Special Education	15	0.000

In general, they are the American journals in English-speaking langue the journals preferred by the researchers in integration educative, with the exception of the German journal *Zeitschrift für Padagogik*.

6. CONCLUSIONS

Apart from the short productivity according to authors, a fact which is obvious when observing that only 2 authors of the 3,794 works collected in the SSCI and A&HCI have published more than 5 works. Therefore, we are able to notice the presence of a big author such as A.J. Ayres, from the University of Boston with 9 signings, followed by Bundy, AC. Center, and. Furman, JM. and L.J. Miller, with 5 works each.

On the other hand, we must emphasize the small citation to works of the Educational Integration. It is also notable the small number of citations received from the works on educational Integration, which shows that the majority of the works collected in the database of the ISI had a low impact in the scientific community. Therefore, we conclude that this short impact according to the citation of the studies and the journals incorporating the works on this topic is another reason to state that this field of the knowledge is not consistent from the scientific point of view.

It can be proved that a productive twisted position in favour of the English context, specifically the American one, reflected in the high percentage of works carried out in working centres of USA in connection to those carried out in Canada, Europe or South America. Although the higher number of works is referred to the field of integration we emphasize the existence of works from fields of knowledge such as the medicine, the nursery or the psychology which also offer works of this kind. This fact shows that the Educational Integration is a working field for many, which results in a working field belonging to nobody, in the non existence of a specialization in such field, and therefore, the scientific consolidation of this emerging discipline might be complicated to a certain extent.

7. IMPLICATIONS

Studies of this type show that the topics here considered constitute a hot front research in the world. Obviously, there is a big concern on the subject of the integration of immigrants in the societies of all the countries and, consequently, in the school system. Furthermore, the study could contribute to gain a more scientific stance of the research.

8. SUGGESTIONS FOR FURTHER RESEARCHERS

Continuing our work, we suggest to the future researchers on this topic, the need to access and use the databases as an essential step in the process of the scientific research on the topic, for any questions to be solved.

On the other hand, this study shows that the topic (multicultural, educational and cultural integration) is relevant and a battle front research from the pedagogical point of view. However, we consider that it is necessary a more advanced research about the conjunction education and multiculturalism.

We hope that this kind of studies help and improve the educational research on a more consistent scientific base. At the same time, we observe that it is necessary to continue investigating more and better on the topic. Educational integration projects and in collaboration with different countries would also be appreciated.

REFERENCES

- Bartolomé Pina, M. (1997). Panorámica general de la investigación sobre educación intercultural en Europa. *Revista de Investigación Educativa*, 15(1), 7-28.
Bueno-Sánchez, A. (1996). *Diversidad Cultural y Redes de Comunicación*. I Symposium

- Nacional de Educación Multicultural para la Tolerancia. Granada: Unesco-Andalucía, p. 245-260.
- Bueno-Sánchez, A. (2002). Análisis cientimétrico Análisis cientimétrico de la productividad en la Revista de Investigación Educativa (1983-2000). *Revista de Investigación Educativa*, 21(2), p. 507-532.
- Bueno Sánchez, A., Fernández-Cano, A., Chaikhieva, T. y Ayzemberg, C. (2006). Scientific production on multicultural, educational and cultural integration contained in the Spanish database of the ISOC-CSIC (1970 - 2005)
- Callon, M., Courtial, J.P. y Penan, H. (1995). *Cienciometría. Estudio cuantitativo de la actividad científica: de la bibliometría a la vigilancia tecnológica*. Gijón: Trea.
- De Miguel, M. (1985). Estrategias metodológicas en los estudios longitudinales. *Revista de Investigación Educativa*, 6(3), p. 252-270.
- Dewey. J. (1916). *Democracy and Education. An Introduction to the Philosophy of Education*. New York: MacMillan. First Spanish translation as *Democracia y Educación* (1926). Madrid: La Lectura.
- Fernández Cano, A. & Bueno Sánchez, A. (1999). Synthesizing Scientometrics patterns in Spanish educational research. *Scientometrics*, 46(2), p. 349-367.
- Fernández Cano, A. (1995). *Métodos para evaluar la investigación en Psicopedagogía*. Madrid: Síntesis.
- Fernández Cano, A. (1999). Producción educativa española en el Social Sciences Citation Index (1988-97). *Revista Española de Pedagogía*, 214, 509-524.
- Fernández-Cano, A. & Bueno-Sánchez, A. (2002) Multivariate evaluation of Spanish educational research journals. *Scientometrics*, 55(1), p. 87-102.
- Gimeno Sacristan, J. (1991). Currículum y diversidad cultural. (Ponencia desarrollada en las 11^{as} Jornadas de Enseñantes con Gitanos. Valencia, 4 de septiembre de 1991), *Boletín del Centro de Documentación*. Asociación de Enseñantes con Gitanos. N° 4, segunda época: 48-67.
- Keeves, J.P. (1997). *Longitudinal research methods*. En: KEEVES, J.P. (Ed.), *Educational research, methodology and measurement. An international handbook*. Nueva Cork: Pergamon Press, p. 138-149.
- Kostoff, R. N. (1997). *The handbook of research impact assessment* (7^a ed). DTIC Report n°AD296021. Arlington, VA: Office of Naval Research.
- Murillo, F.J. & Muñoz, F. (1993). Revisión bibliográfica: Educación Intercultural. *Revista de Educación*, Vol. 302, p. 361-384.
- Price, D. J de S. (1965). Networks of scientific papers. *Science*, Vol 149, 510-15.
- Price, D.J. de S, (1986). *Little science, big science...and beyond*. Edición aumentada. Nueva York: Columbia University Press (Edición original en 1964).
- Rego, M. y Nieto, S. (2000). Multicultural/intercultural teacher education in two contexts: lessons from the United States and Spain. *Teaching and Teacher Education*, 16 (4), 413-427.
- Romera, M.J. Sáez, R. & Sánchez Valle, I. (1992). Estudio comparativo de la información bibliográfica sobre educación multicultural en las bases de datos de Ciencias de la Educación. *Bordón. Revista de Educación*, 44(1), p. 99-107.
- Web of Science. (2006, may 17): *Social Science Citation Index* [on line]. Thompson-Institute for Scientific Information. Disponible desde el sitio: <http://portal.isiknowledge.com/portal.cgi?Init=Yes&SID=X1Od@eGKlmgBCiFN7NB>. Acceso 17 de diciembre de 2007.
- Web of Science. (2006, may 17): *Art & Humanities Citation Index* [on line]. Thomp-

son-Institute for Scientific Information. Disponible desde el sitio: <http://portal.isiknowledge.com/portal.cgi?Init=Yes&SID=X1Od@eGKlmgBCiFN7NB>. Acceso 17 de diciembre de 2007.

Web of Knowledge. (2006, may 17): Journals Citation Report [on line]. Thompson-Institute for Scientific Information. Disponible desde el sitio: <http://portal.isiknowledge.com/portal.cgi?Init=Yes&SID=X1Od@eGKlmgBCiFN7NB>. Acceso 17 de diciembre de 2007.