



## Review

## Literature review: Use of commercial films as a teaching resource for health sciences students

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## SUMMARY

**Purpose:** Analyze some of the characteristics of the publications focused on commercial cinema as a learning tool for university students engaged in health sciences degrees.**Design and Methods:** The review was based on the search of information in three electronic databases: MEDLINE, CINAHL and ERIC.**Findings:** 54 papers were selected and analyzed.**Conclusion:** Cinema is a commonly used resource; however there is still a lack of studies demonstrating its usefulness and validity. This review is limited on its analysis by the fact that a large number of experiences are described as having a loose design.

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## Introduction

In our society, cinema, since its origins, is attached to the idea of leisure and enjoyment and it is very often taken as a mirror of daily life. The use of this means, associated with recreation, can be extremely useful as a learning resource given that images can convey values and attitudes to specific audiences in training. One such audience could consist of college students. It is possible to transmit, in addition to knowledge about the actual content of the subjects, social skills, anthropological and cultural learning, that can help with the interpretation and understanding of human life. It is a matter of motivating and stimulating reflection and analysis through emotion as a way of increasing knowledge (De Puig, 2006). In education, there are numerous experiences related to the use of cinema, ranging from primary school to university studies (Cottone and Byrd-Bredbenner; Arrué Mauleon, 2013; Pereira Domínguez and Marín Valle, 2001; Pérez Parejo, 2010; Juvinyà Canal and Ballester Ferrando, 2005).

In recent decades, health care students have been immersed in the learning and use of technology that constantly advances and meanwhile keep a humanistic perspective of the people under their care. Some studies claim that students with a humanistic background, in addition to scientific and technical, are better prepared to care for their patients and they are able to think critically and apply those thoughts to clinical practice situations (Sánchez et al., 2010; McKie, 2012).

Education through cinema is encompassed by the term cinemeducation, which refers to the use of sequences or entire films to assist in the training of health science students in the biopsychosocial-spiritual sense (DiBartolo and Seldomridge, 2009). In nursing, there is the term cineurducaton (Oh et al., 2012), which refers to the use of films in nursing studies, and specifically to the learning concepts that can be attributed precisely to the use of this strategy.

The objective of this review is to analyze some of the characteristics of the publications focused on commercial cinema as a learning tool for university students engaged in health sciences degrees.

This narrative review will not only allow the understanding on what has already been published on the topic but also the aspects that need further insight, related to gaps in existing knowledge of specific questions.

## Review Question

What characteristics do studies performed on the use of commercial films as a learning tool in university and postgraduate education in health sciences have? What have been the results in terms of effectiveness and satisfaction?

## Methodology

A literature search was made with the objective of finding the largest possible amount of papers focused on cinema as a teaching tool in higher education on health sciences.

The review was based in the search of information in three electronic databases: MEDLINE (PubMed), CINAHL and ERIC. The

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keywords used for the search were combinations with the following keywords:

Student, Undergraduate, Postgraduate, Education, Health studies, Films, Movies, Cinema, Flicks, Commercial film. The search strategy used the Boolean operator “AND” and truncation (\*).

A complementing search on Google Scholar was made, using the same combinations of words and selecting the scientific papers appearing on the first twenty references. A manual search was made in the Journal of Medicine and Movies, edited in Spanish and English by the University of Salamanca (Spain). It includes analysis of films with bio-health contents from an educational and dissemination perspective. This journal, celebrating its 10th anniversary in 2014, is an on-line open access quarterly publication.

The initial selection was based on the title and when in doubt in relation to the objectives of this study, the abstract was read, and if necessary continuing with the whole document. Initially 303 references were obtained, reducing to 202 once duplicates were deleted; finally, after analyzing abstracts, 145 texts were included.

Inclusion criteria for the 145 preselected papers were as follows: i) that the study included aspects on educational training in the areas of medicine, dentistry, nursing, psychology, biology and veterinary; ii) commercial cinema was the main learning resource used in the teaching and learning of university students; iii) documents selected include original papers, narrative experiences and letters to the editor; iv) also included were studies combining resources other than films, e.g. cinema and literature.

Documents excluded were books, book reviews, monographs, PhD thesis and audiovisuals that were not films (more than 60 min), or that combined different types of audiovisual material like documentaries. Videos filmed by the students themselves were excluded as well. Also excluded were papers in languages other than English, Spanish, Catalan or French.

Finally 54 papers were obtained that are analyzed in the present research.

The following variables were identified in the papers selected:

1. Journal: title.
2. Paper: year of publication & number of pages.
3. Authors: number of authors and origin.
4. Country of origin of the first author.
5. Paper type: original paper (with quantitative and qualitative perspective), reviews, & letters to the editor.
6. Learning objective
7. Way in which the film was used: fragments, full film, viewing frequency.
8. Grades where cinema was applied.
9. Health topics considered:
  - a. Mental health.
  - b. Public health.
  - c. Internal Medicine.
  - d. Oncology and palliative.
  - e. Profession.
  - f. Geriatrics.
  - g. Pharmacology.
  - h. Maternity & Pediatrics.
  - i. Microbiology.
  - j. Other.
10. Impact or academic results obtained.
11. Bibliographic references: number and type (journal paper, book, etc.).

## Results

### Paper Selection

After applying inclusion and exclusion criteria 54 papers were selected.

Papers selected were published between 1990 and 2012. Journal of Medicine and Movies has the largest number of entries totaling 20% (Welsh, 2003) of papers; secondly, 9% (Pérez Parejo, 2010) is Nurse Educator, followed by Family Medicine, 7% (Pereira Domínguez and Marín Valle, 2001).

Most of documents were produced by 1 to 3 authors, 80%. A majority (54%) resides in the USA, followed at a distance by Spain (15%), Argentina (6%), New Zealand and the United Kingdom (4%) (Table 1).

As for paper type, 77% are original papers, 19% are review papers, and 4% consists of letters to the editor.

The number of pages has a direct relationship to the type of article. Originals have a mean of 5.26 pages (SD = 4.48), reviews 5.8 pages (SD = 4.59), and letters to the editor 1.50 pages (SD = 0.71). The majority of designs used in the studies correspond to narrative experiences (59%) and quantitative research (28%), followed by qualitative studies (9%). One study combined both of the latter and another does not disclose details. Half of the qualitative studies are phenomenological, 33% includes no data, and 17% use grounded theory. Quantitative studies are experimental (73%), and the rest are observational.

More than half of the learning objectives indicated the intention to modify or transmit specific student attitudes (Fig. 1), 38% intended to increase knowledge and 6% was intended to evaluate satisfaction with the use of cinema as a teaching resource; one paper evaluated the future smoking attitude.

The experiences using the cinema resort for a longer time are of four years, 6%, and three years, 2% respectively. Almost half of the experiences were applied for a full academic year, 46%, followed by a 13% of experiences that were conducted during one term and a 9% using this resort during a single class (Fig. 2).

Regarding manner and frequency of screening, 12% consisted of selected sequences, while 80% used the entire film. In all cases a single screening was used, however 19% of the papers provide no data for this item.

The film resource is used mostly in Medicine (44%) and Nursing Grades (31%), followed by Psychology (6%), Biology (5%) and finally Nutrition and dietetics, Mathematics and Natural Sciences, Pharmacology and Communication, all with 2% of the cases.

Referring to the knowledge area where cinema has been used as a teaching resource, almost half of the studies have been to illustrate a mental health issue, followed by internal medicine themes, public health and oncology, view on the profession, and finally pharmacology, maternity & pediatrics, and microbiology. Six papers do not indicate the knowledge area where the film was used.

A 48% of papers have less than 15 bibliographic references (48%), and 32% present more than 25. All items include journal papers in their bibliography, followed by books (24%), films (12%) and web references (8%). Other references add only 1%, and those consist of reviews, monographies and statistical software.

**Table 1**  
Paper country of origin (n = 54).

	N	%
Germany	1	1.9
Argentina	3	5.6
Australia	1	1.9
Brazil	1	1.9
Colombia	1	1.9
Denmark	1	1.9
USA	29	53.7
USA & Philippines	1	1.9
Slovenia	1	1.9
Spain	8	14.8
India	1	1.9
Israel	1	1.9
New Zealand	2	3.7
United Kingdom	2	3.7
Thailand	1	1.9

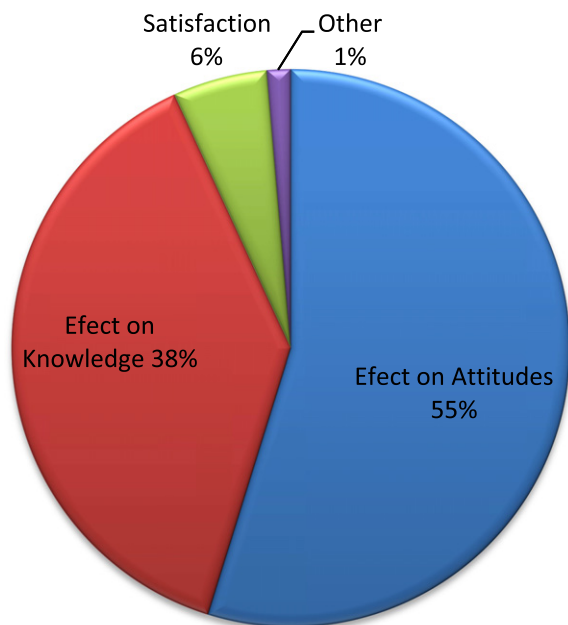


Fig. 1. Learning objective of the sample (n = 54).

## Discussion and Conclusion

Since the 80s, with the appearance of the first publications, the number of papers about cinema as a teaching resource in health sciences has increased progressively until becoming regular practice in many educational centers as described in various publications (Cottone and Byrd-Bredbenner, 2007; Welsh, 2003; Hans and Kimberly, 2011; Icart-Isern, 2008; Ogando Díaz and García Pérez, 2008). In this sense, a landmark was the digital edition of *Journal of Medicine and Movies*, published by Salamanca University that approaches from different angles the use of cinema in medical sciences, a fact that has increased the number of publications of Spanish origin. In this study, this journal has the highest number of entries (Cappelletti et al., 2007; Astudillo and Mendiñeta, 2007; Farré Albaladejo and Pérez Sánchez, 2011; Fresnadillo Martínez et al., 2005; Icart Isern MT and Icart Isern C., 2010), a logical result if you consider that this is a monographic journal on cinema and health/illness. Moreover, an important part of papers published refers to the use of commercial cinema as a teaching resource. Furthermore, journals of a more general scope, like *Family Medicine* (USA), also include a relevant percentage of papers on cinema and health.

Our study shows a predominance of US publications, result that is aligned to that obtained by Darbyshire and Baker (2012); we also agree with these authors on college degrees where this methodology is more frequently applied: Medicine, and specifically mental health. These coincidences can be explained by the closeness of the realization that both researchers that would have identified a similar multitude of papers. A difference between the two is that our research shows an increase on papers focused on geriatrics (Kirkpatrick and Brown, 2004; Plowfield et al., 2006; Walker et al., 2005) and public health (Cappiello and Vroman, 2011; Crellin and Briones, 1995; Hart, 2011; Parker and Faulk, 2004; Weerts, 2005).

Bhagar (2005), after trying to reproduce a previous research (Tarsitani et al., 2004), states that the results obtained are not conclusive because they show no differences in knowledge acquisition when commercial cinema was used/not used, and states that some of the previous studies offer no rigorous design to validate results. In accordance to this author, we observe a big amount of studies that don't have control group to validate their results (Farré Albaladejo and Pérez Sánchez, 2011; Farre et al., 2004; Gallagher et al., 2011; Jensen and Curtis, 2008; Kalra, 2011; Kerber et al., 2004; Kuhnigk et al., 2012; Pérez Sánchez, 2009), and some of them recommend to complete the research with a bigger sample or to include the mentioned control group (Lumlertgul et al., 2009; Briggs, 2011; Klemenc-Ketis and Kersnik, 2011; Datta, 2009). Among other reasons, these could be the justification that explains why narrative experiences are the main type of studies, which are detrimental to research designs, both qualitative and quantitative. While some of these experiences are presented as original papers, it is remarkable to note the lack of data on the film application methodology: screening frequency, procedures or techniques for obtaining data, the ambiguity or lack of specific objectives and the way of measuring the results of this teaching resource. All of this makes it really difficult to understand the reproducibility and validity of these papers. This opens up new lines of research, which require a higher grade of definition to evaluate the efficacy of the film resort methodology as part of the teaching methodology. Perhaps it could be useful to develop checklists to evaluate the quality of the different cinematic teaching methodologies (Cineforum, Observación-Reflexión y Aplicación method (De la Torre and Violant, 2003; De la Torre et al., 2004),...) performed by lecturers when they use films or film sequences. This information would be interesting for the purpose of replicating and disseminating the curricula.

It is surprising that the main objective pursued by the use of commercial films in classrooms is not knowledge acquisition (Zauderer and Ganzer, 2011), but rather an orientation to other aspects that are more complex and difficult to measure like the acquisition of attitudes and values, something that is also shown by the PhD thesis of Bonilla Borrego (2008) in an experience with high school pupils, and by papers written by other authors (Weerts, 2005; Winter, 2011; González Blasco, 2001; Lenahan and Shapiro, 2005; Carpenter et al., 2008). Most of the studies intend to modify attitudes of future professionals, something that can be attributed to a humanizing reaction to the increasing amount of technology in health professions. A possible line of research could be in identifying which specific attitudes are intended to modify.

Some studies show the differences between the perception identified by the students on what they believe they have learnt and the real results, which are clearly lower (Arrué Mauleon, 2013). Another future possibility is to investigate this line of research, in order to validate or refute these facts.

Moreover, all papers analyzed use a methodology consisting in the students adopting a passive role, simply as viewers, when watching the film, and lecturers point out important facts. No study mentions the reverse process, where students use their theoretical learnings to identify, recognize or search theoretical aspects of the disease on the screen, in order to "build" knowledge from there (Hyde and Fife, 2005). There has not been a single study that has talked about the background knowledge of the students on audiovisual concepts and the

## Period of time cinema was applied

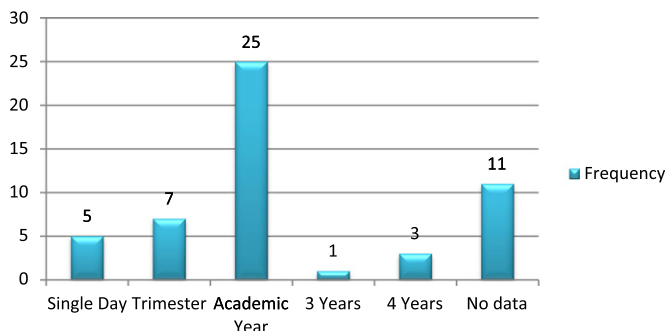


Fig. 2. Application period of cinema as a teaching resource.



critical view of the material. Some secondary schools (Aguaded Gómez, 2015; Rodríguez-Rosell et al., 2013) require that this media literacy must be a compulsory item. Following the same line of thought, we realize that, for the moment, nobody asks teachers about their knowledge to perform these activities, what they know is simply what they have learned on their own.

It would be interesting to assess where will this type of methodology is to, given that the challenges for teaching from the point of view of technological possibilities of 20 years ago are now over, and the majority of students today are native digital. Audiovisual technologies allow the use of multiple resources that can contribute to the use of cinema in teaching and definitively consolidate it.

A limitation in our study can be the concept of the “time period during which the cinema resort has been used”, given that what for some is a quarter or a semester, others consider it as an academic year where their subject is taught. Another limitation can be the fact that the paper review was carried out by a single researcher.

In conclusion we can state that cinema as a teaching methodology is a resource commonly used today in health sciences training, however there is still a lack of studies demonstrating its usefulness and validity, and that allow us to quantify the increase in learning, either by an increase of knowledge or an increase in their values, beyond the subjective perception of students and lecturers.

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