

The Cinema as a Tool for the Teaching of Microbiology

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Summary

The cinema is one of the most complete artistic representations when one wishes to describe a disease, and it can be used as a strategy in attempt to orchestrate theory and practice in education. The aim of the present article is to explore the “cinema-forum” strategy in the teaching of microbiology. We report our experience using support by the film entitled *And the Band Played On* as a transmitter of contents related to general virology. The cinema has proved to be an active, dynamic and pertinent method with which it is possible to combine efficacy with efficiency.

Keywords: Medical training, Cinema, Infection, Microbiology.

Introduction

Teaching is currently facing a process of important transformation. The mission of teaching aims at getting students to learn from their instructors, and hence the strategies to be used are not those of transmission but, instead, of interaction, motivation, involvement, research, tutorials, problem solving, and simulation¹.

The issues that generate motivation lead students to become engaged in activities involving their understanding of the matters addressed, thus increasing the levels of judgement being offered through the use of ever more powerful representations².

The strategies available for the orchestration of theory and practice must be dynamic and must encourage students to develop their own learning initiatives. The cinema-forum fulfils these premises, such that we decided to apply this mode of presentation instead of traditional seminar tactics.

It is quite possible that the cinema is the most complete form of the artistic possibilities when describing a disease (the cinema can be seen, it can be

heard, and it can be felt). In many cases, the cinema is able to reflect important aspects of the symptoms or of the treatment, depicting a true “treatise” on Medical Microbiology, as long as the audience know “how to read the information” suitably. This is the task of the class instructor: to teach students how to “read” the signs and to gain understanding about microbiology and infectious diseases from films^{3,4}.

The cinema certainly thrives on human drama, where the patients and their suffering play an important role, because disease tends to debut unforeseeably and is able to dramatically change the course of the lives of patients and their perceptions of reality. The ludic component of such exercises helps to highlight the most fascinating aspects of the world of knowledge⁵.

Goals

The aims of the present article are as follows:

To underscore the importance of virology as a discipline and its involvement in medicine and public health.

To apply a non-traditional mode of theory-practice orchestration in the study of viruses important to humankind, offering students an entertaining and motivating way to tackle the study of general virology.

To motivate students in the study of microbiology and, -in particular- virology.

To see whether this innovation, already tested in other areas of knowledge, might prove to be pertinent to the teaching of microbiology in our environment.

Materials and Methods

The experience described here was developed for students of Medicine at the School of Medicine of the National University of the North-West (Corrientes, Argentina), from the Chair of Microbiology, Parasitology and Immunology (within the Area of Microbiology and Immunology), given in the first semester of the second year of the 2000 Study Plan, and from the Chair of Microbiology and Immunology, of the same degree, given in the second semester of the third year of the 1968 Study Plan.

The teaching staff of the Chair comprise one tenured professor, an adjunct professor, five leaders of practical work and five student assistants.

The modification of the Study Plan of Medical Degrees in Argentina, begun in 2000, led to the unification of the Chair of Microbiology and Immunology with that of Parasitology. This in turn led to a decrease in the teaching time devoted to each area and to a reformulation of both teaching schedules, which were eventually fused in a single program. All of this necessarily led to the redesigning of teaching-learning activities, among which was the use of cinema-forums for the teaching of General Virology.

This strategy was adopted because the cinema is able to offer excellent insight into the circumstances and the individual and social contexts in which disease occurs and because it has proved to be an ideal medium for describing disease as an individual experience and as a social phenomenon, not only as a biological event but also as an abstract nosological entity⁵.

This aids the understanding of medical concepts since these are presented in all their complexity and critical analysis is favoured. Accordingly, the cinema becomes a good vehicle by which students can

construct and further bolster their own knowledge⁶.

The strategy used here was supported by a showing of the film entitled *And the Band Played On* (1993) by Roger Spottiswoode as a transmitter of contents related to general virology.

The film, lasting 136 minutes, was shown after an introductory class on theory, thus affording the students a minimum referential framework to be able to understand what was going on, draw their own conclusions, and consolidate their learning^{3,4}.

At the end of the showing, the students -distributed in groups of 8-10- had to answer different items referring to basic, epidemiological, diagnostic, ethical, and preventive aspects, together with the integrative concepts of the broad field of virology, taking as a basis the discovery of the suddenly-appearing infection due to Human Immunodeficiency Virus (HIV) during the eighties. In the possible cases, the students were asked to highlight whether they had observed scientific differences with the perspective of the director of the film, and to comment on the new advances made in the sphere of viral infections between the 25 years since the film first appeared and the present day. The time assigned to this activity was



90 min. At the end, talk was opened up to group discussion, the instructor acting as moderator of the different contributions and orienting the debate.

Results

An excellent communicational atmosphere was generated.

The construction of learning skills was based on the interaction among students, while the instructor simply served to “spark” and coordinate their interventions.

Students’ knowledge acquisition was fostered.

The participants stated that the way in which the theoretical-practice approach had been presented was innovative, and they expressed positive observations concerning this instrumented teaching mode.

Conclusions

Motivation is important in all spheres of learning, since this is what upholds the whole process. In the relationship between motivation and learning, it is considered that intrinsic motivation or interest in the task is intimately related to deep focusing².

Audiovisual techniques -among them the cinema, with its incomparable representation capacity- offer one of the most powerful methods for the transference of knowledge, the development of skills, and the creation of positive attitudes towards learning. The showing of films acts as a motivating element, although a detailed analysis of the issues addressed is essential in the latter part of such instruction; this can be enriched through debate and colloquia. The observation and analysis of films develop professional competencies that involve both the mobilization of students’ knowledge and their reflections about it^{3,4}.

In our case, this activity allowed us, like other authors, to present epidemiological aspects, together with issues related to clinical matters, diagnosis, evolu-

tion, prognosis, therapy and preventive aspects, as well as allowing us a better approach to the history of the discovery and description of new pathologies^{3,4}.

The advance in pedagogy addressed here demanded a creative selection and a novel organization and use of resources.

Thus, we are in agreement with those who hold that the cinema is an active and dynamic teaching resource (students must collaborate in the achievement of the goals set); it is pertinent to our times (concordant with educational programs), and it combines efficacy (the ability to reach the proposed aims) with efficiency (... in the simplest way possible)^{3,4}.

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