

# Using the Movie *Awakenings* (1990) to Evaluate Learning in the Biology Degree Program at the Universitat Pompeu Fabra. Ten Years of Experience

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## Summary

This paper narrates the experience of using the movie *Awakenings* (1990) as an important basis for final assessment in a beginner's course for biology students at the Universitat Pompeu Fabra. From the results obtained, both the evaluation of the course and the use of the film have been positive, supporting the use of commercial movies in university education.

**Keywords:** Cinema, Education, Assessment of learning, Biology students.

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## Background

The Faculty of Health and Life Sciences of the Universitat Pompeu Fabra (UPF) in Barcelona was created with the intention of offering courses in both medicine and biology. However, as a result of various circumstances only the biology degree program was initiated, although it was focused on human biology and exclusively with a biohealthcare orientation. In the academic year 1998-99 an innovative education project was initiated, characterized by the encouragement of active learning, extensive practical training, and a final course/year of professional work-study programs<sup>1</sup>. The limited number of students – 60 per course – made it possible for the students to be very motivated (first choice) and, from an academic point of view, brilliant ones (with average grades of 8 and above in university-access courses). The success of the project, which has been given several awards for teaching innovation by authorities in the Catalan autonomous government and by the Ministry of Education and Science<sup>2</sup>, has been a determining factor in the decision made by the UPF to initiate a degree program in medicine next year.

The biology program at our university has often used commercial movies, among other innovative educational experiences, as an aid to encourage learning in various courses in the curriculum<sup>1</sup>.

We have been using commercial movies with educational objectives both with medical<sup>3</sup> and biology students for several years, especially in psychology courses.

The aim of this article is to narrate the experience of the use of the movie *Awakenings* (1990), by Penny Marshall<sup>4</sup>, to assess what students have learned in the first college course that UPF biology students have contact with.

## Our experience

Students begin their studies with a course called “Introduction to Biology”. It is a subject that was not included in the biology curriculum, but which is taught in the first two weeks of the first trimester. This course was designed with the objective of introducing students to the university's educational plan, explaining its teaching and human resources and

Table 1. Examples of questions related to the movie *Awakenings* used in the final exam of the course “Introduction to Biology” of the UPE.

Before his contact with the hospital, Dr. Sayer (Robin Williams) conducted ..... research  
Later, with the group of encephalitis patients, his research was ..... because:

Was the informed consent referring to Leonard’s (Robert de Niro’s) treatment before he was  
“awake” correct?

Public health research seeks indicators of population groups and not of specific individuals. Has a  
scene in this movie reminded you of this type of research?

enhancing their motivation for biology. This subject consists of a series of lectures given by the heads of research groups who will then be the professors responsible for the curriculum courses. It has been headed by the Dean of the faculty and the author of this article, and students receive three ‘free elective’ credits for this course.

In this case a movie is used as a teaching aid to carry out the final evaluation of the course. The last activity of the teaching process consists of watching the movie *Awakenings*<sup>4</sup> in the usual classroom and within the programmed classtime. One or two days after watching it, (never more than two days), the students are given a written short-answer test on the contents of the course. Over half of the questions on the test refer to the relationship between the movie and the contents of the syllabus.

### The film chosen and the exam

The film chosen has two characteristics that are keys to fostering learning: first, it is very appealing and entertaining, and second, its plot conforms to the subjects taught in the course.

*Awakenings* is, indeed, a very popular movie, with well-known actors, and based on the true story of a neurologist who decided to conduct a complex experiment on his encephalitis patients. Jimenez<sup>5</sup> has recently written a detailed description of the plot, the patients’ illness, the drug used to treat the illness, and other aspects related to the doctor-patient relationship and medical ethics. Besides its cinematographic appeal, the movie is related to various subjects explained during the course, such as biomedical research, public health, health-related professions, and bioethics.

In order to evaluate the course, a test consisting of 20 questions – either short-answer or fill-in-the-blank – was given on the contents of all the subjects included in the course. Half of them referred to the movie, especially questions related to research (types, stages of clinical trials, or financing). There were also questions on public health, professionalism, and on ethical aspects of health professionals. Table 1 gives some examples of exam questions.

### Evaluation of the experience

The results of the evaluations have been very positive in that all the students have always exceeded the usual standards, and higher grades have been predominant. Over these ten years of experience, the percentage of students with a grade above 7 (on a scale of 10) has varied between 64 and 98%.

Because of these good academic results, which have acted as a stimulus for newly-arrived students, and the type of activity that it is, this course has been highly rated by the authorities at our university and has been considered a model activity for new students so they can better adapt to the university and to the educational project of the centre.

With respect to the activity itself of using the movie, this activity has also been highly rated since it has been considered very satisfactory by students and it has been accompanied by the above-mentioned academic success. We feel that the movie is a homage to biomedical research and to the professionals involved, which helps our students to understand its importance in promoting people’s health. We would like to point out that this movie has often been cited in the *Journal of Medicine and Movies* for its educational potential<sup>5, 6-9</sup>, and

it has also been very highly regarded for the teaching of pharmacology to medical students<sup>10,11</sup>.

Recently, in a study unrelated to this article, we have reported that the academic results achieved in this beginning course, where the movie acts as a basis for evaluation, have a positive and significant relationship with the final academic results of the students. This reinforces the positive perception that we had of this course activity in general, and of the use of this movie in particular.

Finally, we believe that the specific experience discussed here, which we have carried out for ten years, confirms the potential of using commercial movies in university education, and particularly in the health sciences.



USA poster with the two stars of the movie in a sequence

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