

Marketing Earth Science Education*

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In the 1990s, Utrecht University's Department of Earth Sciences struggled with a declining influx of students. For years, the department at the Netherlands school had been active in promoting its program, but this was not sufficient to stem the decline in interest. To remedy the problem, the school's Earth science faculty carried out a qualitative evaluation of its promotional activities with the help of consultants. The faculty feared that its self-image might conflict with the image others held. The consultants interviewed high school students, parents, teachers, and study advisors in high schools. Here we report on the evaluation that was carried out for the Department of Earth Sciences at Utrecht University.

Why choose Earth sciences?

* Many of the faculty members who now work now in the department chose their field because of an interest in the Earth sciences. The driving force for the present generation of prospective students is different. Today, future prospects for a successful career is the major motivation when choosing a field, and the perceived success of a career is usually measured in terms of its financial rewards.

A few students choose their field because they had a particularly inspiring teacher in secondary school. In general, however, students do not choose a field because it is interesting or socially relevant. This observation was in strong conflict with our attempts to attract students by trying to convince them how interesting and socially relevant the Earth science are! Most of the potential students were not familiar with the Earth sciences. Many students equated the Earth sciences with physical and social geography. Because of the poor reputation of these fields among high school students, the Earth sciences were seen as an unattractive option.

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The image of the Earth sciences

The people interviewed were asked about their image of the Earth sciences. They usually identified the following as attractive features of the field. "The Earth sciences offer an interesting mix of indoor and outdoor activities. Its outlook is international." Some noticed the multidisciplinary aspect of the Earth sciences and viewed this as attractive. These positive images of the Earth sciences were by far outweighed by the following negative impressions. "The job opportunities are poor and confined to research positions. Other career options are limited to oil companies that continuously lay off personnel. Earth science students are nerds." Most shocking was the image of the Earth scientist: "The Earth scientist is male; he is single or married to a partner who shares his interest; he is a devoted researcher unaware of what happens in society; he does not care about his appearance; he is ambitious and idealistic."

Promotional material

The respondents in this study were asked about promotional material that the faculty used. The present generation of students read material superficially, which means that the design must be catchy and an overload of written information must be avoided. The distinction between different sub-disciplines such as geochemistry, geophysics, and hydrology within the Earth sciences is confusing and makes the field less attractive. Students like spectacular images—for example, of volcanoes—but realize that not all Earth scientists work on these topics. Students liked to see images with computers and an Internet address of the department because of the tie to information technology. They noted, however, that the persons who could be seen in these pictures working on these computers looked like "nerds." Having a beard is sufficient to qualify one as a nerd, in the opinion of many respondents.

Recommendations

The survey's findings thus indicated the following problems:

- the department tried to convey how interesting the earth sciences field, is while today's students are primarily interested in career opportunities;
- a clear image of the Earth sciences is lacking among prospective students; and
- Earth scientists are not a group to which students would like to belong.

These findings have led to the following recommendations for improved recruitment: do not promote the field primarily by pointing out how interesting or relevant it is; instead, focus on career opportunities. Make students aware of the broadness of the Earth sciences, the financial aspects of a career in the Earth sciences, and the various commercial opportunities that exist in addition to a career in research. (A dialogue between universities and the oil industry may be needed to shed the latter's negative image as an employer.) In addition, highlight the aspects that are viewed as attractive. These include the opportunities for fieldwork, the multi-disciplinary aspects, teamwork, and the dynamic and international aspects of the field. Inform people about what the Earth sciences are; most people don't know. Write articles for popular journals, visit primary and secondary schools, and work with secondary school teachers to incorporate aspects of the Earth sciences in their teaching. Finally, geoscientists need to shed the "nerd" image. Attention needs to be paid to appearance: dress as modern professionals rather than greasy scientists, and shave off those beards! Show examples of Earth scientists with successful and important careers. And provide female role models.

Follow up

As a result of this study, the faculty worked hard to provide students with more specific information about career opportunities, and the promotional material was redesigned and simplified. A huge poster was made that listed employers of students who had graduated. People were amazed by the breadth of career opportunities! In addition, the faculty realized that other Earth science departments experienced the same problems, so rather than compete with them for the few remaining students, a collaboration was begun to attract more students to the Earth sciences. At this point the new approach seems to be paying off. At Utrecht University, Earth science is the only scientific field that has seen a yearly growth of about 10% in the influx of students during the past 2 years.