

## Graduate schools' activities

The graduate school system went into operation at Finnish universities in 1995. The impetus was provided by an international survey of science and technology policy in Finland. The system received permanent status in 1999. Studies conducted at that time indicated that graduate schools' activities were mostly considered positive. The present audit concerns the effectiveness of graduate schools' activities according to specific criteria.

Finland's graduate schools are programmes which lead to a doctoral degree. They are fixed-term programmes selected on the basis of competition in which students are meant to complete a doctoral degree in four years.

Graduate schools' activities are based on the principles and policies in the Government's development plans for education and research. Postgraduate education is also mentioned in the Act on the Development of Universities, according to which the universities should cooperate in arranging this type of education. The University Act does not mention graduate schools.

The Ministry of Education issues a decision concerning graduate schools for four years at a time on the basis of an assessment by the Academy of Finland. The Ministry of Education's decision, which is by nature a decision in principle, grants funds to graduate schools for the first year. Funds for subsequent years are included in the university's operating expenses without a separate decision.

The funds granted to graduate schools are used to pay students and in some cases coordinators. On the basis of the Ministry of Education's decision, a total of 138.8 million euros (FIM 825 million) was granted for this purpose in 1998-2002. Graduate schools' course expenses are financed by the Academy of Finland. Graduate schools have helped the universities obtain outside funding for research activities.

In autumn 2002 there were 108 graduate schools at Finnish universities. These had a total of 1,177 full-time students financed on the basis of the Ministry of Education's decision. They also had 2,858 full-time students financed in some other way. So a fifth of the approximately 20,000 students working on postgraduate degrees at Finnish universities are in graduate schools.

Doctoral programmes have also been created as a result of graduate schools. At the time of the audit there were 19 such programmes with 400-500 full-time students at Finnish universities. Doctoral programmes mainly operate on the basis of university financing.

Students at graduate schools operating on the basis of the Ministry of Education's decision are selected by the board of the graduate school together with the director of the graduate school. Although a graduate school has its own administration as required by the Ministry of Education, graduate schools are part of universities' official activities.

Graduate schools' students may work in university departments but they often work in separate research units operating in connection with a university or within its sphere of influence. Graduate schools are characterized by networking. A graduate school generally involves cooperation between

different universities, with each university taking charge in turn. Graduate schools often have a coordinator to take care of network contacts.

The goal of graduate schools' activities is to improve the quality of doctoral degrees. Criteria have been set for this purpose, such as the rapid completion of degrees, the completion of degrees at a young age, a multidisciplinary approach, cooperation and internationalism. The audit indicated that these objectives have been achieved well. Students in graduate schools generally complete their doctoral degree at a younger age than those following other paths. The effectiveness of activities has been promoted by what has mainly been considered good instruction and guidance as well as good working conditions.

Most graduate schools operate in the field of mathematics and science.

A total of 1,002 students receiving funds on the basis of the Ministry of Education's decision completed doctoral degrees in 1998-2002. During the same period 1,103 students in other postgraduate programmes completed degrees, with 168 in doctoral programmes. A total of 5,738 doctoral degrees were awarded in Finland during this period.