



Summary of VA studies, 2004

All groups want better dialogue!

During 2004, Vetenskap & Allmänhet investigated what the public, teachers and researchers think about science and science dialogue. Below is a summary of the six studies in this area. The studies (VA reports 2004:1 -6) can be found on VA's website.

Research solves problems!

Swedes have a high level of confidence in research. So do Americans, but Europeans in general are less positive. Eighty-five percent of Swedes consider that scientific and technological developments make life better for ordinary people. This has gone up from a figure of sixty per cent twenty-five years ago.

But the level of trust varies between research areas. Nearly all Swedes believe that research can help cure serious diseases. Seven out of ten Swedes believe that road safety can be improved through research. Only forty per cent believe that climate change can be slowed down, but eighty five per cent consider it important to support research into efficient, environmentally friendly energy sources. However, only one in ten people consider knowledge of modern history to be important.

A third of respondents believe that researchers should only carry out research which may yield useful results. Most people believe that research is important for improving our quality of life, our health, schools and safety issues. However, only six out of ten people believe that research plays a significant factor in economic growth.

Difficult – but still easier

It is difficult for ordinary people to understand science and technology. That is the opinion held by seventy per cent of Swedes. But it seems that it has become easier - the proportion considering it to be difficult has decreased from eighty-one per cent in 2002.

There is some variation in what people consider to be "scientific". The vast majority sees medicine and biology as clear scientific disciplines, but there are doubts about economics and history. Worryingly, two out of ten people – and thirty percent of young people - consider astrology to be scientific. It is hardly encouraging to learn that the proportion is even higher within the EU in general, and in the new member states in particular.

Level of education the most significant factor

Attitudes towards science are strongly connected to levels of education. More highly educated people generally have greater confidence in research and in researchers.

It is evident that young people are more sceptical than the average Swede. They are more reluctant than older people to support funding into research. And young people and women have a lower confidence overall in researchers and research. Factors such as where people live, their income or their occupation are less significant.

Teachers are like most highly educated people

In general, teachers share the same attitudes to science and researchers as the more highly educated members of the public. For example, they share the same opinions with regard to confidence in researchers, what research areas are important to support, and judgements about what areas are scientific. Astonishingly, a greater proportion of teachers consider astrology to be scientific than in the public in general.

As might have been expected, teachers agree with the statement that "science and technology are too difficult for most people to understand" to a much lesser extent than the general public. It is however worth remarking that every other teacher *agrees* with this statement to some degree.

Teachers are interested in research – but current knowledge less important!

Every other teacher thinks that both the overall interest in science and the demand for teachers to follow scientific developments have increased in schools. Seventy per cent consider it valuable for teachers to have their own experience of research, and a half would consider embarking on PhD studies themselves. Practically all regard it as important that students themselves learn how to find knowledge and to critically review their sources. It is not however thought to be as essential to differentiate between knowledge and information.

The majority of teachers sometimes read articles on science, or watch popular science programmes on TV. The internet is seen as an important source of information for both teachers and pupils, whereas study visits or guest lecturers are less frequent.

Six out of ten teachers are of the opinion that it is possible to be a good teacher without keeping abreast of developments in your own subject area. In addition, seven out of ten teachers believe that you do not need to follow research in education to be a good teacher. Secondary school teachers who teach science and technology are the most enthusiastic about following and using research results in their teaching.

Schools and science: two different worlds?

Three quarters of teachers think that science is too abstract to fit into teaching in schools, and that educational research rarely deals with questions relevant to actual classroom teaching. Teachers have many suggestions about what problem areas they need more knowledge about.

Teachers clearly express their desire to have increased contact with researchers through guest lecturers and seminars, as well as written materials. But there is also a need for a simpler language, understandable to lay-persons and young people, and for new ways of making contacts. At the same time, teachers stress that the main responsibility for the use of new knowledge lies with the teachers and school authorities themselves.

Both the system and the culture create barriers to researchers

The public as well as teachers are interested in contact with researchers. The overwhelming majority of researchers regard dialogue with the society around them as both stimulating and important. Yet far too few devote time to such meetings. The barriers to more dialogue taking place can be found within the academic structure and culture.

The most important issues are:

- There are no incentives or benefits for academics who engage with the public, either professionally, or in the allocation of funds
- There is a lack of resources for contact and communication with society
- Research financing bodies take little account of contact with society when evaluating proposals
- Researchers often feel that they do not have the adequate skills to communicate effectively with the public, and some are worried about talking to journalists.