

The quest for innovation's holy grail

Our guest, Prof. Elżbieta Mączyńska, writes about complex issues of reforming the realms of education and science.

THE US PHYSICIST and Noble Prize winner Kenneth G. Wilson, who presently campaigns for a reform of the educational system in the US, when asked what is more difficult—to win a Noble Prize or to reform education, said winning a Nobel Prize is easier because in reforming education “we proceed blindfolded.” This opinion was featured in a Wilson interview entitled *Why your child is not going to win a Nobel Prize*. This is a very important opinion because it underlines the complexity of the intersections between science and education.

Education targets people from different walks of life who have different cultural and family backgrounds and different talents. Educational programs are supposed to have positive impact on them but sometimes they may negatively affect their careers as well as their families and relatives. Any reform of the educational system is a surgery performed on a living organism and thus its authors, as well as all those who implement the reforms, have to take a long-term responsibility.

When education and scientific research are carried out along too formal lines it all leads to shifting the real creative talents of the people involved in the projects into the fields of reporting and bullet points which eventually dwarfs the real innovative work. Writer Antoni Libera was right when he said in an interview that we live in an era of “a giant make-believe”. Trying tirelessly to emulate the West we follow trends and fashions which often takes is a distant and rather pitiful caricature of the original. Sometimes we take such solutions that the West has already abandoned. Prof. Andrzej Walicki in his article *Dangerous misconceptions in science* points out to such problems. Prof. Walicki is an experienced scientist and teacher who



knows many scientific institutions in the West and who warns us against thoughtless emulation. He says that “In serious scientific circles in the US the so-called Citation Index is subject of jokes or purposeful omissions, because it is known that the struggle to get as many citations as possible is an inexhaustible source of corruption and pathology.” So, the issues of the cooperation between education and science require steps to prevent threats and misappropriations.

One of such problems is the waste of the creativity of scientists, researchers and teachers who face the meanders of regulations that are increasingly complex and unclear. A threat in itself comes from the ever-growing institutional structures of science which inevitably leads to boosting bureaucracy. Education and scientific research

are not an assembly line. They should not be about putting highly standardized portion of knowledge into intelligent heads. The system should be redesigned so it stimulates creative thinking in approaching problem-solving. This, in turn, requires individual solutions, because as Albert Einstein put it, imagination is more important than knowledge, because knowledge, contrary to imagination, has always its limits.

Lester Thurow said in his extraordinary book *The Future of Capitalism: How today's economic forces shape tomorrow's world*, that “a very uncertain investment,” because the gains from the education, if reflected by a function graph, take the shape of “U”. First, the gain is big because when the education process starts it teaches importance skills such as reading and writing. The other high point of the “U” reflects the relatively huge benefits of being “distinguished from the crowd”. But in the middle lies the bottom of the “U” which reflects the low point of mediocrity, which does not pay. This is why many graduates who have finished mediocre schools find it difficult to get a job.

There are yet other potentials in the IT revolution: wkinomics and macrowikinomics. Looking at education in the long-run perspective we see it may not look the way we used to know it. Management guru, Peter Drucker, noted that because of creative destruction higher education institutions may disappear altogether. What will replace them? We should look for the answer by merging quantitative analysis with holistic approach of science and education evaluation based on qualitative criteria. Albert Einstein said that “not everything that counts is countable, and not everything that is countable counts.” This quote best underlines the importance of qualitative approach to measuring the effects of science and education. However, because is complex, qualitative approach is one of the biggest challenges in the process of science and education rationalization. ::