

THE APPLICATION OF BOLOGNA DECLARATION IN THE POLISH TECHNICAL UNIVERSITIES

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Abstract - This paper presents the state of higher education in Poland in the recent years as well as the changes which have taken place as the result of economic changes in that country. The reform of education, which has been carried out in Poland, with its influence on facilitating the youth from secondary schools to study, including technical studies, has been described. The changes resulting from transition from exclusive to mass education at higher level, including accreditation of studies specialization, introduction of three-stage, flexible system based on ECTS, in accordance with Bologna Declaration has been presented.

Index Terms – The aims of Bologna Declaration, the reform of education system in Poland, characteristics of higher education, the role of technical universities

The Bologna Declaration defining the main goals of the tertiary education in Europe was initiated by 29 European countries, including Poland.

The main goal stated by the Declaration is the introduction of:

- three-level tertiary education,
- comparable credit points system (ECTS), including also permanent education,
- education quality system with comparable criteria and methods,
- comparable requirements in education through „Diploma Supplement”.

The tertiary education system is closely connected with the primary and secondary system.

In recent years Poland has been undergoing essential transformation of educational process, including all stages from primary school to higher education. The previous model was based on compulsory education at 8-year elementary school. After that students could continue study at 4-year secondary school, 5-year technical secondary school or at 2-year vocational school. Both secondary and technical schools finished with a - level final exam, which allowed students to enter Universities. The vocational school did not give such opportunity because they were mainly affiliated at big factories or companies and were provide training for future skilled workers.

Ten years ago 70% of young people left vocational schools so only 30% youngsters had an opportunity to study. On the other hand the great number of young people who completed

their education at secondary school or technical secondary school or 2-year post-secondary school, started work. Hence relatively small number of young people decided to study.

High school education rate of 19-24-year-olds generation in 1990 was only 12,1%.

Due to this drive for knowledge the proportion between students taught in vocational schools and grammar schools, technical secondary schools changed rapidly.

Towards the end of the 90-s as much as 70% of students took their A-level final exams and only 30% attended vocational school.

Different approach to the role of education demanded of some necessary organizational and substantial changes, which resulted in introducing the Reform of Education. That reform involved mainly primary school and secondary school, three-stage system was introduced. It consists of:

- 6-year elementary school,
- 3-year grammar school which is obligatory for all the youths
- 3-year profiled secondary schools where about 80% of young people are provided with education.

The other 20% is to attend 2-year vocational school to be train for different jobs.

Educational system in Poland gives opportunity of studying at the following types of schools:

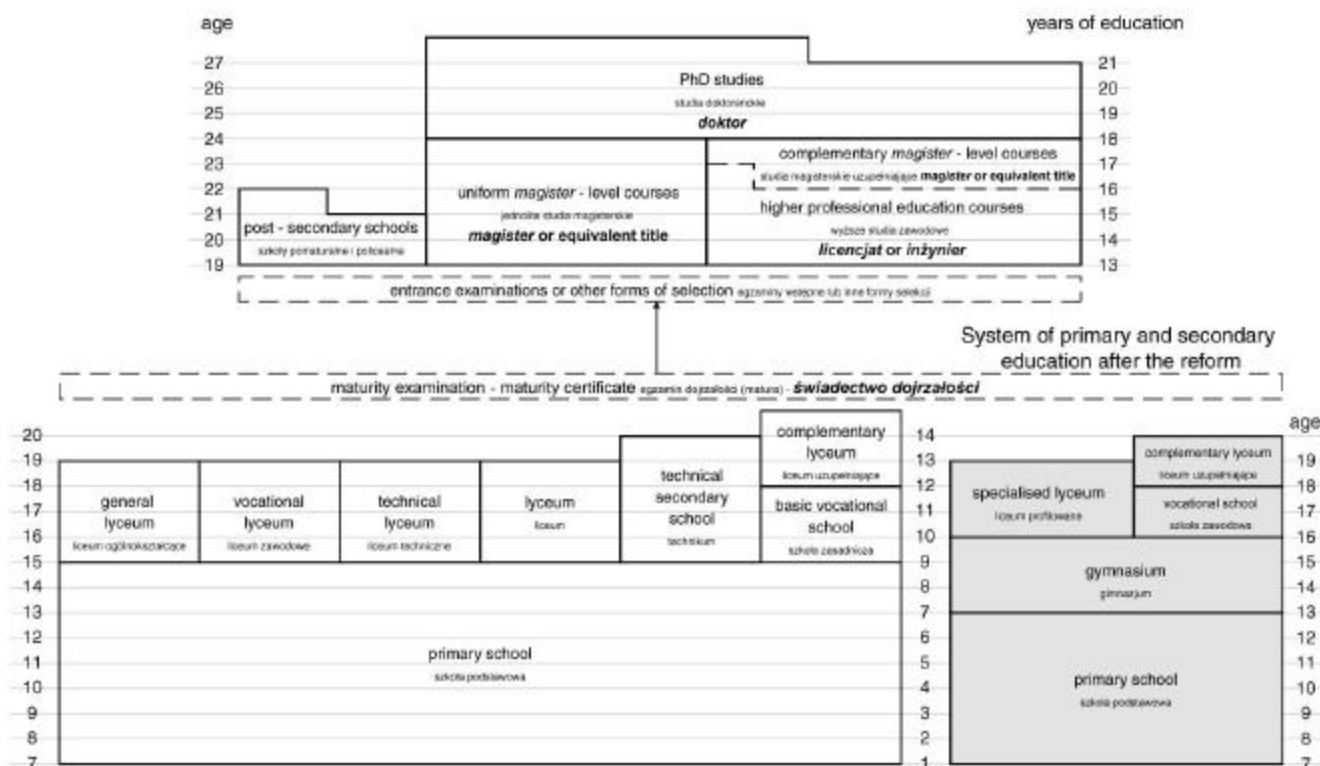
- Universities,
- University of Technology,
- Pedagogical High Schools,
- Agricultural High Schools,
- University of Economics,
- Medical High School.
- Physical Education High School,
- University of Art.

Until 1993 High Schools were financed by government and they carried out equal syllabus for MSc and Phd courses. In relation to significant growth of interest in higher education, there were established private high schools offering courses in economics, management, foreign languages at BA level. At the moment there are 120 State High schools and 191 private High schools.

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At state High schools 1020,3 thousand students are studying and in private High schools there are about 400 thousand students.

The education system in Poland - structure



DYNAMIC OF GROWTH IN NUMBER OF STUDENTS AT STATE AND PRIVATE UNIVERSITIES

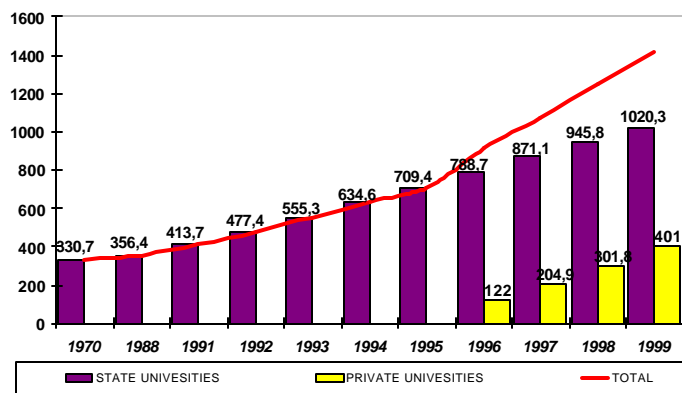


Figure 1. Dynamic of growth in number of students at state and private universities

The greatest number of students attend 17 Polish Universities including the oldest The Jagiellonian University with its over 6- hundred- year tradition and the youngest The

Warmińsko- Mazurski University which was founded in 1999.

According to a recent survey, Polish young people, unlike their counterparts in Western Europe who favor university education as such, prefer to get a real profession by studying at a technical university.

NUMBER OF STUDENTS AT STATE UNIVERSITIES 31st December, 2000

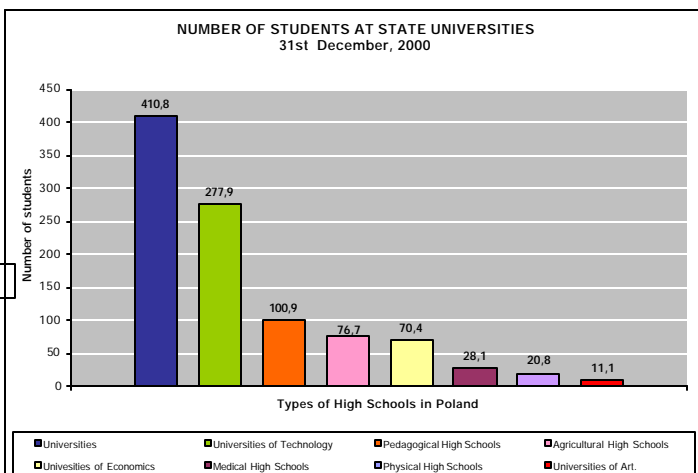


Figure 2. The number of students at state universities

Changes of interest in tertiary education was not only a result of newly created opportunities of making money in the free market economy, opening the Polish borders for imported products, but also of a release of tremendous social energy involved in the activity of the Solidarity Trade Union. Furthermore, decreased popularity of university education was also spurred by an erroneous conviction prevailing in the Polish industrial circles, that industrial production could be sustained for a long time on the grounds of the technology at hand only. The Polish industry was not interested in new technologies, and, consistently, there was a lesser demand for engineers. Fortunately, in the face of the new economic reality, it turned out that the better-educated people were the more chance they had to get a better job. At the same time, as the market was stabilizing, it was more and more difficult to make fast and easy money. Since that time, a rapid growth of the popularity of university education has occurred, and the number of university students has increased from 400 thousand in 1990 to 1 400 thousand to date. This trend has also been observed at the Silesian University of Technology, where the number of student has trebled.

The Silesian University of Technology is one of the biggest technical universities in Poland. It consists of 11 faculties, which offer courses in 29 engineering disciplines covering almost all industrial interests. More than 28 thousand students are being educated here among whom 7 thousand are students of the evening courses.

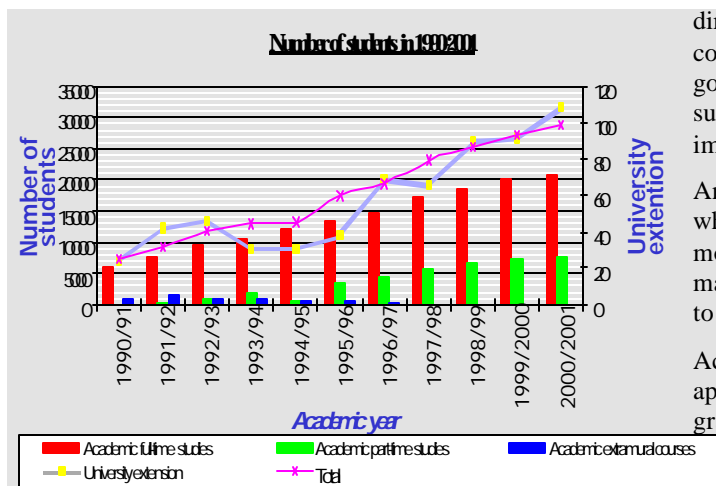


Figure 2. The number of students in 1990-2001

We have also more than 700 Ph.D. students. 1900 teaching staff including over 300 full-time professors employed at the Silesian University of Technology, who do research work. The combination of those factors produces huge research and didactic potential.

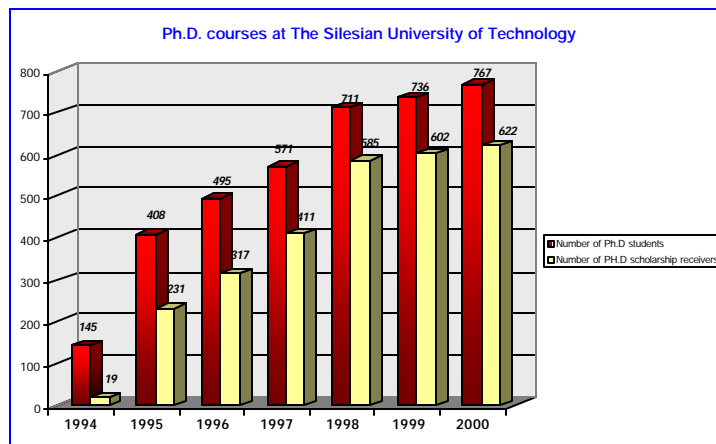


Figure 3. Ph.D. Courses at the Silesian University of Technology

Offering courses in 29 engineering disciplines, of which 22 are in different fields of science, practically covering the whole domain of industrial interest, the Silesian University of Technology has an important role in restructuring processes. First and foremost, we provide well-qualified engineering staff for the expanding automotive industry, food manufacturing and processing industry, banking sector, and other fields of economic activity. At the same time, representatives of the University participate in the decision-making bodies and thus exert a strong influence on the directions in the development of the region. Because of the cooperation with the industry and close contacts with local governments it is easy to translate their needs and suggestions into the process of university teaching, which improves the quality of university education.

Another aspect of the problem involves the changes in the whole Polish economy, where the subjects are more and more aware of the economic calculation, and the necessity to manufacture goods, which can be sold on the market, seems to be a priority.

According to the opinion poll carried out among employers, apart from knowledge, general knowledge in particular; the graduate should be characterised by the following:

- creativity,
- ability to work with people,
- willingness to analyse and develop the already accumulated knowledge and skills,
- ability to speak foreign languages and use computers,
- knowledge involving the fundamentals of economy and marketing.

The creation and development of such qualities requires that the whole education process is approached in a totally different way. Assuming (according to the data published by

the British Audio-visual Society) that an average student can remember

- 10% of what he has read,
- 20% of what he has heard,
- 30% of what he has seen,

but

- 80% of what he has said himself

and

- as much as 90% of what he has said and done at the same time.

New educational methods should be focused on principles where the student solves the problems he is facing by himself. In new teaching programmes introduced now at the Universities of Technology in Poland the emphasis is placed on collective elaboration of problems and discussion at seminars. Through establishing numerous contacts with the industry and local authorities, we present students with real work environment, which they may experience in their future careers, organising training courses where students collectively solve real problems. The programmes are supplemented with economical and humanizing elements.

For many years Polish students were not sufficiently motivated to learn foreign languages, which together with the ineffective system of foreign language teaching in schools contributed to their poor level of foreign language acquisition. Therefore, apart from regular compulsory language courses at the University, students may attend additional language courses sponsored by the industry. Hence, a considerable number of students can take advantage of international student exchange programmes such as "Socrates", or they can continue their studies abroad. New possibilities of students' exchange between universities create serious problems connected with curriculum and ways of teaching equivalence in different countries. The creation of European Credit Transfer System (ECTS) allows to determine the amount of work taken up by a student not only at his home university but can reflect his commitment to the learning process also at other universities. That is why introduction of this system facilitates students' exchange between universities and therefore all technical universities in Poland introduced uniform, flexible, three-stage system based on ECTS.

Introduction of 'Diploma Supplement' will form an additional element, which apart from graduation diploma will give broader information on a graduate, his university and education system in Poland. Recently the Ministry of National Education has been working out a uniform pattern of Supplement. This Supplement will be piloted first at a few universities, including Silesian University of Technology.

Other issue here is the creation of mechanisms that will assure proper quality of education at the higher level in a situation when higher education is no longer destined for the privileged only but covers at least 40% of the youth.

It seems that introduction of general system of accreditation will be a good solution to this problem. So far no state office dealing with accreditation issues has been established although such necessity is widely discussed.

Realising the necessity of internal self-evaluation of particular courses, universities voluntarily open accreditation boards. Two years ago University Board of Accreditation was set up and this year the Conference of Rectors of Technical Universities in Poland has set up Accreditation Board of Technical Universities. Other types of universities are also preparing for setting up this kind of boards.

Accreditation Board of Technical Universities aims at:

- improving the quality of education
- creating clear and univocal procedures of evaluation of conditions and methods of education and studies curricula, including the systems used in other countries, especially in EU
- establishing conditions facilitating domestic and international exchange of students
- promoting studies which comply with high quality standards

Accreditation Board of Technical Universities operates by accreditation of courses of studies, setting standards which include the following elements:

- university mission
- qualification and the number of staff
- organisation of didactic process
- students
- didactic infrastructure
- administrative service of a university
- the system of assurance of education quality
- domestic and international cooperation
- characteristics of research

Cracow Charta, which was signed on 1st Oct. 2000 by all rectors of universities, consolidates beneficial changes in Polish higher education.