

PROFILES OF SPECIALIZATION IN THE ROMANIAN HIGHER EDUCATION DURING COMMUNISM. THE IMPORTANCE OF THE MECHANICAL PROFILE¹

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ABSTRACT

IN THE ROMANIAN COMMUNIST REGIME THE HIGHER EDUCATION SYSTEM WAS MODERNIZED AND DEVELOPED, ALTHOUGH ALL IT WAS MADE WITHIN THE CONFINES OF THE COMMUNIST LEADERS' CONCEPTIONS ABOUT PROGRESS OF SOCIETY AND ECONOMY. AN IMPORTANT MILESTONE IN THE HISTORY OF HIGHER EDUCATION IS THE CREATION OF PROFILES OF SPECIALIZATION IN 1974, PROCESS PREPARED PREVIOUSLY THROUGH DIFFERENT DOCUMENTS AND SUSTAINED WITH NEW MODIFICATIONS AFFECTING PROFILES AND SPECIALIZATIONS IN THE FOLLOWING YEARS. THEY ARE AS IMPORTANT AS THE PROJECTS FOR NEW PROFILES AND SPECIALIZATIONS PRESENTED AND ANALYZED IN THIS ARTICLE. IN ADDITION, THE HYPOTHESIS THAT THE MECHANICAL PROFILE WAS THE MOST IMPORTANT PROFILE OF SPECIALIZATION, WILL BE INVESTIGATED WITH THE HELP OF NUMEROUS DOCUMENTS AND STATISTICS, PROVIDING US NEW INFORMATION ABOUT THE DEVELOPMENT OF HIGHER EDUCATION.

KEYWORDS: HIGHER EDUCATION, STATISTICS, PROFILE, SPECIALIZATION, STUDENTS.

After 1948 the Romanian higher education was confronted with the communist political pressure and influence in a negative, but also in a positive way. Among the bad influences we mention the purge of teachers that were not sharing the communist political views, the 'suffocating' political propaganda present in the educational act, the 1980s period with much emphasis on specializations with industrial application while at the same time other types of higher education were on a steep decrease trend, but among the positive influences we mention the increased number of students, of institutions and specializations, with an overall modernization of the higher education.

Starting from 1974, a new form of organization in higher education was adopted: profiles of specialization. In total, 36 such profiles were created, each amounting one or more specializations³. A drawback of the adoption of these profiles is that it aimed at a reduction of the number of specializations and in this way, an ease of the financial pressure over the state

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³ State Council Decree (DCS) no. 147 from June 5, 1974 privind nomenclatorul profilelor și specializărilor din învățământul superior, precum și instituțiile și facultățile din sistemul Ministerului Educației și Învățământului.

budget. On the other hand, this measure can be seen as an attempt to organize better the further development and modernization of higher education.

No matter its effects, since this form of organization lasted 15 years in communism⁴, by finding more about it we can find more about the higher education in this period. Therefore a presentation of the profiles from higher education will be done and also will try to find out which profile of specialization was the most important. For the first part will employ mostly archive sources, but for the second part, the statistics will play a major role.

Although it is worth to note that communist higher education is not such a well researched subject, we have to mention the works of Jan Sadlak⁵ and Andrei Florin Sora⁶ for their important focus on specializations, among different monographs or collection of documents for the higher education.

THE DEVELOPMENT OF PROFILES OF SPECIALIZATION IN ROMANIAN HIGHER EDUCATION

Chronologically, after the laws of education from 1948 and 1968, the next important moment was the creation of the profiles of specialization. It happened in 1974, when the following profiles of specialization were adopted: mathematics, physics, chemistry, biology, geology, geography, history, philosophy, psychology, pedagogy, philology, physical education, legal sciences, mechanical (construction of machinery), textiles, electrical, food industry, metallurgy, mining, oil, architecture and systematization, constructions, geodesy, forestry, agricultural, animal husbandry, veterinary medicine, economic, medicine, dentistry, pharmacy, theater arts, cinematography and television, music, fine and decorative arts, political sciences and journalism⁷. In total there were 36 profiles amounting for 124 specializations, from which 88 comprised 4 to 6 years of study.

When reading this list of profiles at least two questions arise: how did the legislator arrive at this list and is this list of profiles a reflection of the society's needs?

For an answer to the first question many more researches need to be done, but is not a real finding that the list of specializations was always in a process of changing, so the list of profiles, and in the end of specializations from 1974, was not an instant creation. If from the end of 1940s and the middle of 1950s we were witnesses of a process of increasing the specializations, after 1955 has started a slowly process of reduction of specializations, somehow diluted by the "assault" of pedagogical specializations⁸. Then, after 1970 a more

⁴ In 1977 the legislative act for adoption of profiles of specializations received some modifications DCS no. 209 din July 12, 1977 pentru modificarea anexelor nr. 1 și 2 la DCS nr. 147/1974. All specializations functioned under the subordination of the Ministry of Education and under other corresponding ministry/institution, depending on each specialization, as established since 1971 (Section of National Central Historical Archives-SANIC, Fund CC al PCR – Secția Cancelarie, 105/1971, f. 103-114). The allocation of graduates was also done by different ministries and other institutions (Archive of Ministry of Education-AMed, 467/1975).

⁵ Jan Sadlak, *Higher Education in Romania, 1860-1990: Between Academic Mission, Economic Demands and Political Control*, Buffalo, GSE Publications, 1990.

⁶ Andrei Florin Sora, *Evoluția calificărilor din învățământul universitare românesc 1968-2011*, 2011. Available from:

http://www.invatamant-superior.ro/wp-content/uploads/2013/08/Raport_istoria_calificarilor.pdf

⁷ DCS no. 147 from June 5, 1974 privind nomenclatorul profilelor și specializărilor din învățământul superior, precum și instituțiile și facultățile din sistemul Ministerului Educației și Învățământului.

⁸ The first pedagogical institutes (three years of study) were established in 1959 in Bucharest, Craiova, Galați, Iași and Timișoara. At the same time, there were already two other similar named institutions, "Maxim Gorki" from Bucharest (later entered in the structure of University of Bucharest) and Pedagogical Institutes from Timișoara (with five years of study, transformed in 1962 in university), but with other characteristics. Between 1966 and 1968, numerous other discussions and documents (*Study regarding the Development of Education in Socialist Republic Romania*, December 1966) were done relating to, not only changing specializations, but also to the need of a new law of education (SANIC, Fund CC al PCR – Secția Cancelarie, 39/1967; SANIC, Fund

emphasized process of reduction/improvement (re)started, since from 1971 we found a clear proposal to make an act for detailing the list of specialization (especially for technical specializations), which materialized three years later, in 1974⁹:

“We propose that specialized sections to be settled by a law and directions of development by the Ministry of Education in collaboration with the beneficiary ministries”¹⁰.

In 1977 the list suffered some changes, and then, in the context of severe economical problems that were present in the Romanian society more and more, the reduction was amplified in 1986 at the same time with a similar process regarding the structure of institutions of higher education¹¹. Other projects from 1986 and 1989 would state even more drastic reductions.

Step by step in the development of the higher education system in the communist period, each measure was sustained by reasons to train specialized workforce for the different needs of the society.

Two periods for reform of the list of specializations are strongly related to the economical and especially industrial development, regarded as a main way for the development of the whole society: 1950s and the second half of the 1970s¹². The first period was quicker and lasted approximately until the end of 1950s¹³, while the latter lasted until the end of the communism.

At the time of 1989, industrial needs were still important in the process of establishing new specializations as the projected industrial robots and micro-electronics specializations prove¹⁴. Also, here we can add that even during 1980s many enterprises in the so called high-tech sciences were established¹⁵ increasing the list of similar enterprises¹⁶ and the political documents for the development of the country were also emphasizing this way of progress¹⁷.

CC al PCR – Secția Cancelarie, 103/1967; SANIC, Fund CC al PCR – Secția Cancelarie, 137/1967; SANIC, Fund CC al PCR – Secția Cancelarie, 52/1968, f. 185-191; SANIC, Fund CC al PCR – Secția Cancelarie, 110/1968, f. 204, 205, 215, 220-223; SANIC, Fund CC al PCR – Secția Cancelarie, 720/1968). An interesting situation is of specialization for sub-engineers going to studies in industrial enterprises (AMed, 330/1972; AMed, 424/1973; AMed, 229/1975).

⁹ The structure of specializations from 1974 was prepared through several other documents (SANIC, Fund CC al PCR – Secția Cancelarie, 73/1970, f. 106-117; SANIC, Fund CC al PCR – Secția Cancelarie, 105/1971, f. 65-74, 143-147; SANIC, Fund CC al PCR – Secția Propagandă și Agitație, 33/1972; SANIC, Fund CC al PCR – Secția Propagandă și Agitație, 19/1973). Very interesting is the transcript of the meeting of the Executive Committee of the RCP from May 14, 1974, around the 1974's list of specializations (SANIC, Fund CC al PCR – Secția Cancelarie, 55/1974).

¹⁰ SANIC, Fund CC al PCR – Secția Propagandă și Agitație, 11/1971, f. 69, 70.

¹¹ SANIC, Fund CC al PCR – Secția Propagandă și Agitație, 48/1984; SANIC, Fund CC al PCR – Secția Propagandă și Agitație, 39/1986; SANIC, Fund CC al PCR – Secția Cancelarie, 50/1986, f. 36, 36v, 46-52v. In 1989 another similar process was designed (SANIC, Fund CC al PCR – Secția Propagandă și Agitație, 132/1989; SANIC, Fund CC al PCR – Secția Propagandă și Agitație, 164/1989).

¹² In July 1971 there were made interesting proposals for the improvement different types of higher education, with a focus on the technical higher education (SANIC, Fund CC al PCR – Secția Propagandă și Agitație, 11/1971).

¹³ Examples of specializations that existed in 1950s and were later abolished: furnace, steel mills, foundries; electrification of industry and agriculture; welding; hydraulic and pneumatic machinery; electro-chemistry (Archive of Institutul Național de Statistică-AINS, *Analiza de sfârșit de an școlar 1953-1954. Învățământ superior*; AINS, *Situația învățământului superior la începutul anului școlar 1957/1958, cursuri de zi*). The development of specializations with 4 to 6 years of study divided in 5 periods of evolution (not on their exact establishing and abolishing years) can be found in SANIC, Fund CC al PCR – Secția Propagandă și Agitație, 47/1986, f. 37-52.

¹⁴ SANIC, Fund CC al PCR – Secția Propagandă și Agitație, 131/1989; SANIC, Fund CC al PCR – Secția Propagandă și Agitație, 132/1989.

¹⁵ Enterprise for electro-pneumatic panels (DCS no. 129 May 13, 1981), Microelectronica (DCS no. 186 July 9, 1981), Enterprise for electro technical products (DCS no. 406 December 29, 1981).

Continuing with the development of profiles of specialization, three years later after their introduction, in 1977¹⁸, their list was modified: mathematics, physics, chemistry, biology, geology, geography, history, philosophy, philology, physical education, legal sciences, mechanical (construction of machinery), mechanical-chemistry, technology and chemistry of textiles, electrical, power, technology and chemistry of food products and fishing technique, metallurgy, mining, oil, architecture and systematization, constructions, geodesy, forestry, agricultural, animal husbandry, veterinary medicine, economic, medicine, dentistry, pharmacy, theater arts, cinematography and television, music, fine and decorative arts, political sciences and journalism¹⁹.

The list remained at 36 profiles: psychology and pedagogy were out of the list, but two new profiles were introduced, mechanical-chemistry²⁰ and power profiles. Two profiles received a change in their name: from textiles to technology and chemistry of textile and from food industry to technology and chemistry of food products and fishing technique. Other two profiles, political sciences and journalism, were organized only at the Academy “Ștefan Gheorghiu” (for training of political staff). These names highlighted the orientation of the whole higher education starting from the second half of 1970s, focusing on the technical types of higher education. Also, other changes were made to the specializations that each profile comprised²¹ and to the network of institutions of higher education²².

PROJECTS FOR A NEW CLASSIFICATION OF PROFILES

The situation of profiles established in 1977 was not changed until the end of communism, but in 1986 and especially in 1989, projects were issued aiming the reduction of the profiles and specializations in the higher education²³.

¹⁶ Automatica, Electromagnetica, Electrotehnica, Electroaparataj, Electrocontact, IMSAT, Electroargeș, Tehnoton, IPRS, ELAROM, ICE and many others (DCS no. 273 September 8, 1981; DCS no. 225 July 8, 1985).

¹⁷ “Art. 7 – In the industry of machinery construction the focus will be on using the whole capacity of machinery [...], on development in a faster pace of electronics, microelectronics, of means of automation [...]” (Law no. 2 July 1, 1981); “Art. 25 – Accelerated introduction of new and re-designed products [...] in the conditions of increasing the technical level of production through the introduction of electronics and microelectronics, complex automation and using of robots” (DCS no. 318 October, 1, 1986 privind perfecționarea organizării și modernizarea proceselor de producție, creșterea eficienței economice în toate sectoarele de activitate).

¹⁸ The new structure of specializations from 1977 was prepared through several documents (SANIC, Fund CC al PCR – Secția Cancelarie, 64/1977; SANIC, Fund CC al PCR – Secția Cancelarie, 68/1977; SANIC, Fund CC al PCR – Secția Cancelarie, 71/1977, f. 35-42, 167-176).

¹⁹ In 1977 the legislative act for adoption of profiles of specializations received some modifications DCS no. 209 din July 12, 1977 pentru modificarea anexelor nr. 1 și 2 la DCS nr. 147/1974.

²⁰ The profile was introduced with the specialization equipment and chemical engineering processes (from the Faculty of Engineering Machinery and Chemical Processes in the structure of the National Institute of Chemistry in Bucharest).

²¹ For example for music profile, the 1974’s list established the specializations instrumental music, canto, musical pedagogy and composition, musicology, while the 1977’s list comprised instrumental music-music, canto-music, music and musical composition, musicology, changes made to names because the new specializations contained the pedagogy element (they also train teachers). See also Valentin Maier, *Evolution of the Artistic Higher Education in Communist Romania in the Years 1948-1989*, in “International Review of Social Research”, nr. 4/2014, 131-148.

²² For example the Institute of Chemistry (1974) was renamed National Institute of Chemistry from Bucharest, and had two faculties and many specializations from chemistry, biology (specialization: bio-chemistry) and mechanical-chemistry (specialization: machinery and engineering of chemical processes) profiles. A good source for information regarding the network of institutions remains, even today, *Admiterea în învățământul superior*, 1969-1989.

²³ SANIC, Fund CC al PCR – Secția Propagandă și Agitație, 132/1989.

The project from 1986 was presented on July 25 by Ion Teoreanu, Ministry of Education, to Elena Ceaușescu. The proposals made a serious reduction of the profiles, from 34 to 25, and of specializations, from 141 to 108²⁴. The reason for this proposed changes were: the need to better organize the profiles for a rational way of utilising the specialists in the context of a raised rate of changing and modernization of production, the classification of specialization corresponding to the “real needs of economy and culture of our country and with the requirements of technical and scientific progress”, establishing of a reduced number of new specializations “in high-end and priority domains of our economy”. The proposed profiles were the following: mathematics; physics; chemistry; biology; metallurgy; exploration-extraction; mechanical; power; electro-mechanical; electronics and automation; architecture and systematization; constructions; agro-forestry; veterinary medicine; economic; medicine; pharmacy; legal and administrative sciences; philology; social sciences; geography; physical education and sport; theater arts, cinematography and television; music; fine and decorative arts²⁵.

In 1989 two similar projects were issued. If the communist regime would not have ended in 1989, it is for sure that the project to reduce the number of profiles would have been put into action, especially when reading the *Note regarding the classification of profiles and specializations for the higher education*²⁶ and the *Documentary for grounding the reduction of profiles and specializations in the higher education*, for one of these projects²⁷.

The project from 1989 not only stipulated the reduction of profiles from 34 to 30 and of specializations from 141 to 131, but also stated numerous other changes to be adopted. Regarding the profiles of specializations, there were several such modifications. First of all, there were some profiles abolished: technology and chemistry of food products and fishing technique, mechanical-chemistry, forestry, while agricultural and animal husbandry profiles were to be united into an agro-animal husbandry profile like medicine and dentistry in a new medicine profile. At the same time the electrical profile was to be substituted by electromechanical and electronics and automatics profiles²⁸. Of course, many other changes regarded the specializations and the compositions of profiles. For example, the electrical profile and its ten specializations were to be divided among the two new profiles, that also would receive two newly established specializations: electromechanical profile (electrical engineering, electro-mechanics, traffic and the technology of transports, industrial robots-new specialization, electromechanical technology) and electronics and automatics profile (electronics and telecommunications, microelectronics-new specialization, computers, automatics, electronics, telephone-telegraphy, industrial automations)²⁹.

It is worth to note another document dated June 20, 1989: *Report regarding the progress in fulfillment the measures set by the Executive Political Committee of the Central Committee of the Romanian Communist Party with the occasion of the adoption at May 5, 1989 of the tuition plan and the number of scholarships for the year 1989/1990, for the whole education system*³⁰. In its Annexes 14 and 15 we can read a different situation of profiles and specializations, in which only 26 profiles were left to function from 34 profiles³¹.

²⁴ SANIC, Fund CC al PCR – Secția Propagandă și Agitație, 47/1986.

²⁵ SANIC, Fund CC al PCR – Secția Propagandă și Agitație, 47/1986.

²⁶ SANIC, Fund CC al PCR – Secția Propagandă și Agitație, 132/1989.

²⁷ SANIC, Fund CC al PCR – Secția Propagandă și Agitație, 131/1989.

²⁸ SANIC, Fund CC al PCR – Secția Propagandă și Agitație, 132/1989.

²⁹ SANIC, Fund CC al PCR – Secția Propagandă și Agitație, 132/1989.

³⁰ SANIC, Fund CC al PCR – Secția Propagandă și Agitație, 55/1989.

³¹ As in the last project presented, also from 1989, the political sciences and journalism were not taken into account due to their special status.

This second project from 1989 was indeed a harsh reduction of profiles, similar to that of 1986. The 26 profiles to continue to function were: mathematics; physics; chemistry; biology; metallurgy; mining, oil, geology; mechanical; textiles and leather; electro-power; electronics; architecture and systematization; constructions; forestry; agricultural; veterinary medicine; economic; medicine; pharmacy; legal and administrative sciences; philology; history-philosophy; geography; physical education and sport; theater arts, cinematography and television; music; fine and decorative arts³².

Maybe other projects to alter the classification of profiles of specialization established in 1977 will be discovered in the future, as they are as important as the “in-use” profiles.

THE STATISTICS OF PROFILES OF SPECIALIZATION

For a general view of the development of profiles of specialization in the Romanian higher education we have prepared a series of statistics, starting from 1977 and ending in 1989.

The sources for the statistics were consulted at the Archive of National Statistics Institute³³ with the addition that the data for the beginning of the academic year 1989/1990, was taken from the National Central Historical Archives³⁴.

Table 1. Students (engineers and sub-engineers) enrolled in the profiles of specialization

Profile of specialization	1977	1980	1983	1986	1989
Mechanical	29445	41737	42810	40754	44211
Mechanical-chemistry	-	1078	1118	577	-
Technology and chemistry of textiles	1664	2213	2202	2182	2730
Electrical	17629	16704	17167	17406	21091
Power	-	3034	3060	3049	3154
Chemistry	8200	10301	7995	7968	9416
Food Industry/Technology and chemistry of food products and fishing technique	1002	1296	1265	1327	1702
Metallurgy	5281	7917	6324	5157	5661
Mining	1673	3061	3502	3164	2929
Oil	938	2169	2997	2890	2194
Geology-geophysical/Geology	1270	2367	2292	1270	706
Architecture and systematization	1561	1759	1245	880	667
Constructions	14285	18054	13672	11483	10705
Geodesy	410	598	469	334	323
Forestry	2022	2163	1905	1397	1296
Agricultural	6714	5520	3457	1739	2765
Animal husbandry	3437	2555	2002	1809	1551
Veterinary medicine	1324	1480	1607	1722	2064
Economic	22725	21919	19219	15641	15493
Medicine	16591	19620	17069	14115	13334
Dentistry	2416	2523	2973	2710	2685
Pharmacy	1852	1238	1051	772	664
Mathematics	6624	3598	3339	3623	3903
Physics	3193	2053	2305	2688	2917
Chemistry	1299	1172	785	1004	1556
Biology	2871	1315	726	693	854
Geography	1116	535	406	433	422
History	2206	1058	478	489	546

³² SANIC, Fund CC al PCR – Secția Propagandă și Agitație, 55/1989.

³³ AINS, *Situația învățământului superior la începutul anului școlar, cursuri de zi, 1974/1975-1988/1989.*

³⁴ SANIC, Fund CC al PCR – Secția Propagandă și Agitație, 117/1989.

Philosophy-sociology/Philosophy	1132	541	412	380	311
Psychology	236	-	-	-	-
Philology	10828	5479	3231	2614	2973
Physical education	407	-	-	-	-
Legal sciences	7025	3863	2574	2392	2362
Theater arts, cinematography and television	289	202	162	166	170
Music	1789	962	513	373	367
Fine and decorative arts	814	1043	428	370	399

Regarding the data from the table, several notes have to be made: data appearing in table for 1977 is also for profiles that were no longer receiving freshmen; for the philosophy and philology profiles the data for 1983 is in fact from 1984, because data were not available for 1983; for biology in 1977 and 1980, physics, music, fine and decorative arts and mathematics in 1977, the data includes the number of students attending pedagogical education; all the data from the table is about clearly named profiles of specialization, not for specializations not included in a profile (for example, the specializations mathematics-physics, chemistry-physics, natural and agricultural sciences, physical education, had their data recorded under a simple category “university and pedagogical education with 3 years of study”, but not under a named profile). Finally, another mention is about statistics in general, which of course represents an approximation of what really happened in the higher education, especially the statistics in communism.

As the data reveals us, the most important profile of specialization was the mechanical profile, followed by electrical, economic, medicine, constructions and chemistry profiles. On the other hand and in an expected way, the profiles of specialization from the artistic higher education, were attended by the fewest students among other profiles.

When looking at the data we can see a significant trend of increased number of students studying at mostly all technical profiles, with a severe and overall reduction in 1986, while mostly all non-technical profiles were having a steep decrease of number of students. If in 1977 there were 29445 students recorded at the mechanical profile, in 1989, there were 14766 more students, while the economic profile suffered a decrease of 7232 students in the same period, only surpassed by the reduction from philology, with 7855 students.

Studying statistics of higher education and using other sources we can find many interesting things about the development of higher education. For now, will have a closer look at the mechanical profile, the most important profile of specialization in the Romanian higher education.

THE IMPORTANCE OF MECHANICAL PROFILE OF SPECIALIZATION IN THE ROMANIAN HIGHER EDUCATION (1977-1989)

As the majority of profiles of specialization that functioned in communism, mechanical profile was established in 1974. The mechanical profile included then the following specializations: manufacturing engineering, machine tools, hydraulic and pneumatic machines, thermal machines, agricultural mechanics, fine mechanics, technological equipment, aircraft, motor vehicles and rolling stock of the railway. All of these were introduced for training engineers, but some of the mentioned specializations (11), along with other were specially designed for preparing sub-engineers: manufacturing engineering, technology welding, precision mechanics equipment, chemical and petrochemical, machinery and equipment for construction, equipment for building materials, equipment for the industry, automotive, rolling stock for railway construction hull, naval installations on board.

From the institutions of higher education that trained specialists before 1989 in the mechanical profile we mention the following: Polytechnic Institute “Gheorghe Gheorghiu-

Dej” Bucharest (Faculty of Engineering, Faculty of Aircraft, Faculty of Manufacturing Engineering, Faculty of Agricultural Engineering, Faculty of Transport), Polytechnic Institute of Cluj-Napoca (Faculty of Engineering), Polytechnic Institute “Gheorghe Asachi” University (Faculty of Engineering), Polytechnic Institute “Traian Vuia” Timișoara (Faculty of Mechanics, Faculty of Agricultural Mechanics), Institute of Sub-engineers Reșița (specializations technology engineering and technology of welding), Institute of Constructions Bucharest (Faculty of Technical Equipment), Institute of Mines Petroșani (Faculty of Technical Equipment), Institute of Oil and Gas in Ploiești (Faculty of Technical Equipment), the Institute of Higher Education in Pitești (Faculty of Sub-engineers), University of Brașov (Mechanics), Department of Manufacturing Engineering, Faculty of Wood Processing), University of Craiova (Faculty for Electrical Engineering) and the University of Galați (Faculty of Engineering)³⁵.

In 1977, as we have already seen, some changes were made in the system of profiles of specialization. As for the mechanical profile, it was composed of 12 specializations for training engineers after introducing of technology welding machine specialization. New institutions included specializations belonging to the mechanical profile: the institutes of higher education from Sibiu (Faculty of Engineering), Constanța, Bacău, Oradea, Suceava, Târgu Mureș and University of Craiova (the specialization of equipment for the industry of building materials, this time not in the framework of Faculty of Electrical Engineering, but in the structure of the Faculty of Mechanical Engineering).

When looking at the statistics of students, without doubt the technical higher education was the most important type of higher education in Romania before 1989, although the system comprised artistic, legal, academic and pedagogical, medical and pharmaceutical, economic and agricultural types. The technical higher education was comprised after 1974 of many profiles of specializations each with many specializations. Among all the technical profiles we have to verify if the mechanical profile was the most important, employing statistical data retrieved from archive documents already mentioned.

Table 2. Percentage of students enrolled in the mechanical profile of specialization (engineers and sub-engineers) in the total number of students from the Romanian higher education (%)

Year	1	2	3
	Total students		Rate of 2 from 1 (%)
	Higher Education	Mechanical Profile	
1977	182.337	29.445	16.14
1978	190.560	34.274	17.98
1979	192.546	39.110	20.31
1980	192.769	41.737	21.65
1981	190.903	43.825	22.95
1982	181.081	43.316	23.92
1983	174.042	42.810	24.59
1984	166.328	41.710	25.07
1985	159.798	48.561	30.38
1986	157.174	40.754	25.92
1987	157.041	41.612	26.49
1988	159.465	42.147	26.43
1989	164.507	44.211	26.87
Average	174.504	41.039	23.75

The largest number of students in the Romanian higher education was recorded in 1980, 192769 students, while in the mechanical profile the peak was reached in 1985, 48561

³⁵ *Admiterea în învățămîntul superior, 1969-1989.*

students. Also, in the same year was achieved the highest proportion of students enrolled in the mechanical profile in the total number of students in the higher education: 30.38%. On average, 23.75% of students enrolled in higher education during 1977-1989 were enrolled in the mechanical profile (engineers and sub-engineers).

Table 3. Percentage of students enrolled in the mechanical profile of specialization (engineers and sub-engineers) in the total number of students from the technical higher education (%)

Year	1	2	3
	Total students		Rate 2 in 1 (%)
	Technical H.E.	Mechanical Profile	
1977	85.380	29.445	34.48
1978	96.217	34.274	35.62
1979	106.170	39.110	36.83
1980	114.451	41.737	36.46
1981	116.156	43.825	37.72
1982	112.176	43.316	38.61
1983	108.023	42.810	39.63
1984	103.923	41.710	40.13
1985	100.480	48.561	48.32
1986	99.838	40.754	40.82
1987	101.588	41.612	40.96
1988	103.471	42.147	40.73
1989	106.805	44.211	41.39
Average	104.206	41.039	39.36

When looking at the previous data we can see that the largest number of students in higher technical education in Romanian was registered in 1981, 116156 students, a year after the maximum in the entire higher education. The highest proportion of students enrolled in the technical higher education from the total was achieved in 1989: 65% after other two years with similar proportions. Also, it should be noted that for the period 1977-1989, on average, 60% of the students attending the Romanian higher education were studying in the technical education. On average, 39.36% of the students enrolled in the technical higher education during 1977-1989 were part of the mechanical profile (engineers and sub-engineers).

Table 4. Percentage of students enrolled in the mechanical profile of specialization from the total number of students in the technical higher education - engineers - (%)

Year	1	2	3
	Total students		Rate 2 in 1 (%)
	Technical Education	Mechanical Profile	
1977	54.244	18.451	34.01
1978	66.090	23.216	35.12
1979	77.888	28.182	36.18
1980	87.251	31.363	35.94
1981	91.378	34.075	37.29
1982	91.429	35.120	38.41
1983	90.559	35.681	39.40
1984	89.326	35.605	39.85
1985	86.917	34.998	40.26
1986	86.529	35.180	40.65
1987	68.281	36.155	52.95
1988	89.657	36.607	40.83
1989	92.051	38.342	41.65
Average	82.431	32.537	39.43

From the above table we see that 39.43% students from the technical higher education were enrolled in mechanical profile, ready to be trained as engineers (a similar ‘weight’ of the students in mechanical profile - engineers and sub-engineers – into the technical higher education). A clear fact is that 1989 saw the biggest number of students enrolled in the technical higher education, 92051 students, from which 38342 were studying in a specialization included in the mechanical profile. However, the largest rate of students enrolled in the mechanical profile from all the students in the technical higher education was reached in 1985, namely 52.95%.

Table 5. Percentage of students enrolled in the mechanical profile of specialization from the total number of students in the technical higher education – sub-engineers - (%)

Year	1	2	3
	Total students		Rate 2 in 1 (%)
	Technical Education	Mechanical Profile	
1977	31.136	10.994	35.30
1978	30.127	11.058	36.70
1979	28.282	10.928	38.63
1980	27.200	10.374	38.13
1981	24.778	9.750	39.34
1982	20.747	8.196	39.50
1983	17.464	7.129	40.82
1984	14.597	6.105	41.82
1985	13.563	5.785	42.65
1986	13.309	5.574	41.88
1987	13.307	5.457	41,00
1988	13.814	5.540	40.10
1989	14.754	5.869	39.77
Average	20.237	7.904	39.67

For the situation of sub-engineers we can see a similarity to the data for engineers: 39.67% students from the technical higher education (sub-engineers) were enrolled in the mechanical profile, ready to be trained as sub-engineers. One can easily see that if in the late 1970s and early 1980s there were more students trained to become sub-engineers, in the mid 1980s their number had a steep decline (in 1984 more than 50% compared to 1977, but the process was already beginning to take shape as early as 1981, with a rate of 3000 sub-engineers). Similarly, the number of students in mechanical profile followed the same trend. In terms of the proportion of students enrolled in mechanical profile in the total number of students in the technical higher education (sub-engineers), the most significant proportion was 42.65% and was reached in 1985. In 1989 as opposed to 1977, there were almost 5% more students in the rate of mechanical profile students in the whole technical higher education.

Another interesting perspective on the importance of the mechanical profile is revealed to us by the situation of 1989. From among all of the types of higher education, the technical type was the most important (106085 students enrolled), followed by medical and pharmaceutical education (16703), academic and pedagogical (15828), economic (15493), agriculture (6380), legal (2362) and artistic (936). When compared to other profiles of specializations, the mechanical profile was the leading profile and was followed by electrical profile with 18747 students enrolled, constructions profile with 8810 students and chemical profile with 8184 students. Notice how all of them are part of technical education. In terms of

the proportion of male and female students in the mechanical profile it must be noted, in a somehow predictable way, that the majority of students were male (in average 71%).

CONCLUSION

The profiles of specialization established in 1974 were an important step in the development of the Romanian higher education. The technical profiles and specialization were having the most attention from the political leaders, in the context of an economy based on industrial development. In this way not only they amounted the most number of students, but also they received many modifications, in 1977 and later, and also, by studying different projects from the end of communism we can see once more this care.

From the statistical data we can conclude that 40% of all enrolled students in the technical higher education were enlisted in the mechanical profile of specialization (engineers 39.43% and sub-engineers 39.67%). Even if in the mid-1980s the number of students to be trained as sub-engineers dropped, the situation was offset by increasing the number of students trained to become engineers. An interesting fact is that in 1989 there were almost twice as many students enrolled in the mechanical profile (engineers) compared to 1975 and within the same time boundaries, almost twice less students in the form of education for sub-engineers. All in all, 60% of the students enrolled in the Romanian higher education were attending the technical field of study and 23.75% of all students were enrolled in the mechanical profile, which means almost a quarter of all students.

All these data show us the importance of the mechanical profile of specialization for the entire Romanian higher education system, as well as the importance of policy makers who drew for education precise tasks on preservation, including for the last part of the communism, of a large proportion of specialists to be trained inside the technical field of education, so necessary for the industry, as it was considered the principal economic driver and the primary way to develop the country. The political decision to ensure the country's prosperity through industrial development, was consistent with the formation of a specialized workforce through the higher educational system.

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