

ANALYSIS AND SOLUTION OF THE ROMANIAN AGRICULTURAL EDUCATION ISSUES

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ABSTRACT. Romanian Agricultural education in the general social context and as against the requirements of the economic development at European- and world level is regarded as an important link in the consolidation and organization of the agricultural industry, as well as the superior valorization of human- and material resources. The activities referring to education in agriculture are meant to signal the necessity to grant an adequate status to this basic economic sector which at this time is suffering image degradation with the tendency to aggravate. In order to identify where to act to solve the problems felt in the system of the agricultural education, the Ishikawa and arbor diagrams have been used. The problems submitted to analysis were: adjustment of agricultural education to the present demands of agriculture; enhance the efficacy of the practical part on the field of agricultural education; human- and material resources of the agricultural school groups and universities; to put into practice the knowledge acquired in the process of agricultural education.

Key words: development, priorities, qualification, instruction, perfecting

ZUSAMMENFASSUNG. Analyse der Probleme im rumänischen Agrarunterrichtswesen und Lösungsansätze. Das rumänische Agrarunterrichtswesen wird sowohl im allgemeinen sozialen Umfeld als auch in Bezug auf die europäischen und weltweiten Anforderungen der Wirtschaftsentwicklung als ein bedeutender Bestandteil betrachtet, für die Konsolidierung und Organisation des Agrarbereichs ebenso wie für die hochwertige Verwertung von menschlichem und materiellen Potential. Tätigkeiten die sich auf die landwirtschaftliche Ausbildung beziehen haben die Aufgabe eine dringende Notwendigkeit zu signalisieren, und zwar dass dieser grundlegende Wirtschaftsbereich einen entsprechend hohen Status zu genießen hat, angesichts der Tatsache dass zur Zeit ein sich mehr und mehr ausprägender Imageverlust zu vermerken ist. Um die Handlungsrichtungen für die Lösung der im landwirtschaftlichen Unterrichtswesen erörterten Probleme festzulegen, wurden Ishikawa- und Baumdiagramme verwendet. Folgende Probleme wurden in der Analyse berücksichtigt: Anpassung der landwirtschaftlichen Ausbildung an die heutigen Anforderungen der Landwirtschaft, eine höhere Effizienz der praktischen Ausbildung innerhalb des Agronomischen Unterrichtswesens, die menschlichen und materiellen Ressourcen über welche die landwirtschaftlichen Berufsschulen und Universitäten verfügen, die Umsetzung in die Praxis der im Rahmen der agronomischen Ausbildung angeeigneten Kenntnisse.

Stichworte: Entwicklung, Prioritäten, Qualifikation, Training, Verbesserung

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Introduction

Agricultural education in the general social context and as against the requirements of the economic development at European - and world level, is regarded as an important link in the consolidation and organization of the agricultural industry, as well as the superior valorization of Romania's human- and material resources. The activities referring to education in agriculture are meant to signal the necessity to grant an adequate status to this basic economic sector which at this time is suffering a degradation image with the tendency to aggravate.

Education represents the most important social sector of Romania. Besides, approximately 20% of its population actively participate in the development of this sector and the future of the country is prepared there. The compulsory Romanian education of today is a true "industry" of knowledge, forging for the next generations; thus, 12% of this country's population are in grades I to VIII sheltered by 13,000 schooling units, being implied well over 165,000 teaching cadres (Vlăsceanu, 2001). No other social sector includes a population or a number of institutions comparable to those in the compulsory education system. On taking into account the social responsibility that goes with it, the image obtained is one demanding quite special attention regarding the elaborated policies applied nowadays and their future impact (Ivan S., 2008).

Materials and methods

According to a 2010 opinion poll carried out on 64 fresh- and sophomore students at the University of Agricultural Science and Veterinary Medicine in Cluj-Napoca, as well as on 126 high-school students and 85 grown-ups the defaults in the organization and functioning of the system were highlighted by these. The interviewed ones have pointed so many failures in the Romanian education that we wouldn't have ever expected. The problems—in broad lines—are the same as the society's meaning that the two areas mirror back each other.

In order to identify where to act to solve the problems felt in the system of the agricultural education, the Ishikawa diagrams have been used. These instruments are allowing for relieving and grading the causes- either real or just potential- of a given effect. The effect may be an either positive or negative characteristic, such as: the engaging degree of fresh graduates from the agricultural high schools/universities or, school desertion within the same territory. Ishikawa is also an communication method that allow the transmission of a structured message; cognition of a general problem waiting for a solution; visualization of a situation, enabling the differentiation of key problems to be treated with priority. By means of the Ishikawa diagrams, there have been obtained an explicit- and rational correlation of the main-, secondary-, and minor causal elements as the Romanian agricultural education is regarded. A number of three to five causes have been selected to be acted upon with priority for finding positive solutions.

The arbor diagram has been utilized to indicate the relations between one subject and its component elements. This diagram applies to the systematic decomposition of a subject in its components to reveal the logical- and sequential links.

Results and discussion

Analyzing problems of the agricultural education system by Ishikawa and arbor diagrams

The problems submitted to analysis by means of Ishikawa- and arbor diagrams were: adjustment of agricultural education to the present demands of agriculture; enhance the efficacy of the practical part on the field of agricultural education; human- and material resources of the agricultural school groups and universities and to put into practice the knowledge acquired in the process of agricultural education.

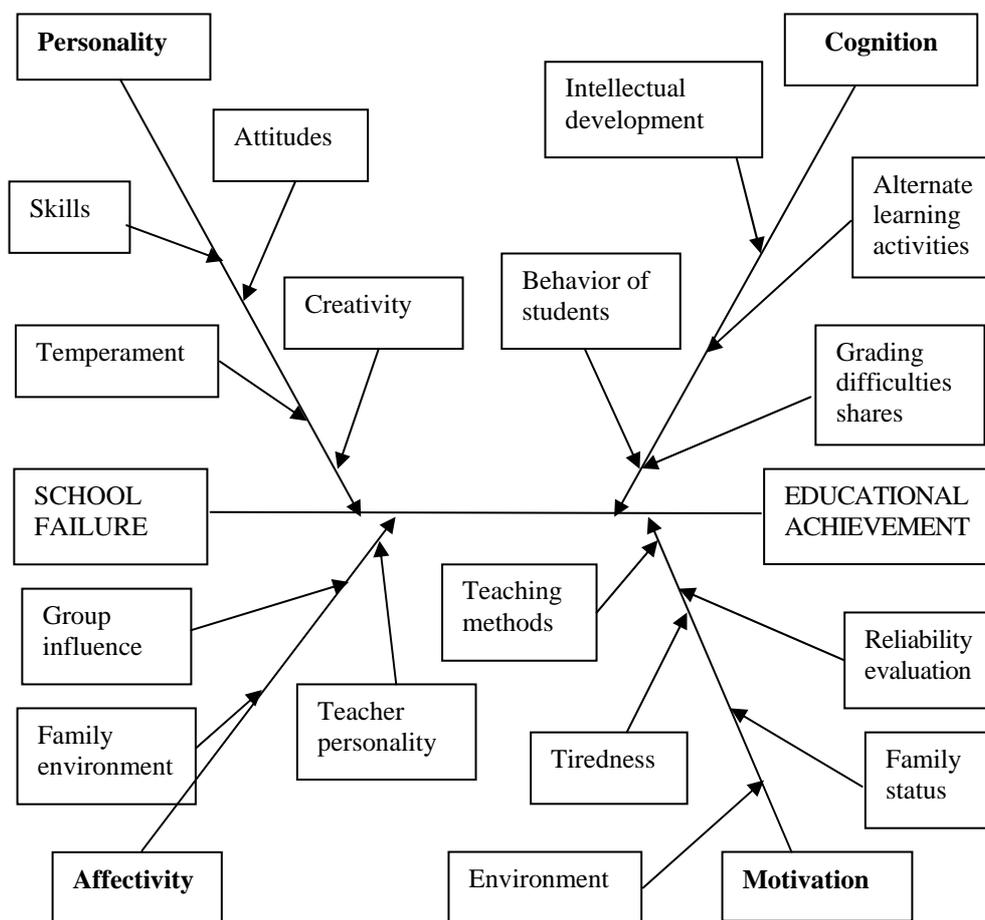


Fig.1. How can be eliminated the school failure?

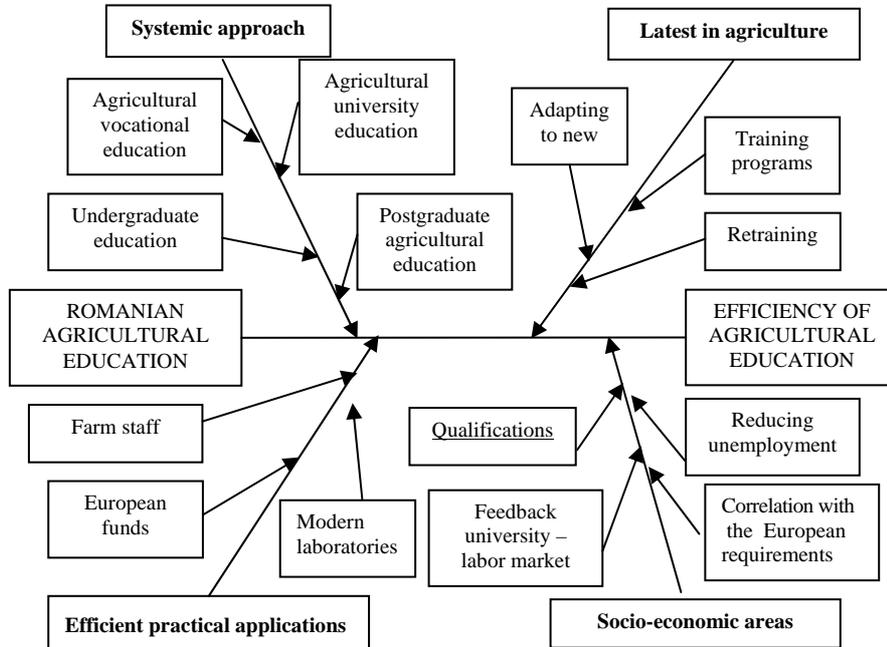


Fig.2. Efficiency of Romanian agricultural education

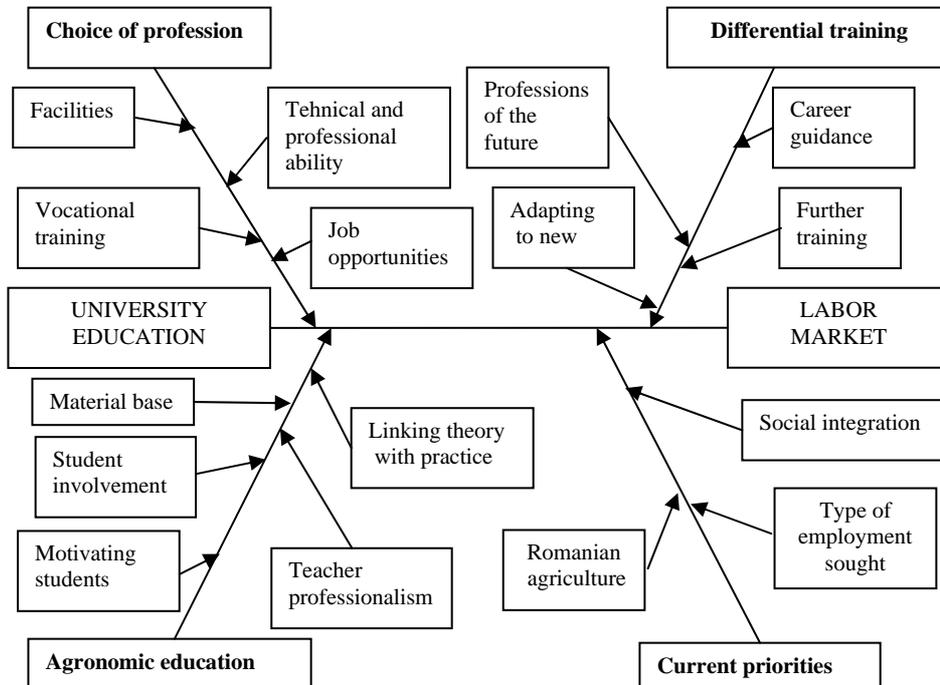


Fig.3. Correlation between university education and labor market

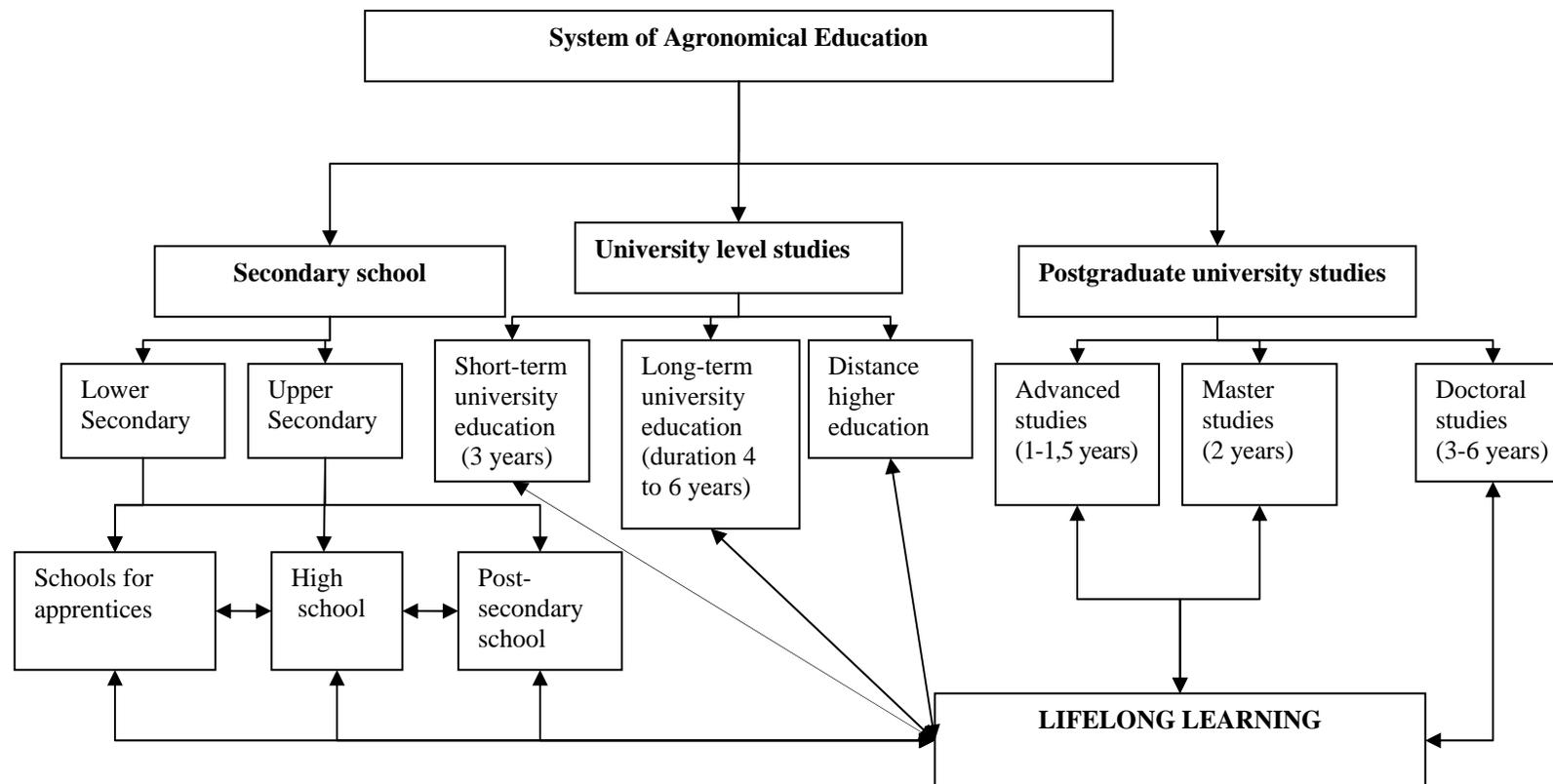


Fig. 4. The structure of agricultural education system in Romania

In order to adapt the agricultural education to the present requirements for agriculture, there should be created –first of all- centers of differentiated preparation and orientation in vocation meant to correlate the university preparation with the present demands on the workforce market and expectation in Romanian. Also, there should be re-oriented the formative programs in the agricultural universities based of the feed-back acquired from the rural socio-economic surrounding, in order to establish some continuous and lasting relays between universities and economic operators in Romania. Improving the national system of qualification in the vocational and technical education is also important, as well as the university education, by correlating it with the European frame of qualifications. Thus it is being imposed the identification of solutions regarding the development of the agricultural high-school and professional education in view of creating a technical personnel with medium-level studies able to competitively respond to the present priorities.

To enhance the practical part in this industry the didactic farms should be re-activated (by using European funds); also, to implement the programs meant to form agricultural professionals (according to EU standards, adapted to the specific of the Romanian agriculture), and treat this as a task of priority in the professional formation (qualification, instruction, perfecting.)

The structure of agricultural education system in Romania

University level studies

Short-term university education (3 years) is organized separately or for the first two years as an integral part of the long-term university education. Short-term university education leads to the Graduation Diploma. According to Law no. 288/2004, the last cohort of students enrolling in a short-term program was 2004/2005. Long-term university education (duration 4 to 6 years) is provided by universities and equivalent institutions. Long-term university education leads to a License Diploma, an Engineer Diploma.

The duration of the long-term studies varies according to the field:

- 6 semesters (3 years) for biology
- 8 semesters (4 years) for horticulture, agriculture and forestry.
- 12 semesters (6 years) for veterinary medicine

Postgraduate university studies

Postgraduate education offers specialization or an extension of the education provided in universities. Postgraduate study programs include:

- Advanced studies (1-1, 5 years) for university graduates;
- Master studies (2 years) for university graduates;
- Doctoral studies (3-6 years) offered by universities and research institutes

accredited, the doctoral courses are settle as day courses or night courses. The scientific title of doctor granted by the institution is validated by the National Council for the Attestation of Academic Titles, University Diplomas and Certificates.

Distance higher education - a National Centre for Open and Distance Education has been created, with centre in 8 universities and has the full support of 12 universities within the PHARE Program for Multi-Country Cooperation for Distance Education.

Lifelong learning - national authorities, commercial companies or other legal entities, jointly with education units or separately, run adult training and refresher programs to improve qualifications of their present or future employees or re-train them. These training courses grant certificates of professional competence recognized on the work market.

What the agricultural education system needs?

In what follows there will be introduced some of these needs as felt by the interviewed:

- There is too much theory implied meant to indoctrinate (so to speak) the students and only too few practical applications as more attention is dedicated to quantity, i.e., to quality's disadvantage;
- Perfunctoriness proven by students, their main interest is that of getting a diploma instead of knowledge; lack of one clear horizon as to the future of the young generation;
- The too often alterations in the system and lack of discipline within the education units;
- Lack of conception, incompatibility of planning and syllabus/curriculum with the demands of work-force market; flimsy theoretic- and practical instruction of the graduates;
- Teaching methods are leaning against exposition which ultimately leads to lack of communication between instructors and those being instructed;
- The handing over of obsolete information; at least the dynamic domains require ceaseless pursuit of specialization and information; the informative trait is much more important than the formative one;
- Lack of flexibility and of instructor cadres who, beyond shaping specialized persons, have to shape characters;
- The system fails to prepare human beings for life; neither are there real projects; students conceive projects that will seldom be implemented;
- The extremely low level of instruction—for both high-school—and university students—is decided by some of the instructors' lack of interest;
- There is no continuity in making homogenous decisions; however, the incoherence is present as we are trying to ape other systems without having a real basis for them whatever;
- The teaching staff being underpaid prompts it to focus on negative motivation (stress, threat, and disregard);
- The Romanian style/specific of knowing a little bit of everything mostly "specialization in general" and the futile row material forced upon students to assimilate knowingly, will lead to no end;

- Lack of team work and cooperation lead to worsen individualism;
- Lack of sustainable strategy, trying to turn children into geniuses overnight, overlooking their talent;

- Absence of professionalism with some members of teaching staff; presence of substitute instructors or even of those lacking qualification for this side of the industry (the proportion of unqualified personnel mostly in rural areas is unsettling). Numbers in teaching staff are fluctuating with every year regardless the students' count.

- We are confronted with too many alterations of the system, i.e., with each year curricula and syllabi change, the method of checking students' progresses are modified and so the teaching methods, too; many rules vanish, others utterly futile come back. An eleventh- grade student can never be sure that he will be able to have the school-leaving examination (approx. *A level*) from the same syllabus in the previous three years as these can be suspected of being altered in the following year. Owing to so many alterations in the law and ministries (departments) of education it is almost impossible to create a solid foundation for the education system and, the lack of a reliable foundation can lead to its hindrance;

- Many of the syllabuses taught are one way or other futile from the student's point-of-view. With high schools, music and religion are studied in a less or more useful manner at least so for the all-round education. Logically, such a situation leads to turning the teaching program even bulkier than it is. This is so as not all students have a knack for music or belong to a certain religious cult; moreover, there would probably be a lack of qualified personnel for the purpose;

- Financial funding allocated by the state for education is much lower than in other countries. Therefore, most of schools do not detain proper endowments needed for higher training of students. Sometimes, the furniture and equipment extant within classrooms date back to the 70' and 80'. During these last years updating of schools has been started but its speed of implementation is rather low as funding is too short as well. Beside low budgetary allocations there is also the lack of effective stimulants capable of attracting non-budgetary funds (Roman, 2008).

Let's hope for the best that in the future the Romanian system of education will be less deficient than now.

Many of us have been born and bred into this system of education. Even from the beginning of the general school up to the first university year we have navigated on a sea of generally futile items of information entirely so—in most of the cases - all along, till graduation.

Most of the students prove superficiality due to incapacity of following an overburdened program. When a syllabus starts to lack the reason of it being taught as well as the feed-back, they'll also give up studying it or, the ambitious ones will start learning it mechanically as only results matter disregarding the utility for future purpose (Bocoş, 2007).

More often than not, students will forget absolutely all what they have learned in the twelve years once they passed the baccalaureate examination. All the information left with a student after graduating from high school is the average mark and not the knowledge.

An excessive burdening of the Romanian high-school student with a 38-40 hours program/week and a too-much developed theoretical basis, as well as the absence of a practical side will ultimately lead to the birth of a generation excelling in the numbers of acquired diplomas and not in the components necessary for an active development of society and economy. Such a subject is being treated everywhere nowadays, under the roof of each assembly hall within the Ministry of Education but halas, not too many things will ever change!

Grave accusations have been brought and still are being brought forward vis-à-vis the shortcomings in the ways the entire education system is conducted, beginning in the grammar school up in the university; bills of indictment are being brought forward not only by some critics but also by most outstanding educators at home - in touch one way or other with the Romanian teaching - and abroad.

The educational method which should prevail is the one of investigative character, as well as analytic-and critic, allowing for the instructor to lead the research and guide the student towards acquiring new knowledge. Such subject matters would be:

- Biology which can be studied both outdoors and indoors (classroom, laboratory). However, some students graduate from high-schools of biological profile without having ever seen one of the tens of plants studied over the four years of study.

- Chemistry. The laboratory offers the student materials for analysis and research *via* substances. In the chemistry high-schools students study subjects which are taught to American sophomore students; however, an American high-school student is capable of mixing two substances in order to get the desired combination, whereas a Romanian one is finding the solution to the chemical equation at the black board. A Romanian high-school student is at home with almost all of the acid-, base- and salt formulas as to the American one who knows how to use them.

- History: on studying this subject the student will doubt the confessions which have never been contested before and search for old books and documents in the school libraries. The study of history provided him with data, events, a mental historic map; maybe it also offered him the strength of the scholar to tell truth from fake, history from myth in the old legends. However, not many were offered the understanding of the significance of events, a new comprehension or light regarding the true reason of man's life on Earth. History might also be studied by means of documentaries so as the student get a global image of the way one event or other took place.

- Literature: the poem the student read only for joy or digest will now be submitted to investigation as whether it is really of value, why it is beautiful, how to class its rhyme; the manner its characters were construed. It is interesting to

know whether at graduation he spent more weeks on researching the syntax and grammar of the language rather than acquire and evaluate the thought and spirit of classical authors.

Counting might go on for every subject matter which students will get over with.

For instance, in theoretical high schools- that prevail in Cluj-Napoca—only on rare occasions a subject matter shows up which develop/verify the practical competence of a student and when it happens to be a class of physical development or an optional one practiced after the regular classes, when a student after 6 or seven classes of theory prefers to walk home and relax. In such cases one can notice the low degree of importance granted to practical applications. Even classes belonging to the curricular area of Technology, on many occasions, these are not being developed within appropriate spaces (workshop, lab, etc.) but in the good old classroom where students take down notes about what should have been performed in a practical manner.

One can compare the allocations in the frame-programme in Romania based on mean hours calculated for The European Union. However, we underline that such mean figures should be treated with necessary precaution as the education system in each of the Union's countries presupposes—as a rule—much local adaptation and flexibility. Outlining of the conclusions will follow.

The duration of school year expressed in number of days of activity, is one of the smallest in Europe. This finding—correlated with the mean average number of all classes leads to the conclusion that, at the level of grades VII and VIII, the Romanian high-school student is overloaded. Table 1 introduces the numeric evolution of the mean total-hours *per annum* depending on the student's age.

Table 1.

The numeric evolution of mean total-classes (Vlăsceanu, 2001)

	7 years	10 years	13 years
Romania	646	748	1003
EU	773	887	922

At the level of school subject matters, one can find significant differences:

Table 2.

The numeric evolution of classes of study with various subjects in Romania and EU (Vlăsceanu, 2001)

Subject matter		7 years	10 year	13 years
Mother tongue	in Romania	255	204	136
	in EU	200	180	130
Mathematics	in Romania	119	119	136
	in EU	110	117	105
Natural- and humane Studies	in Romania	34	93,5	204
	in EU	84,5	132,5	110
<i>Curriculum</i> by School Decision (CDS)	in Romania	85	85	51
	in EU	298	259	570

The evolution of numbers of classes centering the study of mother tongue is presented in Table 2.

- The evolution of numbers of classes centering the study of mathematics reaches 136 in Romania as to 119 in EU.

At the level of grammar-school education, the European mean expresses a more judicious balancing between the two subjects, whereas with the high-school education the difference may reach 31 classes *per annum* of mathematical instruction to the Romanian high-school student.

Natural- and humane studies (reference is common with EU) show an significant difference coming - for Romania - from a very small weight of the socio-humane subject matters in elementary school and very high weight of Natural sciences in the terminal years of the gymnasium.

The variation in the number of classes allocated to Arts and Sport manifest contrary tendencies with us to the variation of European mean. The highest difference is shown in the CDS.

Of the data introduced above one can notice that high-school students in Romania are surcharged and congested; in spite of this, they are less prepared in so far as the practical side is concerned.

However, it is true that from the view point of the theoretical preparation high-school students in Romania are always in the front ranks with home- and abroad competitions and Olympiads but we do not possess the information linked to the evolution ulterior to these.

Due to the too high quantities of information students are not able to assimilate everything lingering behind studies with dissipated fragments of an entity, thus knowing *just a bit of everything*, nothing tangible.

The American education systems lay stress upon one single subject matter, the one selected by the student. With gymnasia the diversity of syllabi help the students to take to the road they think is the most suitable to them.

In the Romanian system diversity does not disappear with the high school not allowing for focusing on what is desired. They even say that high school is the one destined to confer the students all-round education. Thus, by superficially learning a lot of syllabi motivation goes down, meaning that the degree of preparation goes down, too.

As we are talking about education, we should to focus upon the one being the “donor” of information, then the shape-provider and moderator, i.e., the teacher who can be not only a member of a teaching staff but an example, too. Students are inclined to follow their teachers, mentors so to speak. Those who want to illustrate an example worthy of being followed should have not only a penetrating mind but also a wide spirit and large heart, all meant to characterize his integrity, honesty, abnegation, vitality enthusiasm, dignity, tact and patience. Thus, instructors will understand students’ needs by directing their steps towards progress and the class will turn into a large family where all its members exert substantial effort to

acquire sound knowledge both theoretic- and practical ones. Quality will be more important to them than quantity. Collaboration will be the spirit of the class-room, also, its law of life whereas attention will also be individually distributed by insisting on the importance of the personal element.

The teachers activities are evaluate every year by external evaluation of quality education. The Romanian Agency of Quality Assurance in Higher Education, hereinafter RAQAHE, (in Romanian: ARACIS), and the Romanian Agency of Quality Assurance in Pre-University Education (in Romanian: ARACIP), are established to carry out the external evaluation of the quality of education. RAQAHE represent an independent public institution with competencies in accreditation, academic evaluation and quality assurance and its Board is composed by academic representatives nominated by the Ministry and The National Rector's Conference. As regards quality assurance and evaluation, the Agency establishes and revises periodically the national standards and performance indicators for higher education. It collaborates with other institutions to develop and promote policies and strategies for quality education, provides transparently its own procedures and mechanisms for external quality evaluation, has the right to use international experts and provides its own register of evaluators.

Conclusion

The agricultural education prior to university has in view the formation and development of the students' personality; promote education for values; stimulation of youth's creativity and of the entrepreneurial spirit by securing a solid preparation based on all-around education and on forming professional components which allow the graduated students to practice a profession, putting up his own business, continuation of higher education studies.

By means of the human- and material resources of the school groups and of the agricultural universities, these are meeting the demands to satisfy the needs of the personal development of the young and adults in the respective occupational area, ensuring standard-level training and ability to adapt to the present social conditions.

The knowledge acquired in the educational process on agricultural field, as well as the drawn work sheets won't easily fit into practice due to the small numbers of practicing agricultural specialists and scarcity of financial sustenance of agricultural research and propaganda; the reticence of agricultural producers in experimenting new methods and means of cultivating plants and raising animals.

To end with, the Romanian educational system should evolve so as to position itself to the same level as the western systems do. As for now, we are confronting a harsh bureaucratic system swarming with red-tape rules and regulations. Such an intricate organization leads to a poor level of student preparation fact that might have a severe long-term impact upon the evolution of our society.

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