

European Association of Establishments for Veterinary Education
European System of Evaluation of Veterinary Training

**REPORT ON THE VISIT TO THE FACULTY OF
VETERINARY MEDICINE OF AYDIN, ADNAN MENDERES UNIVERSITY, TURKEY**

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INTRODUCTION

The basic structure of the Turkish education system is well described in the Introduction. There are no major differences from the way most universities are organized in Western Europe, except for the fact that PhD students receive a salary for a period of 6 years in order to complete their studies.

The Faculty of Veterinary Medicine of Aydin (FVMADU) in Turkey is one of the 17 state owned veterinary faculties in Turkey. A chart with geographical location of all Turkish faculties was obtained from the FVMADU during the visit and is included as Figure n° 1. Of all the Turkish Veterinary Faculties, only Ankara (2003-2007¹) and Bursa (2004-2010¹) have been approved by EAEVE. Istanbul (2003, 2008²), Elazig (2007), Kars (2008), Konya (2009, 2010¹) and Afyon (2010) have been visited so far. The population of Turkey is 72 million inhabitants. The region of Aydin, with an area slightly smaller than the island of Corsica, has a population 980.000, 105.000 of which live in the City of Aydin. Aydin is mainly an agricultural district with a considerable animal population (Table n° 1).

Animals	N°
Sheep	120.628
Goats	60.092
Cattle	293.071
Equids	14.383
horses	5.482
mules	1167
donkeys	7734
Buffalo	154
Camel	376
Dogs	3.300
Cats	1.450

Table n° 1 – Animal population of the region of Aydin (Turkey)

A relevant number of broilers and (1.626.719) and laying hens (638.636), bee hives (>185.000) and a fair amount of ducks (>3000), geese (2000) and turkeys (>5000) is present. Also, fish constitutes an important part of Aydin's economy, both sea as well as fresh water fish, with >1.400.000 farmed fish.

With regard to the ruminant population, the average number of cows/farm is 8, but it is changing rapidly as government is heavily subsidizing farmers based on number of cows, and also supporting the remodelling of farms with construction of new buildings. This is causing farm size to increase quickly. The number of sheep instead has been slightly decreasing lately. With so many animals, the Adnan Menderes University (ADU), a young and vibrant university, still in its growing stage, decided to establish a Veterinary Faculty in 1992.

The following year veterinary students (15/year initially) were sent to start their curriculum at the Ankara Veterinary School for 2 years. In 1995 a building in downtown Aydin was made available and the FVMADU was established there until 2000 when a very spacious teaching hospital was completed in the current location of the Vet School. All teaching activities were moved there and

¹ First date is initial visit, second date is date of approval by ECOVE

² First date is initial visit, second date is date of the re-visit

were hosted in the Hospital building for some time. An impressive set of 4 specular building was then completed in 2010, which now hosts all departments except for the clinical ones. The ADU comprises a total of eleven faculties of which 6 are fully established (Agriculture, Medicine, Veterinary Medicine, Nazilli Economics and Administrative Sciences, Science and Literature, Education) and others are only formally established (teaching has not started yet) or have started teaching activities in a temporary location (Dentistry, Communication, Engineering, Aydın Economics and Söke Economics). The ADU features also six 4-year vocational schools (Health, Sports, Tourism, Foreign Languages and Practical Applications).



Figure 1 – The 17 Turkish Faculties of Veterinary Medicine are represented in each respective region. The numerical order refers to the timely fashion in which each University established its Veterinary Faculty.

1. University of Ankara, Faculty of Veterinary Medicine, ANKARA
2. University of Fırat, Faculty of Veterinary Medicine, ELAZIĞ
3. University of İstanbul, Faculty of Veterinary Medicine, İSTANBUL
4. University of Uludag, Faculty of Veterinary Medicine, BURSA
5. University of Selçuk, Faculty of Veterinary Medicine, KONYA
6. University, of 100. Yıl, Faculty of Veterinary Medicine, VAN
7. University of Kafkas, Faculty of Veterinary Medicine, KARS
8. University of Kocatepe, Faculty of Veterinary Medicine, AFYON
9. University of Adnan Menderes, Faculty of Veterinary Medicine, AYDIN
10. University of Kırıkkale, Faculty of Veterinary Medicine, KIRIKKALE
11. University of Erciyes, Faculty of Veterinary Medicine, KAYSERİ
12. University of Akdeniz, Faculty of Veterinary Medicine, BURDUR
13. University of Dicle, Faculty of Veterinary Medicine, DIYARBAKIR
14. University of Harran, Faculty of Veterinary Medicine, URFA
15. University of Mustafa Kemal, Faculty of Veterinary Medicine, HATAY
16. University of Ondokuz Mayıs, Faculty of Veterinary Medicine SAMSUN
17. University of Atatürk, Faculty of Veterinary Medicine ERZURUM

1 OBJECTIVES & STRATEGY

1.1 Findings

The objectives are divided in vision and mission. However, there is overlap between the two, with i.e. the training of high quality veterinarians being repeated once in the vision and four out of five times in the mission. Objectives are lumped together, are not prioritized, and there is no method for their periodic review or for assessing their achievement. Under Comments (chapter 1.2) it is stated the current strategic plan (2007-2011) is “inappropriate and insufficient”; items which are mentioned in between the lines are teaching quality, student numbers, lack of technical and teaching staff, as well as the need to improve both the ERASMUS program and the international postgraduate courses. The 2012-2015 strategic plan of the faculty was not ready at the time of the visit.

1.2 Comments and Suggestions

There is clearly a confusion between the meaning of the words Mission and Vision. MISSION refers to the task which is expected to be performed by a person or an enterprise: forming veterinarians is the most widely recognized mission of Veterinary Faculties. While the Mission is regarded as what should be done now, the VISION instead refers to the capacity of looking into the future and getting a perspective of what will be our reality in 10, 20 or 50 years, and through this being capable of a) anticipating the needs of the changing society from our profession, and b) foreseeing potential crisis or future developments of the profession of a veterinarian.

Examples of Mission of a veterinary faculty could be the following: 1) To provide proper training to undergraduate students of veterinary medicine; 2) To produce research, innovation, and development of critical thinking in the various disciplines of veterinary sciences. 3) To fulfill the needs and expectations of the society becoming a source of “specialist knowledge” in most or all fields and the major scientific, professional and continuing education reference for veterinarians and society in the region or nationally (or perhaps even internationally). A Veterinary Faculty should act as a support to the profession through its teaching hospital and teaching farm/s; by providing diagnostic, clinical, pathological, preventive medicine, nutritional and other services; by providing professional consulting activities for private and public companies; by offering support for agricultural communities through the promotion of sustainable production systems.

As to Vision, a Veterinary Faculty should look at what long term goals could be set, such as (for Aydin for instance) a) becoming the most important scientific, professional and continuing education reference for veterinarians and society for the whole of Turkey or perhaps for the Middle East, or b) becoming fully integrated with Western Europe and the rest of the Western World by gradually increasing the number of European College Diplomats (European Specialists) among its staff and also switching the language of all courses to English, thus becoming a fully international Veterinary School.

These two visionary concepts do not necessarily mutually exclude each other. For instance, offering undergraduate courses in English is not beyond reach in general terms. Veterinary Faculties in Europe such as Budapest in Hungary or Kosice in the Slovak Republic have started to offer dual courses, that is in the national language but also in English, and this has given them an international status as well as remarkably increased their financial resources. If the FVMADU considers this as a long term goal, it should start for instance to send its young staff members abroad for some extended periods of training, so that continuing education and perhaps specialisation can be coupled with English proficiency. If such a strategic decision was taken by the Faculty, then resource allocation for hiring young staff could be bound to hired staff being obliged to spend 2-3 years in a foreign institution where a residency program for one of the European Specialist Colleges is offered. The young staff member could therefore complete a residency program, and come back home with a title of Diplome of a European College which would allow him/her not only to start teaching

courses in English but also to become well known at home as a European Specialist, thus attracting referral cases, new clients, consultations from private and public companies etc.

The faculty must be commended on the relevant number of PhD programs, some of which are international programs, and also on the relevant number of faculty members holding a PhD degree obtained in Western Europe or in the US (see also Chapter 12). However, PhDs are important for academic career, but College Diplomates are equally important for professional activities. In Western Europe, faculties where there is a diplomate of a European College quickly become referral centers for that particular discipline. Also, College Diplomates have to undergo a re-certification procedure every 5 years, which means that their knowledge must be kept continuously updated (while holders of PhD degree have no obligation of keeping their knowledge up to date). It is worth noticing that Turkey is one of the last if not the last country in Europe as to the number of European College Diplomates, with perhaps only the Faculties of Ankara and Istanbul having 1 or 2 Diplomates in total. There are currently 23 Specialist Colleges in Europe (see www.ebvs.org) with close to 3000 diplomates and with the countries of Central Europe having from 70 to 150 Diplomates each (and at least a few diplomates for each College). Turkey is way behind, and Aydin does not even have one European College Diplomate. Such an important aspect of faculty strategy should not be left to the initiative of single faculty members. The Dean and the Faculty Council should have this as an important agenda item to be discussed on a regular basis to check how things are going. It may take 20 years for a Faculty such as Aydin to acquire European Specialists for each one of the 23 Colleges. But if the FVMADU does not put this item very high in its agenda, in 20 years from now the situation will still be the same as today, while perhaps other Turkish faculties (which are now perceived as of lower quality when compared to Aydin) may have improved in this respect.

Item 3 of FVMADU's vision refers to the importance of being internationally known, which is commendable, but perhaps before a faculty becomes internationally known it should be concerned about being embedded into the society and being a reference for animal care and public health in its region. There is no mention about the importance of providing services to its stakeholders (pet owners, farmers, drug companies, clients sending samples to the diagnostic lab, private or public enterprises needing consultancy etc), which is the first and foremost task a veterinary school should accomplish in order to become locally and nationally known.

Objectives should be divided into teaching and research objectives, and methods for their assessment should be established and agreed upon, so that assessments of achievement of the objectives could be done at regular intervals. Examples of teaching objectives are:

- Having an adequate number of students (based on market needs) depending on the number of teaching staff and on teaching facilities of the Faculty;
- Development and modernization of the equipments and other facilities to ensure a modern education and to facilitate research activities;
- Providing good quality education for veterinary students by having proper teaching spaces, research laboratories, computing tools, libraries, teaching hospital and teaching farm/s;
- Providing good quality postgraduate education and specialization through continuing education and PhD courses;
- Professional instruction of Faculty teaching staff in order to improve their teaching capacity and ability;

Examples of research objectives are:

- Study of transmissible diseases in animals;
- Surveillance of health status in animals from zoo parks and of the stray dogs community;

- Immunological studies in animal parasitic diseases;
- Innovative researches in plastic and reconstructive surgery;
- Manufacturing and testing of new veterinary products;
- Studies on the impact of pollutants, toxins and other substances on animal health and on the ecosystem;
- Metabolism of organic and inorganic nutrients;
- Quality and preservation of semen for reproduction management in domestic animals;
- Biosecurity and biosafety assurance in animal farms;
- Hazard of pollutants, additives, preservatives and drugs on human health;
- Risk and control critical points analysis in foodstuff of animal origin processing units;
- Genetic and clinical identification of hereditary disorders in farm animals;
- Anatomopathological and immunological changes in neoplastic and infectious diseases.

The importance of developing and making use of a strategic plan is evidently undervalued by the FVMADU. A strategic plan can be a powerful tool to set standards and achieve goals. Without the necessary a) sharing of duties and opinions, b) long brain-storming sessions and c) dedicated team working, it is virtually impossible to produce a strategic plan document which is meaningful. The admission that the current strategic plan is insufficient is a reflection of the fact that not enough effort (number of people and amount of time involved) was put into its development. The FVMADU should seriously consider adopting a drastic change in the way its strategic plan is approached. EAEVE is available should help be needed for the FVMADU to develop its strategic plan.

2 ORGANISATION

2.1 Findings

Only one Authority regulates Turkish Universities which is the Turkish Council of Higher Education acting through the Rectorate and appointing the Dean for a 3-year term based on proposal of 3 candidates. Such proposal is formulated by the entire Faculty Assembly (Full, Associate and Assistant professors) and sent to the Rector. The Dean then appoints two Vice Deans as well as the Division Heads. Dean and Division Heads can be re-elected with apparently no limitation, but at least the Dean has to be included in the above list of 3 candidates. The Faculty does not seem to have much of an influx on University Policies. The Turkish Law system appears to be fairly rigid, and every change has to be accepted by the Council of Higher Education.

There are several administrative bodies through which the FVMADU functions. The Faculty Council, the most important one, is formed by 12 voting members: the Dean, the 5 Division Heads, 3 full professors, 2 associate professors and 1 assistant professor, plus one student (without power of vote). It meets 5-10 times/year and takes all the decisions; the 6 professor members of the Faculty Council are elected by the full assembly of all the professors. The Faculty Board is formed by the Dean, 3 Full professors, 2 Associate Professors, 1 Assistant professor; these 6 professor members of the Faculty Board are chosen by the Faculty Council. The Faculty Board meets 30-35 times/year, and it puts into practice all decisions taken by the Faculty Council. The Faculty Academic Council (all the academic staff members of the Faculty) convenes 2-3times/year, or whenever the Dean has to communicate something important; such sessions are informative only, no discussion takes place. Division Councils (Heads + academic staff of Division) meet 5-10 times/year, while Department Councils meet more or less on a weekly basis. Other 10 Committees (Placement, Education, CE, Scientific Research, Publication etc., see page 15 of the SER) are formed directly by the Dean and help the Dean and the Faculty Council in their work. The Education Committee is the only other one (apart from the Faculty Council) in which the student representative takes part. The decision making process is governed by the Dean and the Faculty Council.

The FVMADU is organized in 5 Divisions (Basic Sciences, Preclinical Sciences, Clinical Sciences, Animal Husbandry & Nutrition, Food Hygiene & Technology). Each Division is organized in Departments formed by a number of faculty members which may be very small (3-4 in some cases, just one in the case of the Dept of Veterinary History). The organization of Divisions and Departments is outlined in detail on page 15 of the SER.

The Teaching Hospital hosts the Clinical Division and is located in a separate, 11-yr old building (which looks much older than it is probably because of heavy use and poor maintenance). The Hospital does not have any type of organization: surgery has its surgical theaters, and so do obstetrics and gynaecology, each section “owns” the space it has been assigned, meaning that i.e. the radiology room “belongs” to surgery etc. Record keeping is minimal and not computerized. Emergency service is absent, and the plan is to establish it in a different building (half of which is devoted to necropsy) in a different part of the Campus. There is no Hospital Director. The 4 Department Chairmen of the 3 clinical disciplines are each responsible for their own sections. For more information on the Teaching Hospital see Chapter 6.

The student representative in the Faculty Council is elected each November for a period of 2 years, by all students of the 5 years and is also the representative for the Teaching and Education Committee. The current student representative graduated in June 2011, and is continuing to serve as rep until the next election. The student representative has no power of vote on either committee, s/he can only present issues and proposals and relate back to her/his peer students.

2.2 Comments

The organization of Divisions and Departments is not conducive to collaboration and sharing resources and equipment among teachers. The way the 3 new buildings (Building A, B and C) have been built may also be a problem, as it helps fractioning people. Instead of having centralized diagnostic facilities or centralized teaching facilities, members of each department (sometimes 3 or even 1 person only) work on their own in the part of the Building assigned to them. For instance, there are 2 morphology departments (Anatomy and Histology & Embryology), 2 Animal Science departments (Animal Husbandry and Animal Nutrition & Nutritional Diseases) and also one Dept of Physiology and one of Biochemistry, one Dept of Microbiology and one of Virology. In the Teaching Hospital there are 2 reproduction departments, Obstetrics & Gynaecology and Reproduction & Artificial Insemination.

While not all groups across the FVMADU are fractioned and there is a good degree of collaboration in some areas (such as for the 2 Animal Science depts.), the structure of the new Buildings (A, B and C) probably does not stimulate people to collaborate and may have contributed in reinforcing the old-fashioned way of conceiving university facilities, equipment and spaces as “private property” of each single department (sometimes even property of the head of department). Although such an approach did not emerge and most faculty members seemed genuinely willing to share resources, the team did not meet any strong sense cohesion within Divisions. The crucial decisions are made at the level of dean and above.

Some facilities are being shared by several groups of researchers (such as one of the laboratories in the Parasitology Dept), which is commendable. However, it is appalling that well into the second decade of the third millennium the FVMADU does not have a centralized molecular biology laboratory. Also, a centralized microbiology laboratory would seem a logical thing to have, likewise one or two centralized teaching laboratories, instead of a teaching laboratory on each hemi-floor of buildings A, B and C

The organization of the Teaching Hospital should be changed. A hospital Director should be established to be responsible for organizing common, centralized services (i.e. anesthesia, diagnostic imaging, intensive care, clinical chemistry laboratory, hospitalization, reproduction etc.) and making sure they function properly. For more details on suggested changes to the Hospital see chapter 6.2.2.

The opinion of the student representative appears to be taken into consideration, he is listened to and his issues are frequently accepted. However, the fact the he is alone and does not have any voting power diminishes his role, and actually is in contradiction with the openness, transparency and the spirit of innovation which the FVAMDU is priding itself with. All Western European Veterinary Faculties have 3 or more students (with power to vote on all teaching issues, including election of the Dean) on all committees. At the University of Copenhagen a student is Vice-President of the Teaching Committee. Admittedly, the Faculty Councils of most if not all Western European Veterinary Faculties include all staff members, not just a selection, which makes student representation a minority. Still, students are considered an important part of any faculty body, and they can vote. This is a feature of modern university systems. Turkish academicians should forward this issue to their politicians and try to change the system if they want to present themselves in the international arena.

2.3 Suggestions

Teaching facilities for practicals in microbiology, virology and parasitology should be separated from the laboratories with potentially risky pathogens. This also applies to the shared usage of laboratory equipment. Even if students comply to the rules of hygiene there is a danger of transmitting pathogens from the laboratory to animals in the clinics or outside farms (e.g. by using the same lab coats). We therefore suggest to establish a common laboratory for practicals in infection biology that contains all necessary equipment.

The Academic structure of FVMADU should be changed by increasing the minimum number of staff members/department. If the minimum number of academics/department could be raised to 20, a department would then correspond to a division. This would lead to a Faculty composed of 4 departments (or divisions – by eliminating the departments) of: Basic Sciences (Anatomy, Physiology, Histology/Embriology, Biochemistry, Vet History) Preclinical Sciences (Microbiology, Parasitology, Pharmacology, Pathology, Virology), Clinical Sciences (Surgery, Internal Medicine, Reproduction & AI, Obstetrics & Gynaecology) and Zootechnique and Food Safety (Animal Husbandry, Animal Nutrition & Nutritional Diseases, Food Hygiene & Technology).

Having academic entities with a very small minimum number was very common in Western Europe after World War 2 and until the 1970's or shortly thereafter. Then it gradually became evident that a great deal of positive synergies were being lost due to fragmentation, and departments gradually grew to the point that their minimum number almost everywhere in Europe is nowadays 40 or more members. Having members of different (but related) disciplines (such as the clinical disciplines, or the basic sciences, or the pre-clinical disciplines) altogether in a single entity would force people to deal with each other, and although this might exacerbate some frictions in the beginning, in the long run it would with no doubt create a positive synergy.

Very often divisions and fractions between disciplines are due to behavioral incompatibility between some professors, with younger faculty members often being dragged into a quarrel for which they are not responsible. Younger faculty members cannot thrive unless placed into an environment which is quiet, peaceful and tranquil. Associate and full professors have the responsibility to create such an environment, or their discipline is doomed to suffer from lack of evolution. Such a responsibility is to be shared also at the Rectorate level. Rectors should realize where potentials are not being exploited because of law constrictions, and

should voice their concerns to the Central Government, as they are the only ones who can be heard by politicians.

The way Faculties are run at the ADU (and presumably all Universities in Turkey) reminds of an oligarchy, with a handful of people having control over entities which may be composed by close to or more than 100 members, and on top of that precluding students from exerting their voting power. Despite this apparent lack of democracy, at the FVMADU the decision process is transparent, honest and absolutely impeccable thanks to a wise and balanced guide by the Dean and his team, The EAEVE Team did not meet any feeling of dissatisfaction in any of the Faculty members towards the people in charge of the FVMADU and towards the way the FVMADU is run. Everybody seems to understand very clearly that this is Turkish system and there is little that can be done.

Still, in most Western European countries, Faculty Councils are composed by all members of the teaching staff (full, associate and assistant professors) plus a representation of 3-5 students. Everybody has a right to vote, including students (on teaching matters only, but they do vote for the election of the Dean and of Department Chairmen). There are obviously many Committees, but they only have an advisory function, by which issues are discussed and then forwarded to the Faculty Council where voting takes place.

The structure of the Faculty Council should be changed to include all faculty members and a congruous student representation (3-5)

Within the Faculty Council, student representatives should have the power of vote

Within the Education Committee the number of student representatives should be increased and they should be given the power of vote

One of the item of the FVMADU vision on page 10 is “to be an internationally well known and modern faculty which creates a sense of honor to be part of it”. Working in a fragmented environment where an oligarchy takes all decisions and most members are denied the power of vote does not provide the picture of a modern institution. And one wonders how much longer young faculty staff may continue to feel a sense of pride in serving such an institution.

Although these issues are beyond reach for faculty members or even the Dean, the FVMADU has the responsibility to forward these concerns to the Rector of Adnan Menderes University. If the FVMADU is to be perceived internationally as a modern and open-minded institution, then ADU should wonder whether such a definition can be assumed valid for itself as well.

The level of decisions on some teaching issues should be lowered from the governmental level, to a university level

3 FINANCES

3.1 Findings

The SER chapter on finances gives a brief description of the Turkish system for allocating and spending money at the University level. In general terms, the impression of the team was that money is currently not a problem in Turkey. The amount of income has been increasing steadily over the last 3 years. The decrease which can be noticed from 2009 to 2010 (Table 3.1 on page 20 of the SER) is due to the fact that the previous Rector decided to hive off the amount corresponding to salaries from the 2010 budget, while the new Rector

has reverted to the old system, and from 2011 on the budget will feature again all the salaries.

The Dean has limited financial autonomy, as the only money he can spend is the income generated by the various services, which flows to the Dean's office and then is returned to each service based on each service's needs. Division Heads do not have any financial autonomy, and whenever a payment has to be done bills are directed to the Dean's office.

The reported figures reported on table 3.1 (State budget given to the School) represent University funding given to the Vet School. Such a considerable amount is not actually money available for the Dean to pay for consumables or any other thing, but rather corresponds to investments made by the ADU upon request of the Dean. For instance, in 2010 a total sum of 306.507 € was given by the Rector to the Vet School for completing the classrooms by purchasing all the seats, and for finishing up the ceilings and installing lights in the Main Building of the new Campus (the one where the Dean's office is situated). In 2009, € 604.000 were given for (salaries plus) the setting up of laboratories in the buildings A, B and C, and also for purchasing a) two X-ray machines (a fixed one and a portable one) for Surgery, b) the Doppler-ultrasound unit for Obstetrics and Gynaecology, c) an Electromiography equipment for Anatomy, d) an endoscopy unit, a blood gas analyzer and a cell counter for Internal Medicine. As to Research income, at the ADU researchers can apply for research grants to the so called "Scientific Experimentation Committee" which supports projects once these are approved by a committee of referees. Although no Ethics Committee exists in the faculty, university itself has an Ethics Committee which is formed by the academic staff from all faculties including Veterinary Faculty. The income generated by Clinical Services has been increasing over the last 3 years, which is commendable. No other sources of income are available at the present time for the FVMADU.

As to expenditures, Table 3.2 of the SER (page 20) does not show any figure under Teaching, Research or Clinical support because the Faculty misinterpreted those figures as corresponding to money given by the University to the Vet School (to pay for each respective item) and therefore as being part of the University budget instead of the Faculty budget. The University does not budget for any expense beforehand, but simply provides funding whenever necessary and if there is an adequate justification. When trying to figure out actual expenses by inquiring about the 91.000 € of the income from services provided in 2010 (Table 3.1, page 20), the Team was told that approximately 60.000 of those were being spent to cover expenses incurred by the various services. Therefore, the actual income from services provided in 2010 would be 31.000, minus 7% (of the total 91.000) which is a University levy (Table 3.3 page 22). The net income remaining is (income minus taxes minus expenses = $(91.000 - 6.4) - 60.000 = 84.600 - 60.000$) 24.600 €. As a consequence, the column relative to expenses for Clinical Support in 2010 (Table 3.2, page 20) should bear the figure (estimate) of 60.000 €.

The University Budget for 2012 was not yet available at the time of the visit. At the ADU, the budget generally becomes available in January or early February each year. However, this is not felt as a constraint due to the fact that money is basically available upon request, as can easily be derived from a statement on page 21 ("Urgent orders of payment for items such as cleaning material, lab consumables, chemicals, diagnostic kits etc are immediately paid no matter which department made the order").

3.2 Comments

Although the ease with which money is distributed by the ADU is certainly a positive fact in itself, this should not exempt the FVMADU from calculating its own budget each year. When administering a large body such as a Veterinary Medical School, a Dean should have a clear idea of how expensive are teaching, research and services are. This is particularly important concerning services and teaching. With regard to services, the knowledge of their costs is vital in order to make an accurate calculation of what prices clients should be charged. Costs

due to teaching tend to remain fairly stable throughout the years, and therefore it is easier to make forecasts. As the training of veterinary students is currently considered one of the most expensive of all the higher education courses (because of its length of study, the advanced facilities as well as teaching intensity necessary and because of the costs of maintaining animals), a Veterinary Faculty must know exactly what these costs are. The fact that money is not a problem at this time cannot be held as an excuse, as in case of a financial crisis the lack of awareness of costs may be highly detrimental to the quality of teaching.

The lack of financial independence of the FVMADU is considered a negative factor. Faculties should be able to count on a budget (set by Universities) which should be based on a per capita cost depending on the number of faculty members and technicians present, and on the number of students, plus some correcting factors depending on local situations, administrative capacity of Deans and quality of services provided. Within a University, Faculties should compete with each other for extraordinary funding to buy new equipments or research tools or to build a new facility, as this stimulates managers, teachers and researchers to improve themselves thus raising the quality of teaching, research and services provided. The fact that money can be given based on the urgency of the situation does not stimulate people to plan their activities, as the only thing that is necessary is to demonstrate to University bureaucrats that the need to receive money is urgent. Failure to stimulate people to plan ahead prevents them from developing a vision for the future. Visionary leaders are fundamental for a University to establish itself as a centre of excellence and be internationally known. Vision is often an innate quality, but can undoubtedly be stimulated by the need to plan ahead, as such need will force managers to ask themselves what the future is going to be like, and how they can cope with a new situation.

Rectors have the responsibility to help their Deans, Division and Departmental Heads to grow as visionary leaders and good administrators. One good way of doing this is to give them a budget at the beginning of the year and test their ability to make the best use of it. On the other hand, Division and Department Heads should be able to count on the income they produce with their services, as this would be an excellent stimulus to increase their own income by improving their services. Similarly to Deans, Division and Department Heads should be tested for their ability as administrators and forward planning capacity. The income generated by a service should stay within the Department/Division which is providing the service, except for whichever tax the Faculty/University is imposing.

Administrative capacities and vision, or good leadership, should be stimulated in all leaders, starting from the level of Departmental Heads up. Departmental and Division Heads constitute a pool of leaders from which a Dean is eventually selected. Deans constitute a pool of leaders from which a Rector is eventually selected. If good leadership is not stimulated beginning from Departmental Heads, sooner or later the University will be guided by a Rector who is not a good, visionary leader. Furthermore, administrative capacities are an important asset for a leader as otherwise s/he will depend on bureaucrats to run the budget, which can be highly detrimental to any institution as bureaucrats are known to often lack vision.

3.3 Suggestions

The Adnan Menderes University should consider changing its rules of procedure in order to start allocating an annual sum of money to each Faculty using pre-determined criteria. Funding should be allocated to the Dean's office to cover teaching expenses, and to the Division Head to allow them to cover basic costs due to their services. Faculty and Division budget should allow to pay for functioning costs (heat, electricity, telephone, internet connection) as well as allowing Deans and Division Heads to pay for costs due to travel, public relations etc.)

At the end of each year Deans and Division Heads should produce a financial report for the previous year and a budget for the following year, keeping into account potential income and expenses due to services as well as maintenance of equipment. Both the financial report and the budget should be discussed at the Division/Faculty level and approved by the Division/Faculty Council.

The FVMADU should establish an Internal Advisory Board to carefully revise costs of services (e.g. clinical services, diagnostic laboratories, pathology, food analysis etc.) and help establish modern, market oriented calculation of relevant prices for services rendered.

A Regional Advisory Board for the FVMADU should be established, incorporating representatives from national stakeholders (the University itself, local veterinary chamber, pet owners, pharmaceutical companies, food companies, state veterinary officers etc.). Such a body would be a tremendous help in establishing the FVMADU as a key reference centre for all needs related to the veterinary profession in the Aydin Region. The Faculty could then learn better how to quickly orient its activities to fulfil the expectations of the society at large. This advisory board could also incorporate international representatives such as academicians of foreign universities, members of international research institutions, former Deans or Rectors or administrators with a particular vision. Advisory bodies are used by most Western Universities, and the most successful academic institutions are often the ones who make use of international advisory bodies.

The FVMADU should figure out how much money from the net income from services is spent on clinical activities (and whether any of that amount is also spent on teaching and research), and fill out the respective columns of Table 3.2.

4 CURRICULUM

4.1 GENERAL ASPECTS

4.1.1 Findings

There is no national curriculum for veterinary training, which is left at the discretion of the faculties. However, some national regulations related to minimal requirements are set by the Higher Education Council (length and outcome of veterinary education, as well as some compulsory subjects), after taking proposal of College of the Deans (Inter-University Council of Veterinary Education Science) which are in line with the EAEVE requirements.

The decisions on the curriculum are taken in the departments, education committee and faculty council. The approved curriculum is submitted to the University Senate which makes the final decision.

A new curriculum was started three years ago. At the time of the visit, students of the semester 1 - 6 followed the new, and students of the semester 7 – 10 followed the old curriculum. Both curricula span over a period of 5 years.

Almost all subjects listed in Directive 2005/36/EC are in the curriculum. Field veterinary medicine, preventive medicine, agronomy, food science including legislation and some professional knowledge (practice management, Veterinary certification, career planning) are not taught as a subject of its own. They are, however, covered in other subjects.

As indicated in the SER, Tab. 4.1, the curriculum comprises a total of 4756 hours. These hours do not comprise the 240 hours of extramural work after year 4. In order to graduate, students must complete the 5 years curriculum and pass all the examinations with success.

Based on the figures given in the SER, the denominators for ratios R6, R7 and R9 are as follows (as there is no self learning there are no values for the denominators of R8):

		Denominator		
		FVMADU	FVMADU	ECOVE ¹⁾
R 6:	<u>Theoretical training</u>	<u>2325</u>	1.03	LL 0.59
	Supervised practical training	2401		
R 7:	<u>Clinical work</u>	<u>1006</u>	1.39	UL 2.12
	Laboratory and desk based work + non clinical animal work	1399		
R9:	<u>Total no curriculum hours Food-hygiene/Public health</u>	<u>270</u>	17.61	6.00 – 42.26
	Total no. hours vet. curriculum	4756		
R10:	<u>Total no curriculum hours Food-hygiene/Public health</u>	<u>270</u>	0.88	0.05-0.82
	Hours oblige extramural vet inspect	240		

LL = lower limit

UL = upper limit

¹⁾Denominators as established in 2009, amended in 2011

4.1.2 Comments and Suggestions

The new curriculum included major requirements from Directive 2005/36/EC and EAEVE Standard Operating Procedures. **There exists, however, still an imbalance between theoretical and practical/clinical teaching (Ratio 6), that needs to be corrected.**

Self directed learning should also be introduced.

The amount of clinical work in the curriculum (Ratio 7) is deemed as insufficient.

With regard to the teaching in Food Inspection/Public Health, while the total number of curricular hours is appropriate (Ratio 9), **the amount of time students spend in their extramural training in such disciplines (Ratio 10) needs to be improved.**

The SER stated that the attendance of lectures and practical teaching has to be at least 80 % of the hours. Due to the examination system and the lack of lecture free examination periods, this is very difficult to achieve.

Basically, the curriculum could largely benefit from the introduction of the problem based learning, especially with small groups of students in practical training

Some basic and methodologic issues should also be addressed on a faculty, not only a departmental level. For instance, **a certain percentage of teaching in a foreign language would be advisable.** Also, **the question of “tracking” should also be considered,** especially in order to take advantage of the specialisation that has to be implemented in the clinics and in the postgraduate clinical training.

Changing the new national directive for the examinations (which allows students to enter the following year even if they have not passed all the previous exams) should be reconsidered, as such students often become a burden for others in the small groups of practical training.

4.2 BASIC SUBJECTS & BASIC SCIENCES

4.2.1 Findings

Incoming students come from different backgrounds and therefore have various levels of knowledge in the natural sciences. Basic subjects are taught by the departments of anatomy, biochemistry, physiology and histology/embryology. These departments also provide the basic education in chemistry (Dep. of Biochemistry), physics (Dep. of Physiology), medical biology (Dep. of Histology & Embryology), and medical botany (Dep. of Pharmacology & Toxicology). Except for physics which is a theoretical lecture, all basic subjects are given as theoretical lectures and practical laboratory or desk work (15 h each) in the first year. Biostatistics are offered in the 2nd semester with 30 h by the Dep. of Animal Husbandry & Zootechnique.

The total number of hours for the preclinical sciences anatomy, histology, embryology, physiology, biochemistry are 210, 120, 30, 150 and 135 hours, respectively. Theoretical and practical hours are almost evenly distributed. Teaching objectives are plausible and teaching facilities are in a good shape. Staff personell is numerous, motivated in teaching and is active in research. The department of anatomy stands out in teaching providing excellent services to the students helping to prepare for exams. The department is evaluated by the students on a regular basis and achieve good grades. The overall number of animal carcasses (including 10 fowls) varies between 24 (2007) and 35 (2009). In 2011 a pig carcass was included. Carcasses are conserved using Friker's methods (NaCl with antioxidants) and are stored submerged in the cold room. Formol is only used for the conservation of brain tissues.

Basic sciences Microbiology, Parasitology, Immunology/Serology, Virology, Pharmacology/Toxicology and Pathology are taught during 5 years of veterinary education. Departments concerned with infectious diseases are located in Block C together with the food hygiene department. Each of the departments has its own facilities for practicals. Immunology/serology is taught by the microbiology department. The total number of teaching hours for infectious diseases including immunology amounts to 255 hours of lectures and 270 hours of practicals. Electives and internships are offered. All preclinical departments provide teaching material in paper or electronic form.

The research unit of the pathology and the necropsy are in different buildings. Practical in histopathology are taught in the common microscopy hall. The total number of teaching hours in pathology is 195. It is expected for each student to perform 3 necropsies together and a written report. At the time of inspection no carcasses were present. The connected cold storage room was empty and the cooling was switched off.

4.2.2 Comments

The total number of 525 hours for infectious diseases is very high. In general, the total number of hours of theoretical teaching in the basic sciences is high.

It should be avoided that students frequently enter potentially infectious and hazardous environments as they can be found in the departments of microbiology, and virology. This biohazard risk also applies to instruments and equipment that are used for both teaching and research. The possibility of transmitting infectious agents from these departments to susceptible animals via students should be minimized.

The overall case load in the pathology department is low (47 cattle, 34 small ruminants, 17 carnivores, 26 chicken and 12 fish per year; average over 3 years).

4.2.3 Suggestions

The total number of hours of theoretical teaching in the basic sciences should be reduced.

The total number of more than 500h for infectious diseases is about twice as much as is usual in other countries. Although the threat of infectious diseases is particularly high in Turkey **it is suggested to reduce the number of teaching hours by at least 10% and encourage self directed learning.**

Infectious disease departments are suggested to share a common practical room equipped with equipment that is not used for research.

Biohazard risks for students should be minimized

Necropsy hall is insufficient and needs to be improved with regard to size and equipment. Also, measures should be taken to increase the number of necropsies of all species.

4.3 ANIMAL PRODUCTION

4.3.1 Findings

It proved quite difficult to work out the exact number of lectures/practicals in this section from the SER. However, the clear presentations from both the Husbandry and Nutrition departments allowed a more accurate calculation

As a result, the number of lectures covered the following areas:

- a. Animal Behaviour and Welfare
- b. Feed Knowledge and Hygiene
- c. Animal Housing and Hygiene
- d. Animal Science
- e. Animal Nutrition and Nutritional Diseases
- f. Ecology and Veterinary Discipline
- g. Dog and Cat Husbandry
- h. Animal Breeding
- i. Animal Health Economics and Management
- j. Reproduction and Artificial Insemination
- k. Oestrous Detection in Cows and AI

This is certainly a reasonably comprehensive cover of the important areas included in the field of Animal Production

However, the teaching did not appear to cover a herd health approach

The number of diagnostic samples in applicable preclinical science departments (microbiology, virology) coming from outside the faculty are small. Well operating diagnostic laboratories are an important aspect of both undergraduate and graduate education and may further strengthen the position of the faculty in the FVMADU

4.3.2 Comments

The two departments of Animal Husbandry and Animal Nutrition are already working well together and provide a good example of possible integration of departments for shared teaching/examinations/practical's etc. Both departments have taken full advantage of software to download all their teaching on the internet. While staff are always willing to give

students access to their teaching material, it would be useful to have a unified system for the Faculty with a searchable facility.

Agriculture, and especially that involving dairy cattle, is obviously a vital industry for Aydin and the surrounding area. The visitors noted that with financial help from the government, the herd size is increasing as well as the intensification of dairy farming. Such a trend requires veterinarians trained in modern herd health to deal with the nutritional/health problems that are as a result of such intensification. The curriculum should reflect this teaching need

The visitors were pleased to note the introduction of the Animal Welfare component in the new curriculum. This approach should be introduced **throughout** the course, not just in the early years

4.3.3 Suggestions

The visitors were made aware of a pool of experienced veterinarians within reach of the faculty who not only wished to be more involved in teaching, but had the practical skills to match. More use should be made of such individuals

The visitors also noticed an expansion of excellent farms and farm related enterprises near the Faculty who also appeared glad to be able to have students both visiting and helping on their farms. If such an approach is formalised, it would not only question whether a separate farm is necessary at the Faculty, but provide a number of excellent facilities for the practical components of much of the above courses

In line with many of the other courses on the veterinary programme, the number of lectures could be reduced by at least 10%. This would release time for some revision periods for the students at the end of each semester

The curriculum covers a wide range of topics. However, considering the growing importance of the dairy business, it is of utmost importance for the FVMADU that its students be taught also herd health management. In Europe, this topic is taught in some Veterinary Schools by teachers in Animal Husbandry, while in some other Vet Schools is taught by teachers in Animal Reproduction. EAEVE does not require that a specific discipline covers it, but it does require that students are trained in herd health management.

Students would also benefit from the use of problem based learning (PBL) teaching, at least during the last 2-3 years.

4.4 CLINICAL SCIENCES (Dolores, Olivier)

4.4.1 Findings

The information given in the SER regarding practical teaching considers the new curriculum; however, at the time of the visit, 4th and 5th years are developed under the old curriculum. In the new curriculum, more clinical teaching will be performed, especially during summer term clinical practice, but this teaching has not implemented so far.

In the SER, the number of theoretical/ practical teaching hours in the total subjects of clinical sciences (table 4.2 SER) is 750/645 hours/student; however, considering that 4th and 5th years are in the old curriculum, the number of practical teaching hours is lower, as explained below.

In FVMADU, clinical training starts in the 3rd year, with the subjects Clinical Training I; Clinical training II and Summer term clinical training. The total hours in clinical training I and II are 4 hours per week per 7 weeks. The summer term clinical training will be done in 2011 for the first time, with a planned time of 40 hours of clinical teaching per week, a total of 160 hrs per year. This practical teaching is performed at hospital, in kennels and farms and there are several aspects that should be solved (see next paragraph). There are two subjects in the 3rd year: Radiology and General Surgery with no practical work or, at least, seminars, which is inadequate. Which is partially related to the low number of animals and the low technology of the equipment (radiology)

In the 4th year, subjects such as Special surgery, Internal diseases of ruminants, General Obstetrics I and II, Special Surgery, Eye diseases and SA internal diseases, are lacking practical work. In this year, though, there is the Clinical training III and IV with 6 and 8 hours respectively of practical work per week per 5 weeks. After the 4th year a training course of 25 days of practical teaching was applied in the old curriculum. In the new curriculum, it is planned, but there was not enough information regarding the kind of these practical teaching (animal species, facilities, methodology, etc...).

In general, theoretical teaching is adequate, the teachers give the students the power point presentations (on request); however practical teaching is not adequate. Most of the practical teaching in this year is developed at hospital, in kennels and farms, with inadequate facilities (no hospitalization, emergency clinic). The case load of horses is very low, and case load of small animals is not sufficient, either. Furthermore, groups of students per practical class are, in general, composed by 15 to 20 students, which is too large to get enough hands-on experience.

In the 5th year, the clinical activity is developed in the subjects: Clinical Training V (8 hours per week per 4 weeks) and Emergency Clinical training II (48 hours). However, the emergency clinical training has not been done yet. It is proposed to be done the next year. In the 10th semester, the subject named: **Intern Program**, includes compulsory practices in Internal Medicine, Surgery, Obstetrics and Gynecology, and Reproduction and Artificial Insemination: during 15 weeks, with a completion of 20 hours/week with a total of 80 hours per student. The distribution of these practical teaching is organized by the 4 departments working in the Hospital: Internal Medicine, Surgery, Gynecology & Obstetrics and Reproduction & Artificial Insemination.

There is an overlapping of theoretical contents between some disciplines, especially between disciplines that belong to Gynecology and Obstetrics and Artificial Insemination departments: clinical aspects of reproductive cycles in domestic animals, oestrus detection, are given in two different disciplines.

Practical teaching in the Intern Program is not adequate. In general, the disciplines that belong to this program are organized by a system that distributes the students in groups of 20 students as an average. The ratio student/teacher is not adequate, in most cases, there is 1 teacher in charge of a group of 15 to 20 students. The ratio student/ animal is not adequate, either: case load of horses is very low. Regarding cats and dogs, the ratio animal/student is variable, but is around 1-2 dogs per group per clinical practice. The ratio in cattle is also variable, around 1 -2 cattle/ group. Since the case load for different species is not enough, and there is neither emergency clinic, nor hospitalization system at all, the students are not able to learn the management of hospitalized patients in any species. Furthermore, there is no ambulatory clinic working (even though, they have started on Mondays a trial for ambulatory management of patients).

The balance between species is about 60% large, 40% small animals. There are some species such as horses, cats with an extremely low if not anecdotic case load. Exotic animals are almost absent.

Equine medicine and surgery teaching (particularly lameness) is not adequate due to the extremely low case load and the lack of an emergency/ambulatory clinic. Swine medicine and surgery is also almost not considered in the curriculum.

The case load of cattle is the largest, the students can see the procedures as parturitions, dystocias, but they are not able, in most cases to perform these procedures by themselves.

The facilities for practical teaching in the hospital need to be improved, especially radiology, clinical exam rooms and surgical rooms and hospitalization facilities (see chapter 6). There are no animals of any species that are treated as in-patients (overnight or longer in hospital). Therefore, it is of a major concern that more difficult surgical and medical cases are being treated on an outpatient basis respectively agreement with a private practice downtown, however without sufficient clinic facilities, with the consequence that the students do not see intensive care or recovery management of cases and effects over time of treatments in general. But the most difficult problem is the organization of the hospital and the staff. There is no a Hospital structure and no support staff: people working in the hospital are teachers, PhD students, master students, etc... There is not enough technical staff to enable the hospital to work in a proper way.

There is a municipal kennel in Aydin area cooperating with the School. The kennel houses approximately 90 dogs. This is an excellent opportunity for students to gain hands-on practice experience, but only some clinical training is done in this facility.

There is a system to **evaluate the practical teaching**, which is adequate: the students have a logbook with minimum requirements to be achieved per discipline, and the teachers have to evaluate whether the student has achieved the requirement or not. It is mandatory for students to fill the logbook. However, the number of procedures to be performed is low and many of the procedures (ovario-hysterectomy, surgical procedures), are not performed by the students, but they can only observe them. On the other hand, some of the procedures are repeated in different courses, as an example: how to take an x-ray and x-ray development (V and VI Clinical Training) (see also Chapter 5).

Students might complete the Compulsory practices with optional practices in this last semester, which is adequate, but this is an elective discipline. During the extramural work, students are not covered by an insurance system.

4.4.2 Comments

There is no porcine clinic and practical training. The case load for small animals, and bovines has increased in the last 3 years, but it seems that adequate opportunities are not offered to students to handle the common surgical and medical procedures. Also, it is very difficult for students to be properly trained in equine and exotic animal medicine, as the case load of horses/exotics is anecdotic. The lack of hospitalization facilities, isolation facilities, as well as emergency service for animals at the Hospital means that students are not properly trained in some fundamental aspects of the veterinary profession (hospitalization, isolation and emergency medicine).

In most of the disciplines, groups of students per clinical teaching are too large in order to allow the students to get adequate hands-on training in any of the species. Most of the practical teaching is based on watching rather than on doing the procedures.

More clinical training is available to students extramurally, after the 8th term. Students choose a period of 5 weeks in clinics or hospitals, pharmaceutical companies, etc. However, no information is given on the control of students by teaching staff in this additional training.

Students are not covered by liability insurance during extramural and intramural (obligatory and voluntary) activities.

The teaching staff supervising the students is not enough. It is composed by permanent position teachers and research assistants, as well as PhD students.

4.4.3 Suggestions

The number of students/group of clinical practices should be reduced, and practical teaching should be organized in a way that students “do” rather than “watch somebody doing”. This might be achieved by different ways: increasing teaching staff, increasing the number of practical lectures per teacher, using the facilities available to a larger extent.

The number of cases of all species should be increased in order to get students more involved and experienced in case management. In order to increase the case load of large animals, different farms located in the surroundings should be used more than they are at present, to give the students the opportunity to improve clinical training. The relation with farmers is good, and it should be used to increase the cattle case load.

The number of dogs and cats in Aydin is low, and so is the number of specialized veterinarians. The only way to increase the case load of cats and dogs is improving the quality of the veterinary practice in the Hospital. Improving the skills of the veterinary teaching staff, improving the quality and the number of the procedures performed, as well as offering an adequate hospitalization facility and emergency clinic, will increase the number of dogs and cat (referral and first-opinion cases). In the meantime, the kennel facility more should be used more intensively used than what is being used.

The hospital should be organized in a proper manner. At present, a system which organizes the working of the Hospital is lacking, even though its implementation would be an absolute must. A system with a Head of the Hospital (preferably but not necessarily a person who does not belong to any of the departments working in the hospital), a financial- administrative office, and different services, should be developed. It might be organized, as an example, in 2-3 main services: small animal service, large animal service, reproductive service, and common services such as diagnostic imaging service, clinical pathology service, pharmacy, hospitalization etc..

4.5 FOOD HYGIENE & TECHNOLOGY AND VETERINARY PUBLIC HEALTH

Food Hygiene is a Division consisting of only the Department of Food Hygiene & Technology. It is located in a new Faculty building (Building C) occupying a sector consisting of a preparation room, two laboratories (chemistry and microbiology), a safe room, several offices, stores and administrative areas.

The teaching staff includes two associate professors which were supported by two assistant professors from the academic year of 2010-2011.

Due to a curriculum change which gradually (annually) started in the academic year of 2008-2009, Food Hygiene & Technology subjects were to be referred to the so called “old Curriculum”. In the case of Veterinary Public Health, placed in the 2nd year (4th semester) in the “old curriculum” and in 5th year in the “new curriculum” there is no data for the academic year addressed by SER (2009-2010).

Subjects, year and semester location, number of lectures and practices, total number of hours of teaching, ECTS and ratios of lectures to practical work are shown in next Table :

Subjects and teaching hours in 'core' food hygiene subjects

subject	year	Semester	lectures	practical work	Total	ECTS	ratio of lectures to practical work
Food Hygiene and Control	4	8	30	30	60	4	1: 1
Dairy Science and Technology	5	9	30	15	45	3	1: 0.5
Meat Hygiene and Inspection	5	9	30	-	30	2	1:0
Meat Science and Technology	5	9	30	15	45	3	1:0.5
Practice	5	9	-	8	8	5	
Food Hygiene and Technology (Intern Training Program)	5	10	-	32	32	7	
Total			120	100	220	20	1: 0.8

Food Hygiene teaching is rightly offered at the last two years of the curriculum and distributed by five different but related subjects and two practical training periods. It sums up to a total of 220 hours divided into 120h of lectures and 100h of practical work performed at two slaughterhouses, one dairy processing unit and at Faculty departmental laboratories.

There is no slaughterhouse unit in the Faculty. Students have to be taken to a municipal slaughterhouse 5 km away from the Faculty and to a commercial unit 45 km away. The Faculty has protocols with these two units and the veterinarian meat inspectors seem to be happy to carry on having students around twice a week.

Each student has the opportunity to perform a total of 32 hours of hands-on work at both slaughterhouses. However, due to the number of groups of students that rotate in meat inspection practices, there is a group that only takes 24h of this practical work. Additionally, they can also follow meat and milk processing in two of the places mentioned above. An annual visit is also made to an integrated meat products unit located in the Izmir area. Cattle, sheep and goats meat inspection are the only species addressed in practices. Pig, rabbits and honey inspection and processing are not covered for various reasons, from religious grounds to eating habits. Egg inspection is addressed both at lectures and laboratory practices. Poultry and fish and fish products inspection are briefly addressed in lectures but do not have practices. There is also the opportunity for students to take extramural work at the end of the 8th semester, which accounts for 25 days (5 weeks). Only two students have opted in the academic year of reference for food hygiene training.

Concerning other aspects of VPH, in particular zoonoses, toxicological and chemical residue and microbial resistance, these issues are briefly presented in theoretic classes and apparently there is no integration with other subjects such as microbiology, virology, parasitology, toxicology, pharmacology, ecology and animal production.

In the case of animal welfare concerning food hygiene (transport, pre-slaughter management, slaughtering and ritual slaughtering) a discipline of Animal Behaviour and Welfare (2nd year, 3rd semester) exists but no links exist with Food Hygiene/VPH area.

The overall percentage of Food Hygiene teaching hours (including all practices) in respect to overall curriculum hours seems to be not over 4.61% (1:21,6).

R10 indicator of training in Food Hygiene/Public Health is not applicable to all students. The compulsory extramural work period corresponding to 240h of practical training is optional for the students. The area of Food Hygiene/Public Health is just one among several types of extramural work.

4.5.2 Comments

In general (and although Ratio 9 is OK) Food Hygiene and VPH subjects are insufficiently covered in the Aydin Faculty curriculum both in the "Old" (4.61%) and in the "New" curriculum (5.68%).

The lack of a pilot plant for meat and milk processing in the Faculty wastes resources (car use and maintenance, petrol, drivers) and time to students and staff. A meat and milk pilot processing plant would greatly improve the opportunity to train hands-on students in food processing methods and quality assurance methodologies and, also, to develop research projects in these two food areas. Unfortunately, the Faculty departmental organisation does not support the integrated teaching and training of Food Hygiene and VPH.

The proposed ECTS values attributed to Food Hygiene and Technology disciplines in the New Curriculum should be reconsidered as there is no apparent reason to have a difference of 1 ECTS between the two disciplines of the 4th year (4 ECTS) and the one of 5th year (3 ECTS).

To sensitize and motivate students towards the areas of Food Hygiene and VPH, there is a need to offer more attractive optional subjects related to these important professional areas.

4.5.3 Suggestions

The teaching of Food Hygiene and VPH subjects should be reinforced in order to comply with a satisfactory indicator of SOP, particularly with regard to the number of hours dedicated to hands-on work in slaughterhouses, meat and milk processing units and in other catering (university canteens) and food processing or commercial places (ex. public food markets). In correspondence, the Department should be provided with a full professor and with another two permanent academic staff members.

It is strongly suggested that the faculty establishes a pilot plant for meat and milk processing on or close to the Campus in order to support adequate and more convenient teaching and training in food processing methods and quality assurance methodologies and, also, to develop research projects in these two food areas.

Practical training in pig, poultry, fish and fish products inspection and in food safety and quality assurance matters should be introduced or reinforced.

The lack of stunning to prevent animal suffering at slaughter should be seriously addressed in order to comply with a European welfare requirements and a common ground ethical issue.

4.6 ELECTIVES, OPTIONAL DISCIPLINES & OTHER SUBJECTS

4.6.1 Findings

There are no electives or optional disciplines offered in the Old curriculum. In the New curriculum, sixteen subjects are offered as elective disciplines, two each semester. Concerning the present SER only 1st year (2nd Semester), 2nd year and 3rd should be considered. There is no indication that a tracking system exists.

Two disciplines are offered at each semester for students to choose from, corresponding to 15h lectures or 1 ECTS. In the New curriculum there is also one list of another 18 curricular subjects that are indicated as compulsory (Table 4.4., pp.38).

4.6.2 Comments

Due to the lack of a proposed tracking system, the disciplines currently offered as electives should be considered optionals. However, optional disciplines should be offered in such a way that students have a fair opportunity to choose one subject from a list of a minimum of five or six disciplines.

Considering the number of semesters where optionals are supposed to be taken, the present list of Table 4.3. (pp 37) should be expanded.

4.6.3 Suggestions

The two lists of disciplines (Table 4.3. and Table 4.4.) should be looked as a future pool for offering more than two optional disciplines each semester.

Alternatively, a tracking system should be developed and a list of adequate electives should be proposed.

Optional subjects might be an excellent opportunity to stimulate collaboration of Faculty with practitioners, professional associations and state veterinary services, involving professionals and experts both in teaching and training. On the other hand, access to optional disciplines might be a good opportunity to develop continuing education among veterinarians in the Aydin area.

5 TEACHING QUALITY & EVALUATION

5.1 TEACHING METHODOLOGY

5.1.1 Findings

In most cases the distribution of theoretical lectures and practicals is even. The number of students of each semester (70 – 80 students) is divided in half, so that groups of up to 40 students share lectures and practicals. In anatomy and histology the number of tables / microscopes is sufficient for the number of students per group. Microbiology and pharmacology practicals are split into groups of twenty with a lecturer and 2 research assistants. The overall number of teaching personnel is appropriate.

Some departments provide textbooks or scripts as well as power point presentations. Compilations of slides for histology and pathology are available online. The students prepare for exams on the basis of the learning objectives stated in the study handbook, mandatory reading and slides from lectures. The study handbook contains information about curriculum, schedule and rules. For the clinical subjects there is a logbook with lists of procedures that are mandatory for each student to perform during the course. Students get a check in their logbook when they have completed a procedure which enables staff members to ensure that

all students get the hands on experience required by the course. The list of procedures of the logbook is insufficient.

According to SER the " day-1 skills" concept is implemented but a list of Day-1 skills is not available. The students appear to feel confident that they know what is important after graduating because they have summer term clinical training after their third and fourth year.

The SER reports that „teaching methods are conventional“, hence modern problem based learning concepts are yet to be developed. This also applies to the participation of undergraduate students in research projects which is reported for the departments of anatomy and physiology.

Exam sessions are placed within the semester duration of 15 weeks, while students do not have any further obligation during summer holidays. This leads to a high workload of the students during the semester, particularly in the third and fourth year. The weekly hours of compulsory class attendance according to table 4.1 of SER are 27.5 h in the first, 27 h in the second, 36 h in the third, 33.5 h in the fourth and 34.1 h in the fifth year. The minimal attendance for lectures is 70% and for practicals 80%.

The university has a centralised, internet based system for evaluation of general topics and the faculty is currently implementing a paper based evaluation system for the assessment of teachers and teaching. This system was introduced 2 years ago and is not yet fully developed. It consists of a questionnaire that is completed at the end of each term. Based on interviews of the students and some faculty members, it seems that only a small proportion of these questionnaires are actually filled out and handed in by the students. There is no formal procedure for the handling of results, but the teachers generally give verbal feedback to the students on the first day of the following term. Results from the evaluation through faculty administration were not readily available. The faculty plans to collect the results for long term statistical analysis. Intradepartmental evaluation (with results) is only documented in the departments of anatomy and embryology

5.1.2 Comments

The number of teaching hours in the basic sciences is high. This was also a complaint during the students' interview.

The implementation of exams parallel to the large number of compulsory lectures/practicals compromises efficiency as students will to reduce their attendance to the permitted minimum in order to study for the finals. There is redundancy in learning objectives of different departments (i.e. lab safety, hygiene, fish diseases).

The university has a very innovative way of addressing the career of their graduates. They have an Adnan Menderes alumni facebook page for graduates and gather information from here.

5.1.3 Suggestions

Exams should be transferred to the lecture free periods so that students have sufficient time to prepare and are relieved from an inappropriate workload. This leads to a more relaxed learning environment that encourages self directed learning.

The interdisciplinary aspect of learning objectives should be supported by joined teaching of participating departments.

Problem-Based Learning should be introduced

A system to force all students to fill out and hand in all teaching quality assessment questionnaires should be introduced (such as including this as an obligation before students sit for the exam) as otherwise the assessment of quality of teaching cannot be regarded as effective.

A reward system for best teachers should be introduced

The logbook used in clinical teaching should be extended to all professional aspects of veterinary teaching (i.e. public health, food inspection etc.). The logbook should include all the Day-1 skills listed in the 2005 EU Directive (potential category-1 deficiency)

5.2 EXAMINATIONS

5.2.1 Findings

There is no central examination policy for the veterinary school, as each of the 17 separate departments prepares and runs their own examinations, There is no separate time set aside for revision, External examiners are not used at any stage of the curriculum. For each semester of 15 weeks there is a mid-term exam and then a final exam with a repeat exam (termed a “make-up exam”) for those students failing. These exams are normally of 45 minutes duration

The type of assessments used are written (either MCQ or short answer) or oral/clinical. In addition, students in the non-clinical years are required to produce detailed reports which are then assessed. However, in the clinical years there does not appear to be any assessment of a student’s performance during their clinical rotations

Students who fail any of the “make-up exams” are allowed to continue on the veterinary course and attempt to pass the final exam in the following year. However, if they fail again they cannot enter the subsequent year and have to leave the school and attempt to pass during a subsequent year. There appears to be no limit as to how many times a student can attempt an individual exam, although there is a financial penalty which increases year after year. This situation appears to be imposed on the Faculty by national rules allowing failed students multiple chances of resitting an exam

Staff often set time aside after each exam to go through the questions with the students

5.2.2 Comments

The examination system appeared to be effective in the context of setting questions that covered the relevant courses and were, at least in the papers the visitors had access to, reasonably testing of a student’s knowledge

There appeared to be little evidence of a formative approach to any of the examinations

There was little evidence of a problem based approach within the curriculum and certainly no evidence of assessment of such skills, although the one to one oral clinical examinations in final year might well be testing these skills

5.2.3 Suggestions

A system involving external examiners would be difficult to introduce across the whole Faculty, but nevertheless **experienced clinicians could be introduced to act as external**

examiners during the final round of examinations, in order to assess the students' knowledge and experience of "Day One Skills"

Every effort should be made to prevent students carrying on with the course having failed the exams in the previous year, as a reasonable level of knowledge is required to fully comprehend teaching in the subsequent year. For instance, a blocking system could be instituted by which registration to any year after the 1st one is subject to have successfully passed the most important exams of the previous years (i.e. a student failing to complete the most important exams of 1st year could be enrolled as "1st year-repeat" student instead of "2nd year student").

Students should be allowed sufficient time for revision before the final exams at the end of a semester. This time would be most easily achieved by a reduction in the number of lectures

Exams sessions should not coincide with lecturing time, as this pushes students not to attend classes and increases their workload remarkably. For instance, instead of letting students free to use the summer months as they want, the summer should be used by students to prepare for exams (or at least for their "make-up" exams).

In an effort to reduce the number of examinations, joint exams could be introduced; for example a combined exam between Animal Husbandry and Nutrition. This would also have the beneficial effect of merging departments

6 PHYSICAL FACILITIES & EQUIPMENT

6.1 GENERAL ASPECTS

An aerial view of the Veterinary Campus is available on page 54 of the SER. The main building (including administration, teaching laboratories and teaching units) and blocks A,B and C are newly constructed and have been in use for about 10 months. The buildings are symmetrically arranged around a pleasant square that allows students and personnel to meet. Blocks A – C house offices and research laboratories of non clinical departments including pathology, four to each building. Research labs are also used for teaching of practicals in several departments. The 4 buildings (building A, B and C plus the main administration (Dean's office) building cover 10.600 sqm² including administration offices, a small library, computer room for 32 students and student restaurant.

The Departments of histology, physiology, pathology, anatomy, biochemistry, pharmacology, animal sciences, parasitology, bacteriology, virology, and food hygiene, moved to the 3 new buildings (A, B and C) during the last year. In general, facilities are under construction, the buildings are adequate, but there is a need of equipment (as well as of some basic furnishing).

Most laboratories in these departments are used for research purposes, so teaching to undergraduate students in general does not appear to be a priority in these facilities.

There is no air condition system working in the buildings where several laboratories are located. This might be a serious problem, especially in Aydin where in the summer the temperatures are high.

There is a vehicle available to transfer students from site to site or to external facilities such as farms, laboratories, etc.

6.1.1 Findings

The main building (the one where the Dean's office, lecture rooms and teaching laboratories are situated) was recently finished. Lectures halls are well designed, well lighted and all provided with powerpoint projector and a huge (70 inches?) screen which acts as a slide projection screen but which is also a computer monitor; however, laboratories are not finished yet.

The 3 new buildings (A, B and C) offer excellent conditions for teaching and research and are compliant with health and safety measures such as fire extinguishers and eye washes; however, in a few cases eye washes were not present. In one case of two laboratories connected by a window on the dividing wall, the eye wash was located next to the connecting window, so that in case of an emergency one should reach through the window to grasp the eye wash. The amount of research equipment should be improved. Adequate ventilation systems are not present (air conditioning equipment is present but not working yet), and in one case (chemical cabinet of biochemistry department) hazardous material (chemicals, biological stains etc) was located in a room without windows and without ventilation. In general, chemicals (organic solvents and acids) and hazardous laboratory compounds are not kept in a locked cabinet and are often stored loosely on the floor without safety measures; similarly medicines and dangerous drugs are not stored in a safe way.

Some parts of the new teaching facilities such as microscopy halls within main building are not finished. Teaching units for histology (microscopy hall), anatomy (section hall) and pathology (necropsy hall) are housed in additional buildings 1 and 2. Necropsy hall in additional building 2 is not satisfactory with regard to size and hygienic conditions. It is rather small with two section tables that cannot be used for carcasses exceeding the size of a sheep. The announced mobile table for transport and dissection of large animals was not present at the time of evaluation. Given the immanent danger of contagious agents the standards are not appropriate. A small experimental animal unit operated by personnel of the department of physiology is located in additional building 1. Although much care is taken and cages conform to modern standards the building is improvised, room temperature was high (one wonders what it could be like in the summertime) and does not meet current regulation of hygiene and animal welfare.

There is a vehicle availability to transfer students from site to site or to external facilities such as farms, laboratories, etc.

6.1.2 Comments

Eye washes should be present in all laboratories.

Chemicals and hazardous materials are not handled properly, which can be source of risk both for faculty/technicians but also for students being trained in the laboratory.

The necropsy room does not comply with modern standards of equipment and hygiene. Large animal necropsy is virtually impossible to perform.

The experimental animal unit is absolutely below standard with regard to animal welfare and hygiene. There is a horse riding club run semi - privately on the grounds of the faculty. Anatomy department uses these horses for applied anatomy. This facility along with the neighbouring recreational area is an excellent idea.

6.1.3 Suggestions

Departments of microbiology, virology and parasitology should consider to use a common facility for teaching practicals instead of sharing their own research labs with the students.

This would allow a more efficient use of space and equipment and allows a higher level of bio-security. The combined use of equipment for research and teaching should be avoided because of contamination dangers.

Chemicals and hazardous materials should be properly stored in safety cabinets with the biohazard sign clearly displayed. Eye washes should be present in all laboratories where hazardous material is used.

The necropsy room should be improved with regard to availability of equipment for large animal necropsy and hygienic conditions. The experimental animal unit must be improved with regard to standards of animal welfare and hygiene.

The air conditioning system should be activated as soon as possible

6.2 CLINICAL FACILITIES & ORGANISATION

6.2.1 Findings and comments

Most of the practical teaching is performed in the Veterinary Hospital, which was built in 1996. Hospital facilities and teaching structure are not species oriented, but rather disciplined oriented. This is an old-fashioned system which is not considered a negative thing in itself, but it does not allow to provide services in an efficient way. The 4 departments working in the hospital (surgery, internal medicine, obstetrics & gynecology and reproduction & artificial insemination) moved there in 2000. The structure of the hospital is based on the function of the 4 departments working separately.

The inside of the building needs to be modified and reorganized, since it is in generally under used. Installations are old, not properly maintained, and the degree of quality and specialization is low. However, there is enough place to reorganize the structure, in order to locate within the hospital all the facilities needed, including central services, hospitalization facilities and an emergency clinic (figure 6.1).

The **Surgery department** has an examination room, a recovery room and a surgical room for small animals. Anaesthesia equipment is old, and an adequate anaesthetic equipment is lacking; inhalator anaesthesia is not performed. There is no a centralized facility to sterilize surgical material; the material is sterilized in a room close to the surgery room. For large animals, there is an examination room with quite old-fashion facilities. The surgery room for large animals needs to be renewed, the system to transport and restrain the animals is old and adequate anaesthetic equipment is needed. Even though there are places that might be used for hospitalization for small and large animals, they are not used for this purpose; which means that there is no hospitalization system for small nor large animal.

Likewise, there is no 24h emergency service for companion animals and there are no isolation facilities for large/small animals.

In the hospital, there are no central services such as diagnostic imaging (radiology, ultrasonography), clinical pathology laboratory or other diagnostic laboratories. Radiology is performed by surgery department. For this purpose, there is a room with a unique x-Ray equipment for large and small animals. People working in radiology are trained and they are following minimum safety measures (radioactivity meter). However, the room is not adequate: the walls are not leaded and there is a ventilator in the wall which is directly connected with the outside through a hole in the wall.

The **Gynaecology and obstetrics department** has an examination room and a surgical room to perform mastectomies, ovariectomies, and other gynaecological procedures for small animals. Adequate anaesthetic equipment is lacking.

The **Internal medicine department** facilities are as follows: an examination room with 2 tables to perform physical exams and sampling (blood sampling, urinary sampling, fine needle aspiration cytology...). In the room, a group of 20 students are working together with one animal which is not adequate. The drugs used in the room are not kept in a safe way.

There is a pharmacy near internal medicine facilities with a low number of drugs and some surgical and medical equipment.

Close to internal medicine facilities there is a laboratory to perform haemograms, biochemistries, urinalyses and cytologies for large and small animals of the hospital. Teaching staff working there belongs to internal medicine department. This laboratory is small, the equipment should be renewed, and there is no technical staff. This laboratory analyzes samples of patients of the hospital. For other type of analyses such as parasitologic, microbiologic, viral analyses, or hormonal analyses, samples are sent outside. Just like in the other departments, there is room to hospitalize internal medicine patients, but it is currently not used.

The **Reproduction & artificial insemination department** has a surgery room for small animal artificial insemination and another room for large animal rectal palpation/minor exams. This department is working separately from gynaecology and reproduction department. This separation lead to a duplication and overlapping of tasks conducted.

6.2.2. Suggestions

The Hospital should be fully reorganized. All the clinical activities should be performed under a common functional structure with clinical. This structure must have a Director (Head of hospital) who is in charge of the financial and administrative issues of the hospital, who could be one of the professors from the Faculty although ideally it should be done by someone from outside the faculty (to avoid conflicts of interest). The Hospital should be organized in services, considering a species-oriented system such as small animal service, large animal service, mobile clinic (providing hospital services outside), herd health management (providing consultation service to dairy farmer on how to properly run their farms of increasing size) etc., plus a number of independent central services such as diagnostic imaging, clinical chemistry laboratory, histopathology laboratory, pharmacy, hospitalization, emergency service etc. Proper hospital organization was a serious concern for the Team.

An emergency service must be established. The idea of establishing the Emergency Service in a different building makes absolutely no sense: equipment and facilities would have to be doubled, time would be lost in moving patients back and forth, and during the day it would be difficult to keep people monitoring the animals in a place far away from where all activities are going on. Nobody likes to be away from the main hospital just to be watching a dog with a saline infusion. Obviously one may say that technicians or students can be easily forced or "commanded" to man the Emergency Service. However, the importance of motivation must not be underestimated, as when people are highly motivated they end up in providing a high quality service, and high quality services are the key to excellence.

Isolation facilities must be established and included in the hospital.

The number of technical staff working for the hospital should be increased. At present, most of the technical work is done by postgraduate and teaching staff, which is time-consuming and not the way it is supposed to be. This technical staff should be under the direction of the new Hospital structure suggested, and not under the different departments.

The FVMADU should make an effort to provide the Teaching Hospital with advanced diagnostic imaging equipment (CT-Scan, MRI, Radiotherapy etc.).

All the facilities of the hospital building need to be renewed, and hospitalization facilities for large and small animals and a 24h emergency clinic should be integrated in the hospital.

Even though there is a mobile clinic, it works only one day per week instead of 5 days/week, and merely on-call. **The mobile clinic activity needs to be enlarged and improved in order to allow the students to increase hands-on training.**

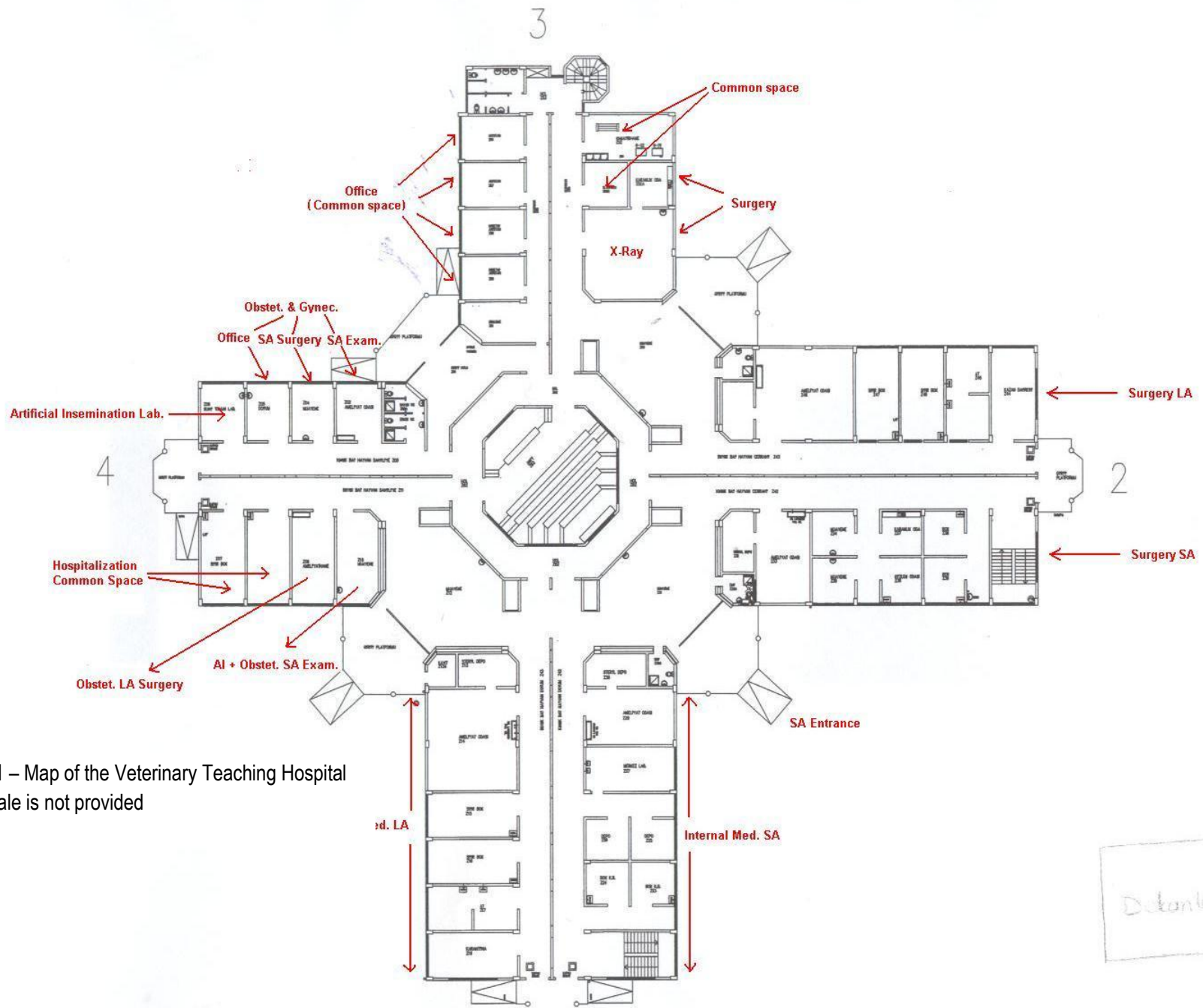


Figure n° 6.1 – Map of the Veterinary Teaching Hospital building. Scale is not provided

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7 ANIMALS & TEACHING MATERIALS OF ANIMAL ORIGIN

7.1 Findings

For the anatomical teaching cattle, sheep, goats and donkeys are purchased commercially. Chickens are provided by the faculty while dogs and cats which have been euthanized for clinical reasons are also used.

In addition, a number of carcasses have been plastinated for teaching and a treatment schedule utilising high concentrations of salt is used instead of the more dangerous formalin. Staff from within the Anatomy department proved to have an outstanding skill in assembling skeletons from a wide variety of animals

Surface anatomy is taught using animals in the clinics and in animal establishments such as riding clubs. However, it appears that only a relatively small number of animals are used in the above teaching techniques (Table 7.1 in the SER)

The use of animals in pathology has increased from approximately 120 in 2008-2009 to 186 in 2010, although these figures appear to be sufficient only for food animals.

The students have access to a poultry unit and horse riding club (very near to the Faculty) to practice handling and feeding. For access to cattle and sheep the students visit the local Agricultural Faculty which is 20kms from the vet school. The FVMADU does not have its own farm but has contracts with a variety of local farms covering cattle, pigs and fish.

The number of clinical cases received for consultation and hospitalized in Teaching Hospital of the FVMADU has increased steadily over the last 3 years as reported on table 7.4 (page 65 of the SER, erroneously labelled as "Number of Necropsies"). There is no emergency service, no vehicle for the transportation of sick animals. A mobile clinic was recently established, but it works only one day/week and provides an on-call service rather than a routine consultation service. There is no porcine clinic and practical training.

7.2 Comments

The number of necropsies of equines and companion animals is certainly below the minimum, as confirmed by R19 and R20 values being below the threshold. **The potential for this issue to represent a category-1 deficiency has already been addressed on chapter 4.2.3.**

The team noted an expansion of excellent farms and farm related enterprises near the Faculty, a number of which were owned by qualified veterinarians and/or agricultural scientists. Such individuals also appeared very willing to have students both visiting and helping on their farms. If such an approach is formalised, it could question whether a separate farm is necessary at the Faculty

The horse riding club at the Faculty, run by students and staff, proved to be an excellent facility for the safe teaching of equine husbandry, where students get to do a lot of practical experience on handling horses. Unfortunately not all students take advantage of it, but only those who are interested in horses.

At the local cattle, pig and fish farms with which the FVMADU has teaching agreement students get to do a fair amount of practice. Whenever students are taken there on field trip they have to write up reports on their visits to these facilities (and these reports are assessed), which is very good. However, the amount of contact the students have with the animals appear to be insufficient, mainly due the large size of the groups. **The potential for**

this issue to represent a category-1 deficiency has already been addressed on chapter 4.4.3. All these animal based facilities either employed their own veterinarian or utilised private veterinarians.

The fact that there is basically no practical teaching on pigs is certainly a serious concern.

7.3 Suggestions

It is essential to initiate a 24 hour ambulatory clinic for the farm work. This would have to be developed in cooperation with local practitioners and would need further investment in vehicles capable of towing portable crushes and animals.

There is a need to increase the number of necropsies of both large (particularly horses) and small animals. Efforts should be made to obtain such material from different sources such as local farms and the veterinary practitioners in or near Aydin

Efforts should be made to reduce the size of groups visiting farms etc and attempt to involve them in more hands-on practical work such as animal handling/feeding/milking etc

8 LIBRARY & EDUCATIONAL RESOURCES

8.1 Findings.

The Main University Library of the Adnan Menderes University (ADU) is located on the main campus, approximately 10 km away from the Veterinary School. This is a large Library organized in a very efficient and modern way, where hundreds of thousands of books are catalogued and can be searched for free by all staff and students of the ADU. Opening hours are not very long, only until 7:30 pm on week-days, until 4:30 pm on Saturdays and closed on Sundays.

The Veterinary Library on the Vet Campus is small, with a fair amount of books on most disciplines of veterinary medicine. Most books are not in their current edition, some are translated in Turkish, and for many disciplines students find Turkish books available, written by their own teachers, and with all figures on a CD to keep costs down. Internet facilities are available and there is a total of 32 computers in the computer room + 12 computers distributed in the classrooms. Journals are not available in paper, but they are accessible by internet. Interlibrary borrowing is minimal.

The main building has wireless internet access but generally few power plugs. Wireless internet is also available in buildings A, B and C. The library was nearly empty when the Team visited it, although this might have been due to the fact that it was class time and/or the recent opening of this new service (apparently 2 weeks prior to the visit).

8.1 Comments.

The number of veterinary books should be increased, and the Veterinary Library should have more space available compared to what other European Veterinary Schools have.

Most but not all teachers post their power point presentations from lectures online.

Online searching is available through the Veterinary Library, but it is not a frequently used service.

Interlibrary borrowing should be made simpler and quicker.

8.1 Suggestions.

The Veterinary Library should be provided with more books and journals, particularly in small animal/ large animal sciences,

The FVMADU should organize a security service so that activity on campus could be extended beyond 7:00 pm on week days and could occur also at least for some hours during weekends. This would push students to spend more time at the library and learn of to take advantage of it.

The students should be properly trained on how to use the most common search engines when looking for papers and journals online.

All teachers should place their presentation online. It appeared that such an important service is available upon request. Students should not have to ask teachers for making available their powerpoint presentations. Teachers should also be helped in learning how to do it, as lack of adequate knowledge of internet may thwart effort of proactive staff members in providing students with class material.

A wider selection of international journals and textbooks should be available. Students should be stimulated to study on English textbooks, as this would help them to improve their language skills. English proficiency courses should be offered also to teachers.

9 ADMISSION & ENROLMENT

9.1 Findings

Admission to higher education is made through a two stage nationwide student selection procedure applied to high school graduates. Candidates are admitted to higher education institutions on the basis of their success in the examination and their high school grade-point averages. However, there are a few exceptions allowing applicants from vocational high schools to be transferred.

Aydin Faculty assumes to be the fourth strongest Veterinary Faculty to attract students among the 17 Turkish veterinary faculties.

In the last seven years, the FVMADU has accepted between 52 (2005) and 71 (2010) students per year. Students may come from other universities by transfer, a mechanism which is regulated by existing annual quotas allowing these admissions. The number of these students varies from 2 (2007) to 12 (2010). The result is that the annual overall intake has varied from 55 (2005) to 83 (2010) students admitted. The annual intake shows a progressive increase in the last six years.

The Faculty determines the capacity of student intake and the Dean informs the University about the decision. The number of students is confirmed by the University Senate and proposed to the Higher Education Board. The Higher Education Board has the power to accept, alter or reject the proposal.

Students pay a tuition fee of 230 Euros per year to the University. Students with financial difficulties can apply for state grants. Fees are not returned to Faculty budget. They are invested by the University in social benefits (accommodation, food, health, social support) to the students.

The average drop-out rate has been 2.1% in the last five academic years.

In the last five years (2007 to 2011) the number of graduate students varied from 43 (2007) to 62 (2010) and 77 (2011).

At present, there are 8 students from EU countries (Lithuania, Spain, Italy) including some students from a Lithuanian degree course in Veterinary Nursing. Language barrier and the low percentage of students proficient in English or other international languages make communication hard and hinder students from applying for ERASMUS mobility programmes. Erasmus students attend classes in Turkish trying to pick some local language; however, many teacher subsequently repeat their class in English just for the Erasmus students.

9.2 Comments

The increasing annual student intake makes Faculty constraints even more acute. The Faculty should be allowed to participate in the selection and admission of students. Alternatively, the Faculty should propose some specific criteria to be applied in the selection of student's admission.

There is an interesting efficiency in student's performance.

9.3 Suggestions

Current student's intake at FVMADU should not exceed 65 to 70 according to present staff and building dimension.

FVMADU should propose to the University specific criteria to be applied in the selection of admitted students. The Rector of ADU should voice this concern to the Central Government, as high school grade point average has been recognized to be insufficient as a selection criteria for the Veterinary School in many European countries.

10 ACADEMIC TEACHING & SUPPORT STAFF

10.1 Findings

The Veterinary Faculty is organised into seventeen departments. There are 66 FTE teaching staff and 25 FTE research staff involved in academic tasks, summing up a total of 91 FTE. However, as it was impossible to obtain the real percentage of time dedicated by research staff to practical class teaching, the number of FTE attributed to research staff must be corrected.

The number of academic staff allocated to each department goes from 2 (Deontology) to 8 (Surgery).

All academic staff members are veterinarians except for two Research Assistants

The ratio between the numbers of teaching staff to the number of students is either 1:4.5 if all 91 FTE staff members are considered or 1:6.21 if just the FTE academic staff is referred to (66).

R1 - total no. FTE in veterinary training: no. undergraduate veterinary students – is 1: 4.5

R2 – No of FTE total at the Faculty : No. undergraduate students at the Faculty – 1: 2.95

R3 – total no.VS FTE in veterinary training: no. undergraduate veterinary students – is 1:4,6

R4 - total no.VS FTE in veterinary training: no. students graduating annually – is 1:0.62

R5 - No. total FTE academic staff in veterinary training : No. total FTE support staff in veterinary training - is 1:0.45.

The Dean of the Faculty suggests the number of staff and administrative personnel required to the University Rectorate. The University has to ask permission from the High Education Board to submit the proposal to the Ministry of Finance who annually announces the quotas approved.

The Faculty has to comply with Turkish law and University rules in relation to staff mobility and the filling of vacant posts. Professor positions are advertised in nationwide newspapers and the selection of candidates performed by a 5-member jury integrated by professors of the scientific area from other faculties.

10.2 Comments

The ratio teaching staff:students is satisfactory .

The ratio of teaching staff:support staff is unsatisfactory (0.53 to 2.2).

10.3 Suggestions

Departmental reorganisation is urgent. The number of departments should be reduced and related departments can merge and become more adequate for integrated teaching and critical mass research.

Support staff must be reinforced in areas of great need of clinical and laboratory practical classes preparation. **Although particularly crucial for the Veterinary Teaching hospital, the number of support staff should be increased for the whole vet school.**

11 CONTINUING EDUCATION

11.1 Findings

The CPE is not stated as objective by the faculty. However it is recognized as one of the most important activities for lecturers and there is a faculty committee for the continuing education center. This center is supported by 3 faculties of the University of Aydin. On the Faculty level, there is no structured CPE program in place. However, numerous departments give courses individually or collectively, which are held at the Faculty.

Some of them are held in cooperation with the Veterinary Association of the Aydin City. CPE is not mandatory for practitioners, but there is a large need of CE and the seminars and conferences are well attended. The practitioners would appreciate better information from the faculty on ongoing or new topics covered by the faculty (new disease outbreak or parasitic problems for instance). Moreover, there is a need of CE in more specialised topics for practitioners.

Faculty lecturers also participate in the so called “basic educational skills” CE, which is organized by the University CE center and is aimed at university lecturers.

Over the last years (2005-2011), there have been 5 different courses (mostly on a yearly basis, for about 1000 participants, 20-50 participants each course) and 4 national congresses organized by the Faculty itself. Among those, the Department of reproduction and AI organized a licensing course of one week for veterinarians wanting to practice AI. During the same time, 13 reunions were supported by Faculty lecturers (about 1800 participants).

The income of the CE is low and covers the expenditures. In the few cases with benefit, the money has to be given to the faculty.

11.2 Comments

As for many teaching activities, the initiative for CPE is on a departmental basis. However, though the SER mentions good relations with private veterinarians, CE does not seem to be a regular way for the clinical departments to keep in touch with the practitioners and enhance the referral of patients to the faculty. This should be changed and a move toward specialisation in the clinics could help to build up such tradition of excellence and cooperation.

On the other side, the efforts in CE should be rewarded financially, as it is useful not only for the department, but the faculty as a whole.

11.3 Suggestions

The spectrum of CE topics offered should be enlarged, especially in the clinical topic and create financial incentive to CE for potential “clients” of the faculty.

Topics which are important for the referring practitioners should be privileged, including topics, that are more difficult to update for practicing veterinarians or which will bring added value to the general practice in the future (veterinary public health, infectious diseases, exotic animals, herd health medicine, etc.).

12 POSTGRADUATE EDUCATION

12.1 Findings

Postgraduate education (PGE) in Turkey in the health sciences including veterinary sciences is regulated by the Inter-university board of the Higher Education Council in Accordance with the Art. 65 of the law 2547. These regulations are implemented by the Institute of Health Sciences of each university.

Professional track:

A national system of professional specialization in cooperation with the professional associations providing the title of a veterinary specialist in a defined area (interns and

residents) doesn't exist in Turkey. Also no specialization on the European like level (EBVS) has so far occurred. Clearly the basis for such an educational program is missing at the FVMADU and generally speaking in Turkey. Moreover, from an official point of view, a licensed veterinarian should still be an omnicompetent practitioner.

However, in order to meet upcoming needs the FVMADU should seek ways to enter the track of veterinary specialization. This would certainly be a long term program and might get achieved by – for example – having own postgraduate students trained to a European Diplomat in a foreign establishment acknowledged for this type of training. This would however bring changes in the ways the academic life has to be designed (especially the requirement for positions as associate professors).

Actually, the only track in postgraduate education available at the faculty is the Master of Veterinary Sciences (2 years), which requires a doctoral thesis, the participation to training of the undergraduates and clinical or laboratory work.

Academic track:

The academic track is clearly research orientated and distinctly separate from the professional track.

The Departments offer numerous Master degrees (2-3 years, 21 credit course, one seminar course and a thesis), a mixture of academic and professional postgraduate education. This is a prerequisite for non veterinary postgraduate students to apply for a PhD program.

PhD degrees are also offered by the Departments (3,5 years for students with Master degree, 4-6 years for the others, 24 credits in seven courses, examination and a dissertation).

Postgraduate students have to pass an entrance examination for the Master as well as the PhD programs. FVMADU does not offer preparatory classes as it is the case in other Turkish faculties. The PhD degree is the prerequisite to apply for a position as associate professor and be accepted to the examination by 5 extrafaculty experts. This type of broad selection works against any attempt of specialisation.

At the time of the visit 16 postgraduate students were enrolled in MSc programs and 14 in PhD-programs (16 different departments)

12.2 Comments and Suggestions

The way PGE is organised in Turkey makes the establishing of clinical postgraduate training difficult. This question should be addressed at an interfaculty level (such as the national deans conference), to assure the promotion of specialisation and postgraduate training on a higher level (interns, residents).

There is a need to coordinate the efforts of the faculty with the professional organisations, in order to guarantee a practical training in all relevant topics of each speciality (shared interns or residents with practitioners, rotations of postgraduate students between faculties).

There is a lack of multidisciplinary programs. Moreover, the FVMADU should offer preparatory training for the entrance examination to Master and PhD programs, as a support to academic careers.

Finally, it would be of benefit to create a “master class” or a “PhD class” on faculty level, to help enhance the interdisciplinarity and teach all general topics related to postgraduate training and research (such as statistics etc.).

13 RESEARCH

13.1 Findings

The SER offers no description of the faculties research activities. A central coordination or strategy of research is not apparent. Information has to be pieced together from the information provided by the individual departments. All basic research departments actively conduct research that is relevant to veterinary medicine and thus it can be expected that current research finds entry into students' education. Publication records in national and international journals is fair - good considering the limitations due to equipment and funding. A particularly good record in research has the Dep. of Parasitology that focuses on ticks and tick borne parasitoses and receives continuous competitive funding from Tübitac and EU FP6 & 7. As all departments join the internship programs 5th year students are likely to come in touch with ongoing research projects. Faculty provides 14 master of science (MSc) and 13 doctorate (PhD) programs. The programs are allocated at each department. To which extent the postgraduate programmes are interconnected is neither apparent from SER nor from visit.

13.2 Comments

In view of the eminent importance of virus diseases for animal health the virology department is underrepresented with regard to personnel, equipment and teaching. The abundance of potentially hazardous virus diseases in Turkish livestock such as bluetongue, avian influenza, foot and mouth disease, rabies, west Nile and peste de petits ruminants requires a strong asset towards epidemiology, diagnostics and characterization of local virus isolates.

13.3 Suggestions

Research should be coordinated by the dean's office in order to develop strategies for the scientific excellence. The reputation of a vet school is primarily based on its scientific achievements.

The ADU is advised to further strengthen research in infectious diseases. Due to the geographical situation, Turkey in general and Aydin region in special are of particular interest as they are the frontline of defense against emerging and reemerging infectious diseases of bacterial, viral and parasitological origin. A research cluster could be formed that includes numerous departments of the faculty including clinics and pathology. Collaborative efforts with laboratories within EU should be enhanced in order to attract funds to Aydin university.

The faculty would certainly benefit from a more interdisciplinary approach towards research and teaching. **There should be a single graduate school (instead of 14) that organizes the lectures, seminar and lab rotations for the MSc and PhD program.** This is much more efficient and allows the formation of powerful intra- and extramural networks on the graduate student level.

EXECUTIVE SUMMARY

The Faculty of Veterinary Medicine of the Adnan Menderes University (FVMADU) is a very young veterinary teaching establishment. Its course started in 1995 at a downtown facility, and then classes were moved in 2000 to the then brand new veterinary teaching hospital (VTH), a big and elaborated cross-shaped building which for 10 years was intensively used as the only facility for the entire curriculum. In 2010 four new buildings were completed next to the VTH relieving some pressure from the VTH itself which, however, has somewhat suffered from the intensive use of those 10 years. The Adnan Menderes University (ADU) is composed by 6 faculties, Agriculture, Medicine, Veterinary Medicine, Nazilli Economics and Administrative Sciences, Science and Literature, Education, 5 faculties having been established but only on paper. The Aydin region has a relevant population of farmers and farm animals, thus its economy is heavily dependent on agriculture.

The lack of experience on administration of the Faculty Board is clearly reflected by their vision and mission statement: they have evidently been so busy over the last decade in organizing teaching that they have not invested any time in trying to ask themselves who they are and where they want to be in the next decades (see chapter 1.2 of this report). **The Faculty should dedicate more time to developing its strategic plan.**

Financial resources are available basically on demand. The Faculty does not have a budget, the only finances being available to the Dean are those derived from the provision of services. Although positive in general terms, such situation is not helping the Dean and division Heads to improve their skills as administrators and leaders. **The Rector of ADU should realize what a negative impact such set of national rules is having on the growth potential of ADU as well as of other Universities in Turkey.**

FVMADU adapted its curriculum to Directive 2005/36/EC in 2009-2010, so currently veterinary students enrolled in the first 3 years are following the new curriculum, while those in the last 2 years are still following the old curriculum. All staff and students have been found to be highly motivated for teaching and learning. And it is thanks to this motivation and enthusiasm of the academic staff that the teaching of students can be maintained on a high level across the subjects to be taught, except for some parts of the clinical training. However, empathy and enthusiasm are not enough to solve some of the rather severe problems observed in the veterinary curriculum at FVMADU. These problems primarily relate to the number of animals available for practical teaching, particularly with regard to the clinical sections but also in necropsy. Practical training seems to be all but satisfactory, particularly in respect to the very low number of small animal and equine patients. The following suggestions are made in chpt. 4.2.3, 4.3.3, 4.4.3 to improve this situation:

Teaching quality is in general of a high standard. Although students are in general well trained (students acknowledge the effort of teachers and have a very good relationship with them) their study load is very high and is totally concentrated during the semester, which includes also exam sessions. Exams should be transferred to the lecture free periods so that students have sufficient time to prepare and are relieved from an inappropriate workload.

One critical aspect related to teaching is the fact that students can carry on with their studies year after year having failed the exams in the previous year, which becomes a burden for those good students who successfully take all exams each year. In some departments there is a biohazard risk for students as chemicals and hazardous materials are not properly stored in safety cabinets, and eye washes are not present in all laboratories where hazardous material is used. Also the necropsy room is perceived as a potential source of problems due to its hygienic conditions. The experimental animal unit must be improved with regard to standards of animal welfare and hygiene.

The Veterinary Teaching Hospital was a source of real concern for the Team due its lack of organization, fragmentation of services, the use of a discipline-orientated rather than species orientated system, the lack of an emergency clinic as well as of a mobile clinic and isolation facilities

The fact that there is basically no practical teaching on pigs is also a serious concern.

Support staff must be reinforced in areas of great need of clinical and laboratory practical classes preparation. Although particularly crucial for the Veterinary Teaching hospital, the number of support staff should be increased for the whole vet school.

The FVMADU is a young and vibrant Veterinary Faculty, acting within a young and vibrant University. The current EAEVE report features many important indications which, although not considered category-1 deficiencies, should be given serious attention. The FVMADU has the potential to become one of the best Veterinary Schools in Europe provided that a) all suggestions are strictly adhered to (not only the category-1 deficiencies) and b) the ADU makes an effort to lobby for changing some of the national rules which are blocking the growth of Turkish Universities.

Annex 1 Indicators (version date: 25.11.2011 = based on SER)(1)

Ratio	Numerator/Denominator raw		1/Denominator	Established range of denominators	Notes
R1	<u>Total No FTE in vet training</u> No of undergraduated students	<u>90</u> 410	0.45	8.85-10.42	(2)
R2	<u>No of FTE at the faculty</u> No of undergrad students	<u>132</u> 410	3.11	8.75/12.54	
R3	<u>Total No of VS FTE in vet training</u> No of undergraduated students	<u>90</u> 410	0.45	10.62-12.62	(2)
R4	<u>Total No of VS FTE in vet training</u> No of students graduating annually	<u>90</u> 62	0.69	4.91-7.21	(2)
R5	No. total FTE academic staff in <u>veterinary training</u> No. total FTE support staff in veterinary training	<u>90</u> 42	0.46	0.53-2.20	(2)
R6	<u>Theoretical training</u> Supervised practical training	<u>2325</u> 2401	1.03	0.51-0.36	Lower limit 0.59*
R7	<u>Clinical work</u> Laboratory and desk based work + non clinical animal work	<u>1006</u> 1399	1.39	1.88-2.21	Upper limit 2.12*

R8	NA	NA	NA	0.51-7.87	
R9	Total no curriculum hours Food-hygiene/Public health	<u>270</u>	17.61		6.00 – 42.26*
	Total no. hours vet. curriculum	4756			
R10	Total no curriculum hours Food-hygiene/Public health	<u>270</u>	0.88		0.05- 0.82*
	Hours oblige extramural vet inspect	240			
R11	<u>No students graduating annually</u>	<u>62</u> 680	10.96	2.47-1.73	
	No of food producing animals seen at the faculty				
R12	<u>No students graduating annually</u>	<u>62</u> 0	0	0.51-7.87	
	No of individual food animals consultations outside faculty				
R13	<u>No students graduating annually</u>	<u>62</u> 0	0	0.20-0.09	
	No of herd health cases				
R14	<u>No students graduating annually</u>	<u>62</u> 50	0.80	1.78-0.92	
	No of equine cases				
R15	<u>No students graduating annually</u>	<u>62</u> 47	0.75	0.58-0.37	
	No of poultry/rabbits cases				
R16	<u>No students graduating annually</u>	<u>62</u> 1539	24.82	48.74-37.94	
	No of companion animal seen at faculty				
R17	<u>No students graduating annually</u>	<u>62</u> 12	0.19	NA	
	Poultry flocks / rabbits prod units seen				
R18	<u>No students graduating annually</u>	<u>62</u> 133	2.14	0.75-0.46	
	No of necropsies food producing animals, equine				
R19	<u>No students graduating annually</u>	<u>62</u> 17	0.36	0.26-0.12	
	No of necropsies poultry,				

	rabbits				
R20	<u>No students graduating annually</u> No of necropsies small animals	<u>62</u> 20	0.32	1.26-0.89	

*ECOVE established 2009, amended 2011

(1) refer to Visit report Chapter 4.5.1 for discussion of minor discrepancies

(2) NB: discrepancy between table 10.1 (N = 90) and 10.2 (N = 91)

Annex 2: Listing of Major Deficiencies as decided by ECOVE

1. Inadequate necropsy facilities and insufficient pathology case load.
2. Insufficient clinical training, (insufficient case load of different species) excessive number of students per group and insufficient practical hands-on training.
3. Lack of theoretical and practical teaching in herd health management.
4. Inefficient control of study progress of students.
5. Lack of biohazard risk control measures.
6. Lack of animal welfare and hygiene measures in the experimental animal unit.
7. Lack of organization, of isolation facility, of emergency service and of mobile clinic in the veterinary teaching hospital.
8. Insufficient teaching in pig medicine.
9. Insufficient numbers of support staff.

STATUS OF THE FACULTY: NON APPROVED

Annex 3: Student's report

Findings

The students at FVMADU are very helpful, welcoming and enthusiastic about their education. They have a strong cohesiveness and seem eager to participate in activities at the faculty. They were very supportive and informative during the EAEVE visit.

2 Organisation

Each class chooses a class representative and the class representatives will then choose amongst them a lead student representative. When The Faculty Council are to discuss matters of students they have the opportunity to invite the lead student representative, but they are not obliged to do so. Currently the lead student representative is a master student. No students are currently on faculty boards and committees and no formal meetings take place between students and staff.

No undergraduate students, postgraduate students or research assistants seem to have read or participated in the development of the SER.

The students say they have influence on relevant matters and that the staff members and deanship listen to them.

The Vice Dean of Students and the Student's office are the official organs that deal with student related topics.

4 Curriculum

Each class is divided in two; a and b and they have lectures and practicals separately. The students are content with the group size and mention this as one of the main reasons for their cohesiveness.

The anatomy course is considered the best course at the faculty as it is both exciting and has 'best practice' in teaching.

Some students mention that there is a lack of teaching in animal welfare issues, especially in the old curriculum.

The amount of theoretical training is considered very large and it is mentioned that there are considerable overlaps between courses. The students also wished they had less mandatory hours at the faculty and more hours for individual studying

5 Teaching and learning: Quality and assessment

5.1 Teaching methodology

The students prepare for exams on basis of the learning objectives stated in the **study handbook**, mandatory reading and slides from lectures. The study handbook contains information about curriculum, schedule and rules.

A list of Day-1 skills is not available but the students feel confident that they know what is important after graduating because they have summer term clinical training after their third and fourth year.

The clinical subjects use little notebooks with lists of procedures that are mandatory for each student to perform during the course. The students get a **cross** in their book when they have completed a procedure and this enables the staff members to ensure that all students get the hands on experience required by the course.

The university has a centralised, internet based system for evaluation of general topics and the faculty is currently implementing a paper based evaluation system for the assessment of teachers and teaching. This system was introduced 2 years ago and is not yet fully developed. It is a questionnaire that is **completed** at the end of each term. There is no formal procedure for the handling of results, but the teachers generally give verbal feedback to the students on the first day of the next term. The faculty plans to collect the results for long term statistical analysis.

The university has a very innovative way of addressing the career of their graduates. They have an Adnan Menderes alumni facebook page for graduates and gather information from here.

5.2 The examination system

Students have one midterm and one final exam in all courses. Repeat exams take place 2 weeks after the final exam and this can be taken an unlimited number of times in accordance with Turkish law.

It is mentioned as a problem that the exams take place during periods with teaching and that the interval between final exam and repeat exam is very short. The students however object

to the idea of having exams in the summer period, as they want to go home and stay with their families. It is not considered a problem for group work or learning outcome that some students have failed exams but continue to the next year courses

The percentage of students that failed varies between courses. There is no formal system that helps students who fail exams but their supervisors and lectures are generally helpful in these situations.

5.3 Students welfare

There are 45 different student clubs and especially the riding club, theatre club and Erasmus program are popular.

When students enrol in the veterinary medicine program they get a teacher as their personal supervisor. The supervisor gives academic and personal advice and keeps an extra eye on his or her students. The students praise this arrangement and the staff members seem to like it as well. Each staff member supervises about 5 students and has access to their examination scores.

The students also receive as a gift from the dean rubber boots and lab coats.

Lockers for books and equipment are available for all students.

The students think the canteen is too small for them.

Aydin is considered a safe and interesting town for students and they have the opportunity to live in a dormitory close to either the faculty or the main campus. The dormitory next to the faculty is owned by the State Institution of Loans and Dormitories. It is cheap and the waiting list takes into account the income of the student's **parents**. The dormitory has separate buildings for male and female students and staff is positioned at the entrance so that only **residents** can enter. The dormitory has tennis and basketball fields and a common house with a canteen, social premises and internet facilities. Wifi will be installed in the near future.

Some students think that it is a problem for the social life that the faculty is located so far from Aydin city and the main campus.

During the EAEVE visit the faculty seemed very empty after 16 o'clock.

8 Library and educational resources

All veterinary literature on the university is accessible in the faculty library. Other literature is available at the main campus. Turkish literature is preferred over English. Some of the books are by Turkish authors and others are originally in English but have been translated. To keep the costs low some of the books are only text and pictures and diagrams are given on a cd-rom.

Most power point presentations from lectures are available online. The students welcome an increase in the use of e-learning as a supplement for teaching.

The faculty has online access to multiple international veterinary journals through online search agents, but the students do not seem familiar with the use of this. They do read Turkish veterinary journals and use these for preparation of reports.

32 computers are available in the internet salon next to the library. All the buildings of FVMADU have wireless internet access, but generally few power plugins. Several desks for studying are found in the library but these don't have power plug ins either. The team did not see any students using the library, study places or internet salon during the visit. The faculty library, internet salon and study spaces opened 2 weeks ago.

9 Admission

The majority of students did not have Aydin as their number 1 priority when applying for university.

According to Turkish law the faculty does not have access to statistics about total number of applicants or which priorities the students had when applying for university. Neither does the faculty have power to set a lower limit for high school grades or level in science related high school courses. This is considered unsatisfactory and a **hindring** for improvement.

Comments

The students in general praise their faculty and feel satisfied with the teachers and teaching.

For the time being the students have a unique opportunity to make their voice heard. The faculty is still young and has not yet settled down completely.

Students must know their own value in this matter and they should be acknowledged as a major resource for information regarding best practice in theoretical and practical teaching. They are also the key source of information about overlaps in courses.

It is difficult to assess the impact of the new curriculum as it is not fully implemented yet.

Suggestions

The students should consider forming a union that can discuss and point out 'best practice' in teaching and make suggestions for changes in courses.

The faculty and students should collaborate on suggestions to obtain teaching free periods for exams.

The faculty might consider making a questionnaire for incoming students in order to assess which priorities they had when applying for university. This could be used on a long term as a marker for assessment of for example general popularity or effect of marketing.

Overlaps in the curriculum should be eliminated.

The students will benefit from Erasmus programs and other opportunities for internationalisation and contact with the English language.

Wife and sufficient laptop plugins should be available in the whole faculty.