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ΑΝΩΤΑΤΗΣ ΕΚΠΑΙΔΕΥΣΗΣ

HELLENIC REPUBLIC

H.Q.A.A.

HELLENIC QUALITY ASSURANCE AGENCY

FOR HIGHER EDUCATION

EXTERNAL EVALUATION REPORT

DEPARTMENT

Crop Production

UNIVERSITY /TEI

ATEI - Thessaloniki

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External Evaluation Committee

The Committee responsible for the External Evaluation of the Department of Crop Production of the University/Technical Institution of Thessaloniki consisted of the following five (5) expert evaluators drawn from the Registry constituted by the HQAA in accordance with Law 3374/2005 :

Professor Paul Hadley(President)

University of Reading, UK

Professor Brian Grout

University of Copenhagen, Denmark

Dr Dionysia Fasoula

Agricultural Research Institute, Nicosia, Cyprus

Professor Ferdo Basic

University of Zagreb, Croatia

Professor Cristos Xiloyannis

University of Basilicata, Italy

N.B. The structure of the "Template" proposed for the External Evaluation Report mirrors the requirements of Law 3374/2005 and corresponds overall to the structure of the Internal Evaluation Report submitted by the Department.

Introduction

The External Evaluation Procedure

Dates and brief account of the site visit.

Whom did the Committee meet ?

List of Reports, documents, other data examined by the Committee.

Groups of teaching and administrative staff and students interviewed

Facilities visited by the External Evaluation Committee.

The External Evaluation Committee (EEC) are very grateful to the staff of the Department of Crop Science, School of Agricultural Technology of ATEI for their helpful cooperation and hospitality. Staff took great trouble to provide an entirely suitable timetable for the visit, detailed information on teaching and research activities and delivered efficiently any additional information that was requested.

The Department was visited on Tuesday 7 and Wednesday 8 December 2010 and an excellent programme was provided by the Department to allow the EEC to visit teaching rooms and laboratories, research-focused laboratories, field and farm facilities, computer rooms and the library. Additionally, the team were able to visit the key administrative offices and the Erasmus office and have useful discussions with the staff members in both locations.

The full-time teaching staff were gathered together for a valuable group meeting of some 2 hours, together with members of the senior management team of ATEI. The participants made it very clear that they were available, as required, for less formal discussions throughout the visit, as well as to accompany the EEC on the tour of facilities as appropriate. There was a similarly extended meeting with a random mixture of some 40 students, following different specializations and at different stages in the programme. The academic staff of the Department were absent from this meeting and it allowed for a very free and constructive dialogue with the students, who should be thanked for their cooperation.

In addition to the internal evaluation report from May 2009, the EEC were provided with

- Short cv's for full-time staff reflecting their experience as well as publications
- A copy of the current prospectus
- Examples of student assignments examination papers and final year theses
- Original documents from the last two evaluation exercises
- Explanatory documents from the library and Erasmus office
- Introductory documents distributed to students at the start of a course e.g. in Plant anatomy and Plant physiology.
- A selection of recent research publications by full-time staff members
- Completion reports for research projects approved by the TEI Research Committee

The Internal Evaluation Procedure

Appropriateness of sources and documentation used

Quality and completeness of evidence reviewed and provided

To what extent have the objectives of the internal evaluation process been met by the Department?

The EEC felt that the internal document was thorough and refreshingly honest as a self-assessment exercise, painting a realistic picture of the successes and difficulties of the Department. It was also evident that there had been progress in many areas by the time of the visit, when compared to the data that was gathered in 2008 and early 2009 for the internal report.

There is information in the internal report that makes clear the very significant Department effort that went in to collecting the data for the report, and similar efforts were directed towards writing it. The EEC was grateful for this and felt that the evidence was as complete as could be realistically expected and had the quality to allow for critical evaluation at the required level. The team was also of the view that an annual update of the key data provided in this report would be helpful for subsequent evaluations, and also provide a valuable baseline for yearly Departmental discussions on quality and quality assurance. The objectives for the internal evaluation were clearly set out in the report:

'The purpose of the internal evaluation is for the Department to formulate and deliver a critical view of the quality of performed work based on objective criteria and indicators of consensus and general acceptance, and the following objectives:

- 1. Documented highlighting of Departmental achievements*
- 2. Identification of points that need improvement*
- 3. Determination of improvement measures*
- 4. Taking initiatives for independent action within the Department, whenever possible*
- 5. Making decisions on independent actions within the Institute, whenever possible.'*

It is the view of the EEC that the internal document was entirely suited to its purpose. It provided an open assessment of the extent to which the objectives set out above were met in the Department, evaluating levels of progress and success as well as the accumulation of difficulties, in a complete and realistic way.

The Committee were also of the view that the report understated the worth and significance of many of their activities, including the provision of valuable advice to various sectors of the agricultural community. In many instances this was the outcome of the applied research that the Department is extremely well-placed to undertake. In order to improve the visibility of their work and develop a reputation as an industry-facing knowledge centre the Department needs to improve on the quality, and quantity, of their external promotion at local, regional and national levels.

A. Curriculum

To be filled separately for each undergraduate, graduate and doctoral programme.

APPROACH

What are the goals and objectives of the Curriculum? What is the plan for achieving them?

How were the objectives decided? Which factors were taken into account? Were they set against appropriate standards? Did the unit consult other stakeholders?

Is the curriculum consistent with the objectives of the Curriculum and the requirements of the society?

How was the curriculum decided? Were all constituents of the Department, including students and other stakeholders, consulted ?

Has the unit set a procedure for the revision of the curriculum?

The objectives of the curriculum are related to preparing students competent in applied plant production and able to serve the needs of Greek agriculture and other bodies. This is a long established ambition, and the high employability of the graduates and the ongoing level of cooperation with the industry make it clear that the focus is essentially correct, and working.

There are 7 semesters dedicated to 40 courses, while the 8th semester is dedicated to internship and thesis writing. The organization of courses allows for 10 courses of a general nature, 4 concerning financial management and legal human studies, 17 courses of a special type, 9 courses of particular specialization, and 17 optional courses, out of which students can choose 7 to attend. The course curriculum was recently updated and it includes a significant amount of laboratory work to reinforce hands-on abilities as well as topical issues such as organic agriculture, energy plants, IT and information storage. In addition to the recent changes we would recommend that opening up the possibility for students to choose their optional courses from a greater pool in the entire university portfolio (e.g. being able to choose courses from the electronics department at ATEI). We also support the Department in their wish to extend the requirement for appropriate prerequisite courses to cover an additional number of courses, as students have joined these courses with an inadequate background and have suffered as a consequence.. We fully recognize the quality of the practical training and would urge that this is not diminished, as it adds to the strength of the Department.

The revision of the curriculum is processed through the Department Council, where students also participate. We would suggest that curriculum review, at least at the level of detail, could be more frequent than this, and that consultation with stakeholders such as producers from the regional industries would be a progressive step forward.

IMPLEMENTATION

How effectively is the Department's goal implemented by the curriculum?

How does the curriculum compare with appropriate, universally accepted standards for the specific area of study?

Is the structure of the curriculum rational and clearly articulated?

Is the curriculum coherent and functional?

Is the material for each course appropriate and the time offered sufficient?

Does the Department have the necessary resources and appropriately qualified and trained staff to implement the curriculum?

It is the view of the EEC that the curriculum, as currently delivered, does reflect the Department goals and ambitions. Our collective experience, internationally, of university education in this area leads us to accept the ATEI curriculum as entirely appropriate for purpose, and we agree that the delivery meets the expected standards. Naturally, there is room for improvement and increasing good practice, and we have made many suggestions in this regard throughout this document.

The content of individual courses, as far as we were able to ascertain in the limited time available, was entirely appropriate and the timetabling seemed realistic. However, with regard to facilities and resources there are clear concerns. At present the facilities work reasonably well and educational quality suffers relatively little from the lack of resources, particularly the lack of technical support. This is only so because of the commendable willingness of academic staff to assume technical responsibilities, and is a situation the university should not tolerate. The major pressure point that can damage the education is an increase in student number above the level the Department can handle. Due to recent legislative changes at the State level, the number of students entering the department has concentrated in one single semester, compromising the effectiveness of practical education particularly due to pressure on relatively small teaching rooms and the need to duplicate delivery.. The continuing practice of State-imposition of ever-increasing student numbers on the Department, above the suggested levels, is also a major threat to the continuing quality of the education. Resources that are adequate for 50 students may not be so for a cohort of 75, for example.

The level of appropriately qualified academic staff in the Department is, at present, at the minimum to be satisfactory and undoubtedly restricts the staff development and scholarly activity that is conventionally one of the characteristics of a university environment. However, in the medium and short-term a more threatening issue is the lack of qualified and appropriately trained technical staff to support teaching, research and general maintenance of facilities and equipment. To maintain the quality of the education at present, academic staff have to sacrifice their own activities and development to make up for the lack of technical support. For the university and/or State to fail to resolve this situation in anything other than the minimum amount of time would be unacceptable

RESULTS

How well is the implementation achieving the Department's predefined goals and objectives?

If not, why is it so? How is this problem dealt with?

Does the Department understand why and how it achieved or failed to achieve these results?

The employability of graduates shown in the internal report, together with the level of satisfaction expressed by students in our discussions, indicate to us that the curriculum is

being satisfactorily implemented and is achieving the required goals. The staff enthusiasm for the education and their desire to improve and develop adds weight to this impression.

The Department is aware that it owes much to the enthusiasm and dedication of its staff, in all areas and is keen to see these characteristics maintained. We were assured that this viewpoint will influence, in a positive way, selection for new staff members and for positions of responsibility within the existing staff complement.

IMPROVEMENT

Does the Department know how the Curriculum should be improved?

Which improvements does the Department plan to introduce?

We were pleased to find that curriculum improvement is clearly visible in academic planning within the Department, although the formal documentation may not be as complete as it might be, and we hold to the view that the current curriculum is soundly-based in applied plant production. During the course of the visit we became aware the Department plans to introduce more research-linked teaching to keep the information up to date, and they intend to continue with their biennial pattern of curriculum review. We have suggested elsewhere in this document that that this review be more frequent, take greater advantage of internet information sources to supplement curriculum content and be carried out using active consultation with key figures from the local and regional agricultural industries.

Inevitably, new areas such as plant biotechnology will be seen to grow in the curriculum but we support the Department view that, despite this, more conventional, applied techniques and technologies must be maintained. The strengths of the education as a provider of applied knowledge and technology would be at risk if the current 'hands-on' approach to plant production were diminished.

B. Teaching

Does the Department have a defined pedagogic policy with regard to teaching approach and methodology?

The Department has a pedagogic policy that appears to be well understood by the teaching staff, who are fully supportive of it. This can be discerned from the internal review that clearly states

:

'The Department's mission is the development and transmission of knowledge in the science and technology of crops, both with applied research and teaching....'

'Educates and contributes, developing expertise and innovation through the application of scientific, technological or other knowledge to the development and progress of the agricultural potential of the country.'

'...the passing of knowledge, know-how and innovations to each student'

'Provides education, knowledge, education and training with a human-centered orientation.'

It would extend good practice if the policy were distilled into a single document that was freely available throughout the institution, and on the website. In addition, the policy might be extended to help recognize the value and contribution of teaching to the development of ATEL. Specifically, the initiation of a programme designed to introduce and develop teaching skills e.g. problem-based learning, group assessment, linking research to teaching, student-led study design. This would be of particular value to staff members whose experiences and abilities are focused on teaching, not research, and who will have limited contact with primary, investigative research. Such a development programme can also provide the stimulus for research, and publication, into university level education, where methods, outcomes and difficulties can all form the base for publications in this rapidly-expanding, international area.

Teaching methods used

There was clear evidence of developments that are beginning to broaden out the conventional lecture/laboratory exercise model from the discussions with staff and students. This included the introduction of a growing amount of student based-learning and seminar presentations by students, as well as extending learning by industrial visits. This widening attitude is to be encouraged as it adds diversity to the student experience and builds additional skills for them as well as offering possibilities for a more efficient use of time by the teaching staff.

Teaching staff/ student ratio

Staff/student ratios are difficult to comment on objectively, as they depend on the quantitative data that is used in their calculation. However, it was apparent that the typical size of laboratory groups (20 students) can be satisfactorily handled by a single staff member and that there were no problems with lecture delivery. The Head of Department told of a scheme, in the late stages of development, to allocate small groups of students to individual staff members as personal tutors to oversee their academic and personal development. This aspect of improvement of the student experience is a clear example of good practice but will

impose additional demands on staff that are already heavily loaded.

Teacher/student collaboration

The interviews with students gave a clear impression that they felt staff were approachable, to deal with both academic and personal issues. The EEC view the policy of defining times when each staff member is available for student discussion was evidence of the success of the system. Administrative staff were also available to students at prescribed times.

Students had formal representation on the Department Council and we were told that there was a policy that allowed students to observe these meetings should they wish. The continued involvement of previous graduates with existing staff, particularly where the graduates are working in the Greek industry, is also a positive sign of the health of staff/student collaboration.

Use of information technologies

The computer laboratories were well-equipped and entirely suitable for purpose. The student group only had positive things to say about the availability and quality of IT facilities, including the use of electronic assignment submission. The use of 'Blackboard' as a teaching resource is clear evidence of good practice, as is the availability of the intranet at home, for both staff and students.

Staff are using PowerPoint regularly in most of the modernised laboratories, using installed projectors, but in some of the teaching areas on the farm site portable projectors have to be used, and there appears to be a continuing reliance on overhead projector materials. PowerPoint is used routinely by students in their own presentations

Adequacy of means and resources

Laboratories were in the main well equipped, organised and functioned entirely appropriately for their purpose. There did not appear to be any significant lack of the required laboratory resources and those that were available were operative and fit for purpose. The lack of technical staff to support laboratory teaching exercises is to be regretted as the Department has to compel teaching staff to divert a significant amount of their time to these technical duties. Inevitably, this detracts from their work on teaching development, industrial networking and applied research and puts the continuing quality of the student experience at risk

Examination system

The system is, to a significant extent, prescribed by external regulations that ATEI is obliged to follow. However, it was clear to the EEC that the workload associated with implementing the examinations was time-consuming and put a heavy burden on some staff members. Efficient use of time in assessment is the issue and the Department can improve its development of teaching excellence by reviewing this area. In particular, the use of both a practical and theoretical examination for each course should be reconsidered, perhaps with the possibility of some sort of hybrid assessment as a replacement. Continuous assessment for practical work could also be more widely employed. We would recommend that a programme of teaching development (suggested above when considering pedagogic policy) could usefully focus on assessment styles and efficient assessment, in an attempt to improve the quality of examinations whilst reducing the workload involved. This might also go some way to improving the success of students in the examinations.

IMPLEMENTATION

Quality of teaching procedures

The time available to look at 'in-progress' teaching was limited during the two-day visit, but the classes that we did see appeared to be coherent, well-organised and attended by students who looked alert and interested. Timetables and practical information appear to be available in good time, and with sufficient detail, and introductory sessions to explain overall course structure are provided for the students.

There was an obvious, relaxed but attentive atmosphere in the classes that were observed and teaching staff were articulate and confident, indicating the conditions needed for effective communication. Following from some of our informal discussions, and in line with our own beliefs, the EEC would suggest that staff members would feel both valued and empowered by an ATEI programme for professional development that allowed them to expand and develop their teaching skills. This would both accelerate and improve the process of working towards teaching excellence that is currently being followed by the Department.

Quality and adequacy of teaching materials and resources

Quality of course material. Is it brought up to date?

The EEC were able to see a limited range of the introductory leaflets provided to the students at the start of each course, and these clearly set out aims, objectives and learning goals. The Department should ensure that such good practice is in place across the entire teaching portfolio and that this information is available on the intranet, and possibly the internet, for students, staff and other, interested parties. The resources available from the library provide an excellent learning platform based on current information and the field and glasshouse resources were suitable to support studies in the practical aspects of modern agriculture.

There is a great deal of material provided to the students that is written by the academic staff members, and they are to be commended on the time and care they take in providing this material. The EEC would suggest that this material can be improved, and updated, effectively by greater use of computer-based resources. If the course manuals were available on-line they could be regularly updated, in a less time-consuming, incremental way and have active links to the numerous high-quality sources of knowledge and information to be found on the internet. This would allow staff to produce better, more current material and make more efficient teaching/research links also. There should be a monitoring system in place to ensure that updating takes place regularly, as a frequency of biennial 'updating' is probably not satisfactory given the speed of information growth in many areas of current applied science. A more frequent review process would, in our opinion, significantly improve the learning experience.

The extent of use of prescribed textbooks needs to be considered by the Department in terms of the evolution of the programme of teaching and learning excellence. As scientific knowledge, particularly in areas of applied science, increases, then the availability of books that adequately meet the specific learning needs of many specialist courses will diminish. This can be compensated for by greater use of electronic information sources, but also means that teaching staff also have the opportunities, and resources, to become updated themselves. The EEC would suggest that the Department consider how such professional development might be implemented, and monitored.

Linking of research with teaching

Where the teaching staff were research active there was clear evidence from teaching

materials of integration of their research knowledge into delivery at the higher levels. This was particularly evident when looking at the final year project reports, where there was some work of outstanding quality. Some of the laboratory exercises in the latter part of the Bachelor course also showed clear evidence of a research input. Those staff members that were less active in primary research did not, however, appear less active in incorporating current knowledge (derived from research) into their teaching materials. In the formal student meeting the view was expressed by several people that teaching became more inspirational if it was linked in some way to current research.

We would support the view expressed in the Internal Evaluation report that the introduction of postgraduate teaching, in particular a taught Masters course, would strengthen the development of research-linked teaching in the later stages of the Bachelor education.

'In case ATEI had the opportunity to independently run M.Sc. and Ph.D. programs, then it would most likely to extent its research and collaborates with many universities/research centers and therefore it would be necessary to develop various research projects for joining undergraduate students.'

It was evident from our discussions with staff members that they subscribe to the view that this is an area where the quality of the advanced student experience could be enhanced, and they would welcome such an evolution.

Mobility of academic staff and students

It was evident from the discussions in the Erasmus office, and within the Department, that opportunities for student, and staff, exchange do exist and are being used. There were 16 students moving elsewhere in Europe in 2009-10 which is commendable and the EEC is fully supportive of the aim expressed by the Head of the Department that this scheme would be actively promoted in coming years. Such moves towards internationalization will benefit the individual students that travel and, hopefully, stimulate the more tentative of their colleagues.

We share the Head's regrets that more staff do not travel (only 2 in 2009-10) and strongly support his ongoing efforts to improve this. It is our view that the excessive workload imposed on teaching staff at present inhibits this expansion of activities, and that the lack of formal recognition given to such experiences within ATEI is also not helpful. An international outlook is vital to the successful development of a university in the European structure and ATEI could benefit enormously from the expanded experience that their staff could gather from exchanges via Erasmus, and similar schemes. The universities being visited would also benefit significantly from the experiences of, collaboration with TEI. The ability to teach in English is an evident issue here and where staff in the Department lack confidence in their current abilities then the issue of training is one that should be addressed at the institutional level.

Evaluation by the students of (a) the teaching and (b) the course content and study material/resources

Evaluation was considered in a discussion with the majority of the Department staff members and extensive documentation, including original questionnaires, was made available. Staff in the Department are fully supportive of the benefits of formalised evaluation but, at present, the system for written evaluation lacks the detail to be an effective, formal procedure with high visibility. The EEC suggest that the Department should develop a formal, written protocol for reviewing the outcome of regular and frequent evaluations. The

review should lead to action points allocated to individuals for implementation, and there should be a monitoring process to assess implementation of the actions

Evaluation was also a major topic in the formal discussion with students. Overall, they were supportive of the staff, the Department and the delivery of the courses. There were complaints, to be expected, about the lack of public transport and the distance between the different Department buildings, and that some professors were seen as more acceptable teachers than others, but none of these was voiced as a majority view.

What did appear to a shared view was that the quality of the buildings was not impressive and did not create a good impression of the university. Similarly agreed was the view that practical classes would be more effective if there was adequate technical support, particularly related to equipment operation and maintenance.

There was also a view, with wide agreement, that a degree from a TEI was still seen in many areas as being of less worth than one from a traditional university. The resolution, as the students saw it, was that ATEI, local and national governments should do more to promote the national (and international) value of applied studies and reinforce that these awards have an entirely legitimate place in the university community.

RESULTS

Efficacy of teaching

Discrepancies in the success/failure percentage between courses and how they are justified.

Differences between students in (a) the time to graduation, and (b) final degree grades.

Whether the Department understands the reasons of such positive or negative results?

The teaching practices seen during the visit left the EEC with no significant concerns over the efficacy of teaching, or the quality of the learning environment that is provided. What has to be borne in mind with respect to determining efficacy is that it is the student that has to acknowledge, and exploit, good teaching and an academic environment, and take responsibility for their own learning.

The EEC was made aware of the difficulties experienced in the university and Department because they had no control over the students that were accepted onto the course. Consequently, any cohort of intake will contain students whose abilities and motivation are not strongly aligned with the goals and philosophies of ATEI. This may provide some explanation for the apparent lack of improvement in overall grades recorded in recent years (see Table 11-61 from the internal evaluation report, below).

It is of great concern that the grades appear to be grouping in the middle, with a reduction in students reaching the higher levels and no increase in students performing at the lower levels. The staff in the Department expressed frustration over this issue and are trying to find constructive ways to deal with the issue. As a first step the EEC would recommend that the styles of assessment are reviewed, to ensure that the better students have sufficient opportunity to develop their quality. We do not accept that there are no students in the system deserving of these grades, and believe that the assessment system as currently applied is not helping them in demonstrating their higher abilities. Secondly, we would recommend that staff consult with other TEI's for example to ensure that they are applying the criteria for assessment in a comparable way, and are not being too strict with their own students, when compared to national practice. The absence of the typical, normal

distribution of marks, and the lack of improvement, is not, in our opinion, caused by significant inadequacies in teaching but by a lack of challenge in the assessments that will only be met by the very best of them.

A key element in effective assessment is for those responsible to have a good appreciation of the level and standards operating in comparable Departments in other universities, both nationally and internationally. The low level of staff mobility that is current in the Department is a barrier to achieving this understanding and the Department should be working to resolve this.

The absence of any requirement for students to attend lectures is, clearly, a complicating issue and staff should consider the context of lectures and their value in the curriculum, and how their content contributes to overall assessment. The goal has to be to provide a stimulating and interesting atmosphere that generates the motivation to attend.

Of additional concern is the low completion rate, which is frustrating and a drain on resources for ATEI, as well as not working in the national interest (see Table 11-62 from the internal evaluation report, below). It would appear that the problem is a large one if this Table is taken at face value, yet the more realistic view is to ask what proportion of the students will ever complete graduation, which constitutes the real baseline for percentage calculations? It is the view of the EEC that such a realignment might well halve the non-completion figures placed in the internal report. Like any other university, in any other country, ATEI cannot not have the resources or skills to compel students to learn – that has to be a voluntary activity. It is summarized by a Nordic expression that says:

'I can teach you, but I cannot learn for you'

A valuable, primary task for the Department will be to work on all aspects of teaching quality, curriculum content, assessment and motivation to get some of the Department graduates consistently into the highest category (>8.5). In discussion with senior staff members in the Department it was apparent that this is a clearly perceived, shared goal.

Table 11-6.1. Mark distribution and average diploma mark of the graduated students of the Plant Production Department during the academic years 2003/04 till 2007/08

Έτος Αποφοίτησης Year of Graduation	Κατανομή Βαθμών (%) Mark distribution				Μέσος όρος Βαθμολογίας (Σύνολο αποφοίτων) Average mark (Total number of graduates)
	5.0-5.9	6.0-6.9	7.0-8.4	8.5-10.0	
2003/04	1,5	68,7	29,8	0	6,76 (131)
2004/05	1,8	65,7	30,7	1,8	6,80 (102)
2005/06	0	85,6	14,4	0	6,63 (124)
2006/07	1,4	90,5	8,1	0	6,54 (74)
2007/08	7	82,8	10,2	0	6,48 (128)
Σύνολο Total	1,7	75	23	0,3	6,69 (722)

Table 11-6.2 Number of Graduates and studies duration during the academic years 2000/01 until 2006/07

Έτος εισαγωγής Year of registration-entrance	Διάρκεια σπουδών (χρόνια) Duration of studies in years								Δεν έχουν αποφοιτήσει Not graduated yet	Σύνολο Total
	K	K+1	K+2	K+3	K+4	K+5	K+6			
2000/01 ⁴	10,4	30,6	15,5	5,7	5,7	0,5		31,6	100	
2001/02	11	13,8	13,3	11,4	2,9			47,6	100	
2002/03	6,4	19,3	12,7	4,3				57,3	100	
2003/04	1,2	10,8	6,4					81,6	100	
2004/05	0,4	2,4						97,2	100	
2005/06								100	100	
2006/07								100	100	

IMPROVEMENT

Does the Department propose methods and ways for improvement?

What initiatives does it take in this direction?

Much of this information is contained in the detailed comments provided above.

In summary, the Department administration has a clear view of its strengths and weaknesses and is continuously looking for ideas for improvements and positive development. There is no lack of willingness to take part in the process, but a core issue is that academic staff are significantly overworked by comparison with their counterparts in institutions carrying out similar functions in other European countries.

There are many aspects of the current teaching system that are imposed upon ATEI by the national systems in Greece, and we would encourage the Department to work towards supporting positive changes to these systems. At a more practical level the Department has to consider the introduction of techniques and technology to make teaching more efficient, as well as more effective, and should not always adhere to the idea that 'quantity=quality'. In particular, improved use of IT and an increase in student-centred learning could improve the quality of the learning environment as well as reducing unnecessary and ineffective classroom contact time for staff.

The lack of technical support for the teaching effort is a very strong threat to the quality of both teaching and learning and the Department deserves to be given the resources required to resolve this difficulty.

C. Research

For each particular matter, please distinguish between under- and post-graduate level, if necessary.

What is the Department's policy and main objective in research?

Has the Department set internal standards for assessing research?

The Departmental mission is;

“the development and transmission of knowledge in the science and technology of crops, both with applied research and teaching, so as to train students scientifically and professionally”.

The EEC appreciates that ATEI does not have an obligation to carry out research nor are Technological Educational Institutions in Greece supported to undertake independent research, and in formulating our comments we have taken this into account

The internal ATEI evaluation report states that *“there is not a specific research policy in the Faculty”* and whilst this may be the case, it is clear that there is an active research programme underway covering a broad area of applied agricultural and horticultural research. This includes crop production (arable crops, vegetables, fruits, aromatic and medicinal plants), propagation and dissemination germplasm, soil science (physical and chemical properties of soils, soil fertility), land reclamation (land drainage, irrigation and management of saline/alkaline soils) and aspects of the sustainability of different farming systems (e.g. crop rotation, allelopathy and mycorrhizal issues). Because of soil degradation derived from the long-term practice of intensive, non-sustainable farming systems, research into the development of sustainable farming systems suitable for the agroecological conditions of Greece should be a priority.. Environmental-friendly agriculture could be seen as a high priority in maintaining the position of Greece as tourist destination.

Similarly, the Department states that *“ a procedure for the dissemination of research results has not been established”*. However, the evaluation committee noted a good Departmental publication record in both national and international journals, although this was not distributed evenly amongst staff members. We noted that ATEI has an excellent, very modern printing and publishing facility and would encourage the Department to make more use of this to disseminate applied research information both locally and nationally.

IMPLEMENTATION

How does the Department promote and support research?

Research projects receive formal approval through research proposals made to the Research Committee of ATEI, which has a policy of giving additional support to proposals that involve younger staff members. We considered this to be a positive measure to foster to be encouraged and maintained. At the end of each project, research reports are published in Greek using ATEI's in-house publishing facilities. These reports, which are in addition to journal publications, have a uniform appearance that facilitates a systematic presentation of the Department's work. We felt that these methods of collating and organizing research outputs should be strategically distributed to advance the Department's visibility in the local community and industry.

The implementation of the approved projects relies to a significant degree on technical staff positions and the current shortfall in this area does not help research progress. Project support is often augmented by students from collaborating universities, as well as undergraduate students from within the Department but the fact that the current legislation does not allow graduate studies in the ATEIs prevents . Such a role would be viewed as normal in universities outside the TEI system.

Quality and adequacy of research infrastructure

Research infrastructure at ATEI is impressive and depends, in part on facilities that serve a number of purposes (education, research and production). A demonstration farm on land of high quality has 2,6 ha of open field for horticulture, 1,0 ha for viticulture and 0,8 ha for aromatic plants. The farm is well equipped, including equipment for soil tillage, seeding, fertilizer and pesticide application, orchard management and olive oil production. There is large area of protected cultivation: 5000 m² for vegetable crops and plant propagation, 4000 m² for floriculture and 1000 m² for aromatic and medicinal plants. To support research and education in land reclamation a laboratory and equipment for modelling of drainage effects on ground water level, and equipment for irrigation and fertigation is being developed. There is a very rich collection of local varieties of olives where the aim is to undertake genetic evaluation to eliminate duplication and confusion in variety names of material from different regions, and a collection of rootstocks for different fruit varieties. There are also dual-purpose laboratories (education and research) for chemistry, soil fertility and entomology. There is one laboratory purely for research in molecular genetic laboratory, which is currently a mainly research-oriented activity in the Department. The age of equipment in some laboratories is old but reasonably functional and there is a long-running problem of the competition of research with education for laboratory space. Research activity is appropriately supported by the well equipped computer room and library facilities.

Scientific Publications

Three staff members had produced more than 10 internationally refereed papers in the period 2003-08. Most of these publications were written in collaboration with other universities and reflect collaborations that were initiated before they joined the staff at ATEI. A further 5 staff members have between 5 and 9 similar papers to the above. In the same period the remaining staff members (including 2 at professor level) produced less than 5 internationally refereed papers.

The lack of research productivity for some staff members may need to be addressed and productivity encouraged as future strategy develops, yet in some instances it undoubtedly reflects an onerous input to teaching and related issues. It is important for the maintenance of an appropriate balance between research and teaching that such work is recognised as having a value to the university that is comparable to research, particularly in the context of applied science.

Research projects

According to the Internal Evaluation Report permanent staff are directly involved in 80% of the 112 projects being carried out with invited lecturers participating in the remaining 20% of projects – domestic or international one.

Research Collaboration

There is clear evidence from recent publications of collaboration in research, both nationally and internationally, and this is to be encouraged. It is important that these

collaborations are strengthened by joint applications for funding, and that this funding includes adequate budgeting for travel and extended stays at the collaborating institutes. At the Department level it would be helpful to begin to develop visible research groups that staff can associate with, either as contributors to primary research in some way or in transferring information into teaching materials

RESULTS

How successfully were the Departments research objectives implemented?

Research being carried out on an individual basis matches the general objectives of the Department but the Department needs to develop a more coherent vision for its research.

Scientific publications

The evaluation committee considered that the publication record of the Department is good with a large number of papers published in international as well as national journals. However, reference to individual *curriculum vitae* suggested that these publications were not distributed evenly amongst staff members. Outputs and potential amongst some of the younger, more recently appointed staff were very good and in one or two cases were exceptional with recent publications in high impact journals describing research which was of international standard.

Research Projects

The majority of research projects are orientated around the interests and expertise of individual staff members, and we would suggest that the Department research policy is used to ensure alignment with the strategic needs of Greek agriculture and related industries. Externally funded research projects can be important sources of funding for the maintenance and renewal of laboratory equipment and should be actively sought after. They provide one mechanism to ensure that staff knowledge remains up to date and supports their teaching .

Research Collaboration

As discussed above

Efficacy of research work. Applied results. Patents etc.

Is the Department's research acknowledged and visible outside the Department?

Publications in the recognised literature demonstrate efficacy and the EEC became aware of output of research results that was considerably less visible. During the visit the team became aware of a significant quantity of applied research, some of it being relatively small projects, undertaken for individual growers and producers. The results of this work are conveyed to those that asked for it but little use is made of it elsewhere. Commercial confidentiality may be a limiting factor in publishing in any detail, but the Department can, and should, make it visible that they have completed work successfully for the particular organisation. This strengthens both credibility and reputation. The internet, local and national newspapers and trade journals are the most obvious outputs for this sort of work. To be able to work at this applied level is of critical value to local and national agriculture, and success should not be hidden, but exploited.

Patenting has yet to be an issue for the Department, as we understand it, but it is entirely possible that it may become so in the future. We would recommend that some training in ownership and exploitation of intellectual property be provided for staff. Additionally, this should be included in the curriculum for late-stage undergraduates and would be an essential

component in any Masters course

Rewards and awards.

This is a difficult area as the Department may not be resourced well enough to provide tangible rewards or awards for research. However, external activity that might lead in this direction should be encouraged where possible and there should certainly be visible, internal recognition for research efforts. This visibility should include the academic and staff communities as well as the wider local and regional communities as a minimum.

IMPROVEMENT

Improvements in research proposed by the Department, if necessary.

Initiatives in this direction undertaken by the Department .

The evaluation group were satisfied that, in broad terms, the members of staff within the Department are conducting useful applied research which complements teaching activities within the Department and addresses the research needs of the agriculture and horticulture industry. However, the Department needs to focus more on its collective research vision rather than allowing the research direction to be driven by individual research contributions. Therefore there is a need to foster a greater internal research collaboration to enable a more coherent research policy for the Department.

D. All Other Services

For each particular matter, please distinguish between under- and post-graduate level, if necessary.

APPROACH

How does the Department view the various services provided to the members of the academic community (teaching staff, students).

Does the Department have a policy to simplify administrative procedures? Are most procedures processed electronically?

Does the Department have a policy to increase student presence on Campus?

From discussion with the relevant staff, and observation, the EEC are confident that the Department keeps a close watch on the quality of its administrative services, and strives to achieve the best outcomes. It appears there have been significant steps to computerise procedures and practices in recent years and it appears these are continuing, which is to be encouraged.

The Department does have a clear policy of providing the best possible learning environment for students, and the EEC were impressed with this. If students do not respond appropriately to this, then perhaps the issue is with the motivation of the students allocated to the Department and not with the Department per se.

There is a related issue that the university, and government authorities have to consider, namely the impact of a significant increase in actively participating students. If this were to happen there would be very significant increase in pressure on teaching facilities, and staff time, that are already strained to an unhealthy level. Failure to alleviate these additional stresses would seriously threaten the quality of the university experience, and the reputation of important universities such as ATEI. The higher authorities should acknowledge, and plan to avoid, the fragile situation that would be encouraged if student participation is increased without appropriate resource backup.

IMPLEMENTATION

Organization and infrastructure of the Department's administration (e.g. secretariat of the Department).

Form and function of academic services and infrastructure for students (e.g. library, PCs and free internet access, student counseling, athletic- cultural activity etc.).

The organisation of the Departments administration and committees is clearly detailed in the internal report, and the visit confirmed that the structure was both active and effective. Extensive, and positive, comment on facilities such as the library and computer provision have been made elsewhere in this report.

There was a strong system of availability of academic staff to students, with the times where meetings could be arranged being clearly indicated on staff office doors. The staff were agreed that it was their role to assist, wherever possible, with personal as well as academic issues. The team did not review athletic or cultural activities in the limited time available for the visit, considering it a priority to focus on academic and administrative matters.

RESULTS**Are administrative and other services adequate and functional?****How does the Department view the particular results.**

The EEC are of the view that the administrative and other services are functioning well and are fit for purpose, a view shared by the Department. The Department are clearly conscious that, inevitably, there is room for improvement and have these issues as a permanent item for consideration.

IMPROVEMENTS**Has the Department identified ways and methods to improve the services provided?****Initiatives undertaken in this direction.**

The Department see a major route to improvement being an increase in the use of IT systems to service administration, together with training and personal development for administrative staff. Some positive, and successful steps have already been taken in the use of computer technology.

Collaboration with social, cultural and production organizations**Quality, originality and significance of the Department's initiatives.**

It became apparent during the visit that the Department had an outward-looking philosophy that pervaded both teaching and research. The internal evaluation contains an impressive list of both national and international collaborations, with a clear focus towards the industry and the application of the educational portfolio of ATEI. It was also evident from our discussions in the Department that staff felt that maintaining this level of activity was part of their role, and that there was every intention of continuing with the strategy .

The significance of this type of activity lies in the way it builds the reputation of the Department as a knowledge centre for efficient and sustainable plant production, and one that can deal directly with the industry and the wider social community. The team believe that it would be in the Department's best interests to make more of these collaborations, publicising them more obviously in local, regional and national media as well as making much more of them on the internet site.

It is also our view that it would be damaging to growth, and the quality of the Department and university environment, if these activities were curtailed by increasing time pressure on existing academic staff.

E. Strategic Planning, Perspectives for Improvement and Dealing with Potential Inhibiting Factors

For each particular matter, please distinguish between under- and post-graduate level, if necessary.

Short-, medium- and long-term goals.

Plan and actions for improvement by the Department/Academic Unit

Long-term actions proposed by the Department.

Potential inhibiting factors at State, Institutional and Departmental level, and proposals on ways to overcome them.

The Department has clear strategic vision which was communicated well during our discussions, but there is a lack of formal documents where the strategy is captured. We suggest that it would be helpful for their planning processes, and to improve quality assurance, if a set of such documents were produced and made widely available.

The short and medium-term goals of the Department focus on.

- improvement of the performance of their students
- improvement of their infrastructure and facilities
- increasing the number of academic staff and reducing the teaching load that inhibits scholarly activities in both teaching and research
- stabilising the situation with regard to technical staff
- improving equipment by replacing ageing items

In the longer term the vision, as discussed with us, is to see growth in reputation and status as a centre of excellence for crop production, under Mediterranean agro-ecological conditions, that is recognised both nationally and internationally. Increasing emphasis should be put on environmentally friendly, sustainable systems and the challenges the region will have to face arising from changing agroecology due to the impacts of climate change. The Department believe they have the core staff to achieve this, and look to grow in expertise and ability, as well as making strategic appointments when staff replacement becomes an issue. Establishing a significant stream of external income is also a long-term goal, made more pressing by the uncertainty involved in State funding in the coming years.

The major inhibiting factors are considered to be:

Department level:

Lack of teaching space as student numbers continue to increase

Lack of technical staff to support teaching and research

Absence of funding for staff development

Absence of approval to teach and award qualifications at postgraduate level

These difficulties can only be overcome by negotiation at the level of the university and the State, where the Department can use the substantial evidence that it has to demonstrate both existing quality and future potential.

There is a level of urgency attached to this, for ever-increasing student numbers are a major threat to the current, high-quality educational provision.

Institution level:

Lack of funding for maintenance of Department buildings and other infrastructure

Lack of funding to employ necessary technical staff

Lack of specific funding to expand staff mobility

The Department can do little to resolve these issues, except by the strength of their negotiation with the university, which must form part of their formal strategy for progression.

State level:

The imposition of student numbers above the level that the Department indicated as a maximum for the delivery of quality education

A university entrance system that compels students to study in areas where they are poorly motivated, inevitably leading to poor performance and a degradation of the learning environment for motivated students

Involvement in the assessment system at a level that does not take into account current progress and development in this area, consequently imposing unnecessary burdens on university staff

Inability to provide funds for the staff replacements that are necessary to maintain quality higher education

Lack of funding directed specifically towards research

Failure to recognise the potential of the Department and to reward it by approving awards at the Masters level

The university has to take the responsibility of negotiating at State level to resolve issues of the kind detailed above. It would be helpful if the universities were to cooperate and present a united front in such negotiations, and make it clear that there are significant hotspots of educational excellence within the TEI system. These are of great national value and can contribute to the international academic community also, and should be nurtured and developed and not allowed to wither by neglect.

F. Final Conclusions and recommendations of the EEC

For each particular matter, please distinguish between under- and post-graduate level, if necessary.

Conclusions and recommendations of the EEC on:

the development of the Department to this date and its present situation, including explicit comments on good practices and weaknesses identified through the External Evaluation process and recommendations for improvement

**the Department's readiness and capability to change/improve
the Department's quality assurance.**

We would ask this report is viewed in the positive way that the authors intended it to be understood. The EEC would hope that the comments and agreed views expressed here will become an aid to the further development and maturity of the Department of Crop Production at ATEI Thessaloniki. Our impression was of a Department of scientists, technical staff and administrators of high quality, with a significant degree of potential yet to be realized. Despite some limitations, many of which are external and cannot be influenced at the University level, the Department is a key player in an area of applied science of regional and national importance.

We were impressed with the undergraduate curriculum and the facilities available to the students including many of the modern laboratories, the good IT provision, library and practical field facilities (open field, glasshouses, agricultural machinery). Some laboratory facilities were excellent, for example, the molecular genetics laboratory. Student comment on the course was very good and as a body they were very complimentary of the academic staff. The EEC were impressed with the attitude of staff to the students, being supportive and accessible. Staff have plans to expand their teaching activity to include an MSc course on Plant Propagation Technology which we fully support.

Considering that the current legislation concerning TEIs does not oblige the staff to undertake research, the activity and outputs were remarkably good but distributed unevenly across the staff. Outputs and potential amongst some of the younger, more recently appointed staff were very good and in one or two cases were exceptional. These individuals had a respectable number of recent publications in high impact journals describing research which was of international standard. We were impressed with the cooperation that exists between staff members and other national and international institutions yet, there is also a need to strengthen internal collaboration to ensure a coherent, collective strategy for research in the Department.

The Department has a philosophy focused on growth and improvement and, since the internal report, has already made changes to improve the quality of the educational experience they offer. As relative newcomers to formal quality assurance the staff have made a strong start and there is no reason to believe that their quality assurance processes will not mature as the Department grows in stature.

Members of staff were often overly modest about their achievements and, in our view, often made too much of the limitations that they were working to improve. In the

course of this report we have made many suggestions and recommendations in some detail, as well as highlighting many instances of good practice. In the interests of clarity the major recommendations we have for the Department are summarized below. Recommendations at State and institutional level are presented in section E:

- The style of teaching delivery to be reviewed to make more effective use of staff time, including innovative use of IT technology
- A scheme of professional development and training to be introduced to increase awareness and ability in innovative teaching and assessment techniques
- The process of assessment to be reviewed to enhance its quality and make it less time intensive, particularly with respect to the balance between practical and theoretical assessment.
- Ensure that the assessment system is sufficiently challenging to enable outstanding students to demonstrate their abilities in full and achieve the highest grades.
- Consider the use of external examiners, particularly for any Masters course that may be introduced –at least national and, preferably, international
- A process be established that recognises and rewards outstanding contributions to teaching, particularly where this is at the expense of activity in primary research
- A process to be established that recognises and rewards contributions to research
- Encouragement to look at the potential for research, and publication, in higher education in the growing number of journals in this field.
- Look to provide start-up support in research for new members of staff e.g funding or (temporary) remission of teaching time
- Consider the establishment of research groups to supplement the existing Sections and to encourage interdisciplinary collaboration within the Department
- To strongly encourage staff visits to other universities, nationally and internationally, to gain an improved perspective on standards and educational techniques elsewhere
- Discuss the evaluation process regularly, and in detail, widely with staff and students to underline its practical value as a way to lead to improvements, and improve its formal implementation
- Implement a required and regular procedure of self-evaluation for staff, and students as part of course review
- Encourage a policy of outward-looking activity, ensuring that the wider community, from local to national, is made aware of developments and activities on a regular basis. Use of the internet as a tool is critical in this respect
- Plan for initial entry into Masters education with a specialisation in Crop Production Technology by identifying the teaching team and providing support for the planning process

- Make greater use of the intranet and internet in teaching, assessment and increasing the visibility of Department activities
- Use of internet links in teaching material supplied to students, to provide more current information, in greater quantity, and limit the reliance on notes produced by the teaching staff
- Ensure that field training and skills appropriate to local practice are not eroded, and look to develop extension work as a key, visible activity.
- Construction of a set of formal documents to include the Department vision and strategy for a 5 year period, as well as formalising policies and strategies to cover teaching, research and staff development.
- Construct a quality assurance manual with detailed procedures to assess, for example, evaluation, curriculum review, assessment review, technical support.
- Ensure that quality assurance is a regular activity in all areas, with visible outcomes

The Department we evaluated is very strong as a provider of much-needed, hands-on agricultural education at the highest practical and academic levels. It is positioned in a favourable location for access to appropriate agricultural production units and its graduates have little problem in securing positions in either the private or public sector. With the necessary institutional and State support, and a continuation of the Departments intensive efforts towards improvement, there is the potential to establish a nationally, and internationally, recognised centre of excellence for applied education.

The Members of the Committee

TECHNOLOGICAL EDUCATIONAL INSTITUTE OF
THESSALONIKI
DEPARTMENT OF PLANT PRODUCTION

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