

SUBJECT REVIEW REPORT

DEPARTMENT OF ZOOLOGY



**FACULTY OF SCIENCE
UNIVERSITY OF KELANIYA**

28th to 30th January 2008

Review Team :

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1. SUBJECT REVIEW PROCESS

University accountability for quality and standards is a key factor in promoting and safeguarding public confidence in Sri Lankan higher education. As higher education is a public good, universities must conscientiously exercise their responsibility for quality and standards. Subject review evaluates the quality of education within a subject or discipline. The following eight aspects are evaluated during the subject review process carried out in Sri Lankan Universities.

- Curriculum design, content and review
- Teaching, learning and assessment methods
- Quality of students including student progress and achievement
- The extent and use of student feedback, Qualitative and quantitative
- Postgraduate studies
- Peer observation
- Skills development, and
- Academic guidance and counseling

The subject review of the Department of Zoology, University of Kelaniya was carried out from 28th to 30th January 2008. The members of the review team were

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The important features of the subject review process are the preparation of Self Evaluation Report (SER) by the Department concerned on the discipline (s)/ programme(s) they offer, and the evaluation by the review team according to the aims and learning outcomes stated in the SER. SER prepared by the Department of Zoology, was studied by the review team before the review visit.

The review team evaluated the quality of education according to the aims and learning outcomes as outlined by the Department in the SER. The purpose of the visit was to test and consider the evidence provided by the Department and carry out the review process by having discussions with academic staff, non-academic staff and students, observing teaching and observing documents and facilities.

On the first day, the review team met the Dean of the Faculty of Science who outlined the course structure of the Faculty. Then, the agenda for the review process was finalized with the Head of the Department. The Head gave a presentation, which concisely conveyed the matters referred in the SER. The review process was thereafter progressed according to the agenda outlined in Annex 1. During the review visit, the review team held meetings with the academic staff, non-academic staff, undergraduate students, postgraduate students, student counselors and academic counselor of the Faculty. The list of persons met during the review visit is given in Annex 2.

The review team observed the facilities available in the Department as well as in the Faculty for the students following Zoology as a subject. Some of the Lectures and Practical sessions were also observed (Annex 1). Documents provided by the Department including the answer scripts, marking schemes, student works and lecture and practical handouts were also observed. A power point presentation made by a special degree student on her seminar topic

was also observed during the review visit. On the 3rd day, a meeting with the Head and academic staff of the Department was held to provide the feedback.

After the review visit, the review team prepared this comprehensive subject review report which will be submitted to the Department through the Quality Assurance and Accreditation Council (QAAC) of the University Grants Commission. This report clearly highlights the strengths and good practices found and describes any weaknesses identified giving evidence to support the judgments made.

2. BRIEF HISTORY OF THE UNIVERSITY, FACULTY AND THE DEPARTMENT

The University of Kelaniya has its origin in the historic Vidyalankara Pirivena, founded in 1875 as a centre of learning for Buddhist monks. With the establishment of modern Universities in Sri Lanka in the 1940s and 1950s, the Vidyalankara Pirivena became the Vidyalankara University in 1959, later the Vidyalankara Campus of the University of Ceylon in 1972 and, ultimately, the University of Kelaniya in 1978. Today, the University of Kelaniya is one of the major national Universities. It is located just outside the municipal limits of Colombo, in the ancient and historic city of Kelaniya, on the north bank of the Kelani River. It has two major campuses, seven locations, six faculties and three institutions. The six Faculties are: Faculty of Commerce and Management Studies, Faculty of Humanities, Faculty of Medicine, Faculty of Science, Faculty of Social Sciences and Faculty of Graduate Studies. The three Institutions are: the Postgraduate Institute of Pali and Buddhist Studies, the Postgraduate Institute of Archaeology and the Gampaha Wickramaarachchi Ayurveda Institute.

The Faculty of Science, established under the University Act No; 45 of 1958, started functioning in October 1967. Formal approval for the Faculty was given by the Minister of Education in 1968. Presently, the Faculty of Science consists of eight Academic Departments and offers six B.Sc. degree programmes. Faculty of Science also offers several Postgraduate Diploma Programmes, M.Sc. Programmes and, conduct research leading to M.Phil and Ph.D. degrees. Eight Departments are: Botany, Chemistry, Industrial Management, Mathematics, Microbiology, Physics, Statistics and Computer Science and Zoology.

The Department of Zoology was established in October 1967 with the establishment of the Faculty of Science of the University of Kelaniya.

The Department of Zoology mainly functions to provide learning opportunities for the undergraduate students to study and engage on research in diverse areas of Zoology and Environmental Science.

The Department of Zoology contributes to four undergraduate degree programmes.

B.Sc. (General) degree programme in Biological Sciences
B.Sc. (Special) degree programme in Biological Sciences
B.Sc. (General) degree programme in Environmental Conservation and Management
B.Sc. (Special) degree programme in Environmental Conservation and Management

In addition, a M.Sc. programme in Aquaculture and Fisheries Management is offered by the Department and qualified students could also register for the M.Phil. and Ph.D. programmes in specific areas of Zoology.

3. AIMS AND LEARNING OUTCOMES

The Department of Zoology contributes to the B. Sc. General and Special degree programmes of the Faculty of Science, University of Kelaniya. In addition Department contributes to general and special degree in the Bachelor of Environmental Conservation and Management of the Faculty of Sciences. Since the latter degree programme was initiated in academic year 2005/2006 and as the first batch of students is still in their second year, the department has not considered this programme of study within the present review. In addition the department conducts its own Post graduate programmes MPhil, PhD and the MSc in Aquaculture and Fisheries Management.

3.1 Aims

The courses in Zoology offered by the Department for undergraduate degree programmes have been developed to facilitate learning and understanding the diversity of structure and functioning of animals and their interrelationships with the environment. The curriculum focuses to promote and foster the spirit of inquiry into the fundamental aspects of animal life on a scientific foundation, so that it provides an insight into how the faunal resources could be conserved for future while utilizing them in a sustainable manner.

In this context, the Department of Zoology aims to

- provide a wide range of learning opportunities in various core areas and applied aspects of Zoology for B. Sc. (General) degree undergraduates within the modular system of the university which enables students to develop their academic knowledge and interest in Zoology,
- provide opportunities to develop interest and skills for life-long learning about animals and encourage the contribution of Zoology to the needs of the society and survival of mankind,
- encourage students to develop their cognitive abilities and relevant skills that will help them to be able to meet the expectations of their potential employers and to contribute effectively to national development,
- offer a B. Sc. (Special) degree programme in Zoology that provides a high quality learning experience in various core areas and applied aspects of Zoology so as to expose students to recent advances in knowledge and techniques,
- provide opportunities for team work,
- provide training in scientific research,
- provide training to develop oral and written communication,
- provide a friendly and encouraging environment which is conducive for acquiring knowledge and developing skills which will support students to achieve their maximum potential with enthusiasm,
- provide an opportunity for the students who do not have a basic knowledge on Zoology to be familiar with form and function of animal and their interaction with environment,

- support the academic staff in their career development by feedback and peer advice,
- provide well planned departmental organization for successful and effective teaching, learning and assessment by regular reviewing so that quality of these procedures will be assured,
- provide opportunities and facilities for postgraduate studies to meet the national, regional and global requirements and
- provide consultancy services in various fields of Zoology to meet national requirements.

3.2 Learning Outcomes

After successful completion of B. Sc. (General) degree with Zoology as a full subject, the students will be able to demonstrate,

- ability to think scientifically and apply this thinking in all activities and situations,
- ability to access and evaluate Zoological information and write reports and communicate the contents in writing and orally in a well-organized manner,
- a basic knowledge on the core areas of Zoology such as Animal Diversity, Animal Histology, Physiology and Developmental Biology, Animal Ecology, Zoogeography and Ethology,
- a basic knowledge on concepts, applications and specialized practical skills relevant to applied aspects of Zoology such as Applied Entomology, Aquaculture, Fisheries Biology and Parasitology,
- laboratory skills such as use of microscope, handling laboratory equipment and setting up of simple laboratory experiments,
- field skills such as scientific observations, collecting field data and carrying out scientific field surveys,
- ability to apply concepts and principles of Zoology to field studies and ability to analyze and interpret data,
- ability to work independently and as a member of a group (team) in laboratory as well as in field studies and
- ability to apply Zoology in various national and global research, industrial and educational requirements.

An undergraduate with a B. Sc. (General) degree, who has offered Zoology as a full subject will also be able to:

- undertake further training, develop existing skills and acquire new competences that will enable them to assume significant responsibilities in various national and global research, industrial and educational requirements in the field of Zoology and
- display qualities and transferable skills such as critical and independent thinking, self and group learning and computer literacy for information and communication necessary for employment requiring the exercise of personal responsibility and decision-making.

On successful completion of the B. Sc. (Special) degree in Zoology, the student will be able to demonstrate, in addition to the above,

- in-depth knowledge of theoretical and practical aspects related to the core and applied areas of Zoology.

- ability to collect and record quantitative and qualitative data accurately and analyze and interpret them using appropriate statistical methods in order to test hypotheses and to present the findings both orally and in written format.

An undergraduate with a B. Sc. (Special) degree in Zoology will also be able to

- apply the methods and techniques they have learned to review, consolidate, extend and apply their knowledge and understanding and to initiate and carry-out projects related to the field of Zoology,
- communicate information, ideas, issues, problems and solutions,
- exercise initiative and personal responsibility and make decisions in complex and unpredictable contexts and
- undertake further training in teaching and carrying out research and acquire new competences that will enable them to assume major responsibilities in various national and global research, industrial and educational requirements in the field of specialization in which they receive the training.

For graduates having BSc degree, the Department provides avenues for higher studies by conducting MPhil, PhD and a Masters degree in Aquaculture and Fisheries Management.

On successful completion of the M. Sc. degree in Aquaculture and Fisheries Management, should be able to demonstrate,

- a thorough and systematic understanding of knowledge, together with a critical awareness of current issues and new insights in Aquaculture and Fisheries Management and informed by scholarly development in these two fields and
- a comprehensive understanding of, and ability to apply techniques relevant to their own research projects.

A postgraduate with a M. Sc. degree in Aquaculture and Fisheries Management will also be able to,

- exercise initiative and personal responsibility,
- continue to advance their knowledge and understanding and to develop new skills in the fields of aquaculture and fisheries management,
- learn and work independently, as required for continuing professional development,
- deal with complex issues systematically and creatively, make sound judgments in the absence of complete data and communicate their conclusions clearly and
- demonstrate self-direction and originality in tackling and solving problems and act autonomously in planning and implementing tasks at a professional or equivalent level.

In addition to the above abilities a postgraduate, having a M. Phil. degree in the field of Zoology should be able to demonstrate,

- originality in the application of knowledge and a practical understanding of how research techniques are used to create and interpret knowledge in the subject,
- ability to evaluate and analyze current research in the subject and constructively criticize and improve methodologies in the subject and
- make decisions in complex and unpredictable situations.

A postgraduate having a Ph. D. degree in the field of Zoology should be able to demonstrate,

- ability to create new knowledge through original research of a quality to satisfy peer review and to disseminate the knowledge by publications,
- ability to acquire substantial body of knowledge at the forefront of an academic discipline of the subject Zoology,
- ability to conceptualize, design and implement a project so as to generate new knowledge, applications or understanding and to adjust the design of the project in response to developments,
- a detail understanding of applicable techniques for research and advanced academic enquiry,
- ability to make informed judgments on complex issues in specialist levels often in the absence of complete data and ability to communicate their ideas and conclusions clearly and effectively and
- ability to continue to undertake pure and/or applied research and development at an appropriate advanced level, contributing substantially to the development of new techniques, ideas and approaches.

In addition, they will be able to demonstrate,

- the qualities and transferable skills necessary for employment, requiring the exercise of personal judgement, responsibility and initiative in complex and unpredictable situations.

4. FINDINGS OF THE REVIEW TEAM

4.1. Curriculum Design, Content and Review

The Department of Zoology is in a continuous process of upgrading the curriculum with the adoption of the course unit system in 1990. Undergraduate curricula of the Department of Zoology have been revised several occasions since 1990. Major revision carried out more recently came into effect in the academic year 2003/ 2004. The most recent revision was carried out in 2005 considering the needs of the industry and feedback of the students.

Curriculum has been designed with a view to initially provide a fundamental knowledge of Zoology followed by knowledge in the applied aspects.

The Department offers courses for both B.Sc. (General) degree programme and B.Sc. Zoology Special degree programme.

There is an exit point at the end of the third year in the four year B.Sc. Zoology Special degree programme which can be considered as a good practice and the undergraduates were also happy with this system. However, the Department offers two different courses for General and Special Degree students at the 3rd year. The review committee felt that this is a waste of resources. The third year curriculum can be revised in a manner so that both General

Degree students and the Special Degree students who leave at the end of their third year and get a B.Sc. General degree follow the same curriculum in the third year.

Another striking point was the lack of flexibility in 3rd and 4th year curricula especially in Special degree programme. For Zoology special students, all the courses (60 credits) are compulsory and there were no optional courses. Undergraduates also expressed their disagreement with the system. Discussion held with the students revealed that they like to follow more courses related to evolution, immunology, biodiversity, human biology and application of molecular biology. Therefore more courses can be made available by increasing the flexibility of the system.

The review team also recommends introducing more theory cum practical courses to make it easier for the students to follow both components under the same module.

The Zoology curriculum provides the students the knowledge in the core areas in Zoology along with the laboratory and field skills acquired through a variety of activities. Special students acquire adequate skills in problem solving in science using scientific method through their fourth year research projects.

The review team was of the view that the aspects of curriculum design, content and review can be judged as SATISFACTORY.

4.2. Teaching, Learning and Assessment Methods

The review team noted that the Department employs a wide range of teaching, learning and assessment methods in order to achieve the intended learning outcomes. The department has a sufficient number of academic staff members who are well qualified in the relevant fields. Most of the technical staff members are also well experienced and trained in laboratory techniques. The review team notes the human resources available as strength.

PowerPoint presentations are exclusively used in lectures. However, the students were of the view that the use of blackboard may also be important. Use of PowerPoint presentations may be limited to show interesting examples from elsewhere which are relevant to the lecture. Long sentences were there in the text of some of the PowerPoint presentations hiding the keywords. Some lecturers have the good practice of distributing the printouts of the PowerPoint presentation to the students allowing the students to spend more time to listen to the lecturer. All the lecturers used lap-top computers for their lecture presentations and the non-academic staff members were of the view that the fixed computers in each lecture theatre may save their time.

Practical classes were well organized and the delivery was satisfied. However, the students were of the view that it is good if they can have the laboratory practical schedules in advance. Evidence was not very conclusive to show that the animal house and the wet lab are used properly.

Attendance of the students to the lecturers was not satisfactory. Faculty may think about making 80% attendance compulsory to qualify to sit for the exams. The department has a very good computer lab and the students have ample chances of getting information *via* the internet.

Students are asked to make presentations using powerpoint since the very beginning of their undergraduate life as a part of learning process which can be considered as a very good practice. It was found that the departmental library was rarely used. Also, it was not properly maintained and there was no person in charge of it. The departmental library may be combined with a main library with a librarian.

The review team noted that the continuous assessment system is not implemented properly. There were no Mid Semester Examinations to evaluate the student performance at the middle of the semester. Proper implementation of a continuous assessment system may improve the student attendance to lectures and practicals.

It was also noted that there are fixed marks for Grades. A Grade itself carries a mark. The cut-off mark for each grade should be determined by fitting the final outcome of the results of the whole batch in to a curve. Therefore, a floating system may be introduced for marks of the grades.

The syllabus and the methods of assessment were available for every course unit in document form. The Department uses variety of assessment methods. It was noted that the different skills identified in learning outcomes are assessed. It is commendable that the question papers are moderated by senior staff members and or by experts outside the University. The preparation of marking schemes at the time of setting the questions and use of external examiners are also commendable.

It is the view of the Review Team that the aspects of Teaching, Learning and Assessment Methods could be judged as GOOD.

4. 3 Quality of Students including Student Progress and Achievements

Students that enrolled for the Biological Science stream at the University of Kelaniya had followed Biology Chemistry and Physics for their GCE Advanced Level examination and data from 2003 showed that their Z scores ranged between 0.731 to 2.081. In 2006 the average Z score was 1.06 and the intake was 168. Students enrolled from 17 different districts, with more than 15 students from Colombo, Gampaha, Kurunegala and Kegalle. Majority were females and many students followed Zoology as a subject for the BSc General degree.

Students for the BSc (special) degree in Zoology were selected considering their performance at the first two years based on the criteria and guidelines specified in the faculty handbook. It was evident from the documents provided that the department had followed the guidelines strictly as set out in the handbook in selecting students from among those who had applied to pursue a special degree in Zoology. The selected students had GPA ranging from 3.0 to 4.1 by the end of the second year.

It was evident to the review team that there was a satisfactory process for monitoring student progression and that this mechanism was consistent among the course units offered by the department of Zoology. The mechanism involved was the formative continuous assessments by way of tutorials, assignments, lab reports and the summative end semester final examinations.

The continuous assessment component of the laboratory course units was prominent with the need to obtain 80% attendance and all lab reports submitted were assessed by the academic staff and marks counted towards the overall grade for the course unit. This was in keeping with the department's objectives to train the students in practical skills during the programme of study.

It was evident that the student progression was monitored for theory-based courses, only by tutorials that the students had to submit for each such course unit. There were no marks assigned for these tutorials. Hence the review team was of the view, that the continuous assessment component of theory courses should be improved with the introduction of mid term assessments and / or by making attendance at lectures compulsory.

However it was observed that the academic staff provided sufficient feed back on tutorials and the practical reports which according to student was a good teaching - learning practice adopted by the department.

The performance of students who followed Zoology course units for the general degree was satisfactory and a similar situation was observed among students who follow the special degree in Zoology. From 2001 to 2007, three students earned First Class Honours, 28 students earned Second Class Honours and five students earned pass qualifications in the final results. The numbers of students who had received classes far exceeded the number who received passes in the special degree programme. This indicated that the programme as a whole had reached its expectation in terms of output and that the quality of the output was good.

However it was observed that six students who followed the Special degree in Zoology opted for the B. Sc. (General) degree and according to the self assessment report two opted out of the course due to personal reasons and four due to poor grades obtained at level four. From the discussions held with students it was observed that the flexibility that the faculty adopts in allowing of students opting out of the special degree programmes and obtaining a general degree was favourable to them. According to the students many personal reasons prevent them from continuing their studies in the special degree programme. However the review team is of the view that students should be educated on the consequences of such an option, since students hoping to follow higher degrees (MPhil, PhD) would require a four year degree.

It was also observed that majority of B. Sc. (Special) degree graduates in Zoology who graduated in the last five years are employed in government or private sector. Three of them were engaged in postgraduate studies. However, it appeared that the department had not conducted tracer studies that would have helped them to monitor the achievements and performance of BSc general degree students who had followed Zoology as a subject for the degree. In the opinion of the of the review team such studies would help the department in reviewing and revising the curricula.

It is the view of the Review Team that the aspects Quality of students and student progression and achievements could be judged as GOOD.

4.4. The Extent and Use of Student Feedback

The Department of Zoology obtains qualitative student feedback at various forums about the academic programmes and infrastructure facilities. As the student number is between 50-60 in a batch (Level 2 & Level 3) it is possible to interact with every student at lecture theatres, practical laboratories, field visit sites, etc to obtain this qualitative feedback on the quality of academic programmes, teaching methods and the quality of other facilities.

The method adapted by the Department to obtain quantitative student feedback on course units and teachers is by using an evaluation form (questionnaire). The responses of the students had been analyzed on each aspect of the questionnaire. This is a good practice. The Review Team noted that the students are generally satisfied with their learning experiences. Quantitative feedback can be further strengthened if the same method is adapted to visiting academic staff as well. The Review Team strongly recommends that the outcome be discussed with the Head of the department or at a departmental meeting for others to share the information to strengthen the academic programmes. However the Review Team found that the Department holds regular staff-students committee meetings in each semester on contents of course units offered and quality of teaching resources available. Batch representatives of the 1st, 2nd and 3rd year students meet all the academic staff at this meeting and minutes of the meetings are recorded. The Review Team noted that remedial actions are taken by the Department to some of the suggestions made by the students. It is a very good practice.

It is the view of the Review Team that the Extent and Use of Student Feedback by the DC can be judged as GOOD.

4.5 Post graduate Studies

The review team noted that the department conducted MPhil, PhD degrees in Zoology and a taught Masters in Aquaculture and Fisheries management.

It was evident from the list of publications that the department had 9 academics who had a wide range of expertise in many fields of Zoology and were capable of supervising post graduate research in fields such as aquaculture, fish biology; inland, estuarine and marine fisheries; fisheries co-management, estuarine ecology, coastal area management, water resource management, applied entomology, agricultural nematology, parasitology, eco-toxicology, animal physiology and biological control of pests and disease vectors.

The department had provided facilities for post graduate students, by way of laboratories and equipment that allowed them to conduct their experimental studies. Department had its own computer laboratory with appropriate soft ware and access to the web and libraries that allowed post graduate students to obtain any information free of charge within the university premises.

However the review team observed that minority of the laboratories were either under utilized or in a depilated state. According to staff this was due to the seasonal activity of the Masters programme and also because many masters students who were involved in research were employed and were carrying out their research in field stations or in their work places. The review team was of the view that the conditions in these laboratories could be improved if Masters students are encouraged to do their experimental work in the department or by encouraging academic staff to enhance their research activities that will cater to a larger number of MPhil and PhD students.

The review team had the opportunity of meeting most of the Post graduate students during their visit to the department. All post graduate students emphasized that the guidance given to them by their supervisors were adequate and satisfactory and that they had no problems in meeting the supervisors. MPhil students remarked that they had the necessary equipment needed for their individual studies and they received excellent support from technical staff for laboratory and field research.

Many of the Masters students were employed in organization in relevant fields and commented that the programme is beneficial for them since it is providing knowledge and practical experiences, although promotional prospects within their organization were non-existent for some of the students. It was noted that many employed in the aquaculture and Fisheries sector were getting support in carrying out their research from their work places and the department of Zoology, but some of the expenses for research activities were borne by the students. The review team would like to recommend to the department to explore the possibilities of arranging a stipend to cover the cost of supplies and travel at least, for post graduate students in collaboration with relevant research organizations, industry or other donor organizations or to include the stipend within the existing scholarships already in place if it is not considered.

Even though most of the Ph. D. and M. Phil. students do not complete their degrees within the minimum period stipulated the drop-out rates in M. Phil and Ph. D. degrees were very small. During the period 1997 to 2007 out of 17 students enrolled, there were only 2 drop-outs. Almost all have been sponsored by the research grants of academic staff together with their foreign collaborators in a few instances. It was noted that there were 66 research papers published and 80 research communications arising from research conducted by MPhil and PhD students during the last 10 years.

Although the students of the Masters programme were employed in diverse fields, the percentage completion had always been more than 50% in many years. This in comparison to taught masters programmes in other universities, was found to be satisfactory. The departments' decision in giving a Post graduate Diploma Certificate for those who complete course work and wish to exit the programme was also note worthy. During the last 6 years the numbers registering to the programme had not declined and this suggest that there exists a ready market for the programme. The department should make every effort to maintain the intake of students. The course unit system proposed for the Masters programme in its latest revision should be designed to be delivered in ways that is suitable for employed students and prevent drop outs.

It is the view of the Review Team that the present status of the Post graduate studies can be judged as GOOD.

4.6. Peer Observation

The Department of Zoology operates a formal peer observation of teaching process since the 2005/06 academic year. This is a good practice which will enhance the quality of teaching of the academic staff of the department. This practice will facilitate sharing of good practice of teaching of each and every member of the academic staff in a friendly and co-operative manner. In this exercise two members of the academic staff observe a teaching session performed by another fellow staff member of the department. Strengths and weaknesses of

the following aspects of the session are commented on an evaluative form (Annex-) provided to them: clarity of learning outcomes, planning & organisation, teaching approach & methods, delivery & pace, content, student participation, use of accommodation & learning resources. At the end of the report, the observers were requested to summarise the session's overall quality taking into consideration of the intended learning outcomes. At a private meeting with the lecturer concerned the two peers discuss the strengths and weaknesses as well as ways to improve the delivery method in a friendly way.

However peer observation reports are neither submitted to the Head of the Department nor placed at any other forums.

The Review Team suggests that the peer observation practice could be extended to practical sessions too. The Team also noted that the Department intends to implement the peer observation practice to visiting staff from next academic year as well.

The peer observation and the students feedback reports on the performance of the lecturer at lectures can to be correlated to develop a staff development programmes for the lecturer concerned.

It was observed that the practices such as moderation of question papers, second marking of answer scripts and group of staff evaluating seminar presentation are being carried out internally and externally by the other academic staff members.

It is the view of the Review Team that the present status of the Peer Observation adopted by the members of the staff can be judged as GOOD.

4.7 Skills Development

The reviewers noted that the curricula of the Department of Zoology were designed to facilitate the development of subject specific and communicative and inter personal skills

To improve the subject specific skills the laboratory course units have been recognized as co - pre- requisites of theory courses. From level three onwards subject specific skills have been introduced in to the laboratory courses with advanced skills in the final year. It was also observed that students are compelled to do work in groups in some of the course units for example Ecology. This would improve their interpersonal skills such as s leader ship skills and team work skills while engaged in learning subject specific skills.

Students had also submitted well organized field reports after field visits, which suggested that writing skills of students were also developed through this learning activity. However it was noted that majority of the field reports left for perusal (probably of BSc general degree students) were hand written. The reviewers were of the view that at all times it would be best to encourage students to provide word processed documents and the department should provide time for word processing in the computer laboratory.

The reviewers noted that the department had adopted many strategies to improve interpersonal and communicative skills. .

First was by introducing special course units in order to develop IT skills, communication skills and English language skills of students. Feed back of students on BIOL11062 – Computer Literacy showed that 84% obtained a satisfactory level of computer literacy on following this course in the first semester of level 3. The mark sheets on English for Biology GNST 14082 and English for Communication and further studies ELTU 22032 also indicated

majority to pass the courses. However the present batch of students at level 3 during a meeting emphasized the need to introduce the scientific terminology in English, in the English Intensive course conducted by the faculty.

The second way of introducing interpersonal skills was by incorporating them to the teaching learning process in the Zoology courses. The review team noted that Interpersonal skills like team work and leadership skills improved during group work during practical classes. The presentations of the Special degree students observed by the review teams on two occasions were noteworthy. It reflected the departments' interest in getting students involved in in-depth study on a topic and their attempt to train them in presenting the facts clearly to an audience.

The third way of introducing interpersonal skills was identified to be through workshops and via activities through societies. Although there was no documentary evidence to suggest the organization of workshops, the students mentioned that such workshops were organized by the faculty. A notable absence was the activities of the Zoological society and Ant Club, although the Aquatic club had certain activities organized in the current year. Review team was of the view that activities initiated by students in societies and clubs will contribute immensely to improve inter personal skills and that these activities should be revived.

It is the view of the Review Team that the present status of Skills Development adopted by the members of the staff can be judged as GOOD

4.8. Academic Guidance and Counseling

The faculty handbooks provides an insight into the university, faculty, subjects offered, academic programmes, subject combinations, and details of the course units offered in the available combinations. The handbook further provides details on evaluative procedure and degree awarding criteria. The handbook also outlines the career guidance unit, university health centre and the types of student societies available at the university. When new students enter the Faculty, an orientation programme is conducted and at this programme Dean of the Faculty of Science, Head of the Department of Zoology, Director of personal counselling unit and Academic Advisors & Student Counsellors address the students. At this programme an introduction is given to the students on the zoology courses available in the first year and the selection criteria for offering zoology as a subject in three-year general degree and the four-year zoology special degree. The Academic Advisor and 08 Personal Tutors of the Department of Zoology assist the students in this task.

Guidance is also provided for the benefit of the students by a team of Student Counsellors who are members of the academic staff for conducting student's activities. Student Counsellors of the department are guided by a Senior Student Counsellor of the faculty who is guided by Chief Student Counsellor.

Whenever students encounter personal problems they meet the Professional Student Counsellors who are guided by well trained Director of Personal Counselling Unit or any staff member of the Department to this effect. It is very encouraging to note that the Senior Student Counsellor of the Faculty of Science and Director of the Personal Counselling Unit of the University are academic staff members of the Department.

In addition Health Centre of the university facilitates to attend health problems. All the staff appears to play a proactive role in guidance and counselling by willing to meet the students to address their problems. In general a conducive environment exists for students to feel

comfortable and well guided during their academic period. Students expressed happiness on the overall academic guidance and counselling activities of the Department.

It is the view of the Review Team that the present situation with regard to Academic Guidance and Counselling adopted by the DC can be considered as GOOD.

5. CONCLUSIONS

The good practices (strengths), weaknesses and the judgement for eight aspects considered in the subject review are summarized as follows.

5.1. Curriculum Design, Content and Review

Good Practices

1. The Zoology curriculum includes all core areas of Zoology and some of the applications of Zoology.
2. All courses are developed to impart the necessary knowledge and also develop skills.
3. Having an exit point at the end of the 3rd year for Special Degree students.

Weaknesses:

1. Lack of optional courses in 3rd year and 4th year curricula.
2. Having two separate third year curricula for General students and Special students.

5.2. Teaching, Learning and Assessment Methods

Good Practices

1. Use of a wide range of teaching, learning and assessment methods.
2. Moderation of question papers, preparation of marking schemes at the time of setting the questions and use of external examiners.

Weaknesses:

1. Continuous assessment system was not properly implemented.
2. Having fixed marks for Grades instead of having a floating system of marks for Grades.

5.3 Quality of Students including Student Progress and Achievements

Good Practices

1. Formal mechanism to continuously monitor the progress of students in laboratory course units through practical reports and end course examination.
2. Formal mechanism to provide feed back to students via practical reports and tutorials.

Weaknesses

1. The continuous assessment component of theory based courses is not adequate.

5.4. The Extent and use of Student Feedback

Good Practices

1. There is a clear procedure to obtain both qualitative and quantitative student feedback
2. Staff-students committee meetings are very productive.
3. The quantitative student feedback have been statistically analysed
4. The analytical reports are made available to all staff.

Weaknesses

1. The procedure of obtaining quantitative student feedback may be extended to academic staff as well.

5.5 Postgraduate Studies

Good Practices

1. Postgraduate students conducting research under the supervision of senior staff members who have many publications to their credit in their field / s of expertise.
2. Adequate infrastructure facilities and modern equipment in working condition for post graduate studies.
3. Access to current information through the Department's computer laboratory and the post graduate and other libraries.
4. Contribution of the department to a taught Masters degree in Aquaculture and Fisheries Management.

Weaknesses: Nil

5.6. Peer Observation

Good Practices:

1. The Department of Zoology operates a formal peer observation of teaching process.
2. Some practices in the evaluation procedures such as moderation of question papers, second marking of answer scripts and group marking of seminar presentations/thesis evaluation.

Weaknesses:

1. No peer observation for practical is practised.
2. The result of peer observation is not discussed at a forum.

5.7 Skills Development

Good Practices:

1. Identification of laboratory courses as co – prerequisites to theory course units.
2. Department / faculty offers formal courses to improve computer literacy and English and communicative skills at level 3 first semester.
3. Group activities in laboratory courses for BSc general and special degree students to improve interpersonal skills
4. Presentations for BSc special degree students to improve communicative skills.

Weaknesses:

1. Scientific terminology is not taught in the intensive English course
2. Some non functional student societies

5.8. Academic Guidance and Counselling

Good Practices:

1. Availability of updated students' Handbook.
2. There is an organized student guiding and counseling system
3. There is a trained professional counselor attached to the university.

Weaknesses: Nil

The judgments given for the eight aspects of the subject review are as follows.

Aspect Reviewed	Judgment Given
Curriculum Design, Content and Review	Satisfactory
Teaching, Learning and Assessment Methods	Good
Quality of Students including Student Progression and Achievements	Good
The Extent and Use of Student Feedback	Good
Postgraduate Studies	Good
Peer Observation	Good
Skills Development	Good
Academic Guidance and Counseling	Good

6. RECOMMENDATIONS

The Review Team would like to make the following recommendations in order to improve the quality of education in the Department of Zoology.

1. Introduction of more optional courses at third and fourth years.
3. Improvement of the continuous assessment system.
2. Introduction of a floating system of marks for Grades
3. Introduction of peer observation for the practical classes and visiting academic staff.
4. Discussion of the results of student feedback and peer observation at a forum.

7. ANNEXURES

Annex 1. AGENDA FOR THE REVIEW VISIT

Day 1: January, 28, 2008 (Monday)

08.30 – 09.00	Private Meeting of Review Panel with QAA Council Representatives
09.00 – 09.30	Discuss the Agenda for the Visit
09.30 – 10.00	Meeting(s) Chairman, Internal QA Unit/ Dean and the Head of the Department, Faculty QA Cell etc. (<i>Working Tea</i>)
10.00 – 11.00	Observing ZOOL 12014 lecture
11.15 – 12.00	Department Presentation on the Self Evaluation Report
12.00 – 12.30	Discussion
12.30 – 13.30	<i>Lunch</i>
13.30 – 14.00	Observing Department Facilities 14.00 - 14.30 Observing Other Facilities (Computer Center, Laboratories, 1-4, Animal House, Wet laboratory)
14.30 – 15.00	Meeting with Department Academic Staff (<i>Working Tea</i>)
15.00 – 16.00	Meeting with Undergraduate Students
16.00 – 17.00	Observe lecture ZOOL 22034
17.00 – 17.30	Brief Meeting of Reviewers

Day 2: January, 29, 2008 (Tuesday)

08.00 – 09.00	Observing a lecture – ZOOL
09.00 – 10.00	Observing a lecture ZOOL 32054/ Observing a laboratory session ZOOL 22042
10.00 – 10.30	Observing documents (<i>Tea</i>)
10.30 – 11.30	Meeting with Technical Staff and Other Non-Academic Staff
12.00 – 12.30	Meeting with Postgraduate Students
12.30 – 13.30	<i>Lunch</i>
13.30 – 14.00	Observing laboratory session (ZOOL 12022)
14.00 – 14.30	Observing Student Presentation
14.30 – 15.00	Meeting with Special Degree Students
15.00 – 16.00	Meeting of Reviewer (<i>Working Tea</i>)

Day 3: January, 30, 2008 (Wednesday)

09.00 – 10.00	Observing Teaching – a lecture for Special Degree Students (ZOOL 42123)
10.00 – 10.30	Observing Teaching – Practical Class of Special Degree Students (ZOOL 42034)
10.30 – 11.00	Meeting Student Counselors/Academic Advisor/Personal Tutors
11.00 – 11.30	Reviewers Private Discussion (<i>Working Tea</i>)
11.30 – 12.30	Meeting with Head & Staff for Reporting
12.30 – 13.30	<i>Lunch</i>
13.30 – 17.00	Report Writing (<i>Working Tea</i>)

Annex 2. LIST OF PERSONS MET DURING THE REVIEW VISIT

Academic Staff

- | | |
|-----------------------|-----------------------|
| 1. U.S. Amarasinghe | Professor |
| 2. U.P.K. Epa | Snr. Lecturer II |
| 3. L.D. Amarasinghe | Snr. Lecturer II |
| 4. W.U. Chandrasekera | Snr. Lecturer I |
| 5. S.R. Weerawardhena | Snr. Lecturer II |
| 6. N.K. Ranawaka | Probationary Lecturer |
| 7. M.M.M. Najim | Snr. Lecturer II |
| 8. M. Hettiarachchi | Professor |
| 9. A. Pathirana | Professor |

Technical Assistants

- | | |
|-------------------------|---------------------------|
| 1. D.D.R.U. Wanigaseker | Senior Staff |
| 2. D.A.D.C. Premaratne | Staff Technical Officer |
| 3. R.P.K.C. Rajapakse | Trainee Technical Officer |
| 4. H.D.Y. Karunaratne | Staff Technical Officer |

Minor Staff

- | | |
|----------------------------|---------------|
| 1. W.A. Somaratne | Lab Attendant |
| 2. W.A.T.K. Weerasinghe | Lab Attendant |
| 3. K.A. Ruwan Sampath | Lab Attendant |
| 4. M. Weeratunga Perera | Lab Attendant |
| 5. G.H. Ranjith | Lab Attendant |
| 6. Chandrani Madurapperuma | Lab Attendant |
| 7. K.A. Sumanadasa | Lab Attendant |

1st Year Students

1. Ms. U.W.N.M. Ariyasinghe
2. Ms. T.D. de Silva
3. Ms. U.C. Jayasundara
4. Ms. S.A.S.D. Jayathilake
5. Mr. K.D.C. Karunaratne
6. Mr. H.P.R.I. Kumara
7. Mr. N.A.R.K. Perera
8. Mr. R.M.T.B. Ranathunge
9. Mr. D.B. Weerasekera
10. Mr. E.A.D.N.N. Wickremasinghe
11. Ms. D.A.D.A. Daranagama
12. Mr. K.M.P.R. Jayakody
13. Mr. L.T.R.K.M. Thambugala
14. Ms. P. Jayarathne
15. Ms. T. Abeywuriya

2nd Year Students

1. Mr. A.M.N.D.B. Abeysinghe
2. Ms. A.M.S.H. Adikari
3. Mr. A.M.A.S.N. Alagiyawanna
4. Ms. J.M.S.T. Jayawardana
5. Mr. H.P.C.D. Rathnayaka
6. Ms. D.I. Samarasinghe
7. Mr. S.A.S.M. Senaweera
8. Mr. K.D. Waduthanthri
9. Mr. K.A.T.D. Weerasingha
10. Mr. E.A. Weerawardhana
11. Ms. G.S.D. Wickremasinghe
12. Ms. M.P.G.R.C. Ruchirani
13. Ms. S.M.K.S. Samarasekara
14. Ms. R.G.C. Vihangika

3rd Year Students (General)

1. Mr. W.A.K.H. Abeywickrama
2. Ms. V.C.H. Attanayaka
3. Ms. S.D.S.D. Chandrapala
4. Ms. W.A.S. Deshamali
5. Ms. E.M.K.H. Ekanayake
6. Ms. J.A.A.S.J. Jayakody
7. Ms. A.S.G.D.P. Kumari W
8. Ms. R.D.G.S. Rajakaruna
9. Ms. W.M.M.S. Weerasinghe
10. Mr. W.H.A.S. Widanage
11. Ms. W.A.C.U. Gunawardena
12. Mr. R.P.D.N. Tharanga
13. Mr. K.G.K.N. Karunaratne
14. Ms. N.P.G.N.A. Dharmasena
15. Mr. B.V.S.N. Wijesena

4th Year Students (Special)

1. C.S. Kariyawasam
2. M.W.C.P. Marasinghe
3. T.Y.S. Dalugoda
4. M.A.P.C. Piyathilaka
5. M.U.I. Wijethunga
6. W.K.A.G.A. Wijesinghe
7. R.A.P.G. Ranasinghe
8. J.A. Vijani Wasanthika
9. O.K.C. de Silva
10. K.H.C.A. Wijerathna
11. G.K.A.W. Fernando
12. H.G.D. Savithri
13. L.R.T.D. Liyanage

Post-graduate Students

- | | |
|----------------------------------|---------|
| 1. Ms. C.K. Hemachandra | M.Phil. |
| 2. Ms. K.R.K. Anuradha Kosgamage | M.Phil. |
| 3. Ms. P.V.S.L. Gunawardana | M.Phil. |
| 4. Ms. L.W.H.U. Chandrasekara | M.Phil. |
| 5. Ms. E.A.K.K. Amarasekara | M.Sc. |
| 6. Ms. M.K.W. Sanjeewa Kumara | M.Sc. |
| 7. Ms. K.P.S. Kumara | M.Sc. |
| 8. Samantha Ramachandra | M.Sc. |
| 9. G. Wijitha | M.Sc. |
| 10. Ms. H.H.A.S. Hettiarachchi | M.Sc. |
| 11. K.A.D.C.J. Kahandawela | |