

Major Field Assessment Plan Report

B.S. Science Education (Biology)

Revised
5/29/03

The mission of Southeastern Louisiana University is to meet the education and cultural needs, primarily of Southeast Louisiana, to disseminate knowledge and to facilitate life-long learning through quality instruction, research and service in a safe, student-centered environment.

The purpose of the Bachelor of Science program in Biology Education is :

Goal I

Biology education majors at Southeastern Louisiana University will acquire fundamental and advanced concepts, principles and applications of historical and contemporary biological content knowledge.

A.. Expected Outcome

Graduating seniors will compare favorably with similar students nationwide in their knowledge of biological principles.

Assessment

- a. All biology majors, upon taking biology seminar, will be given a locally developed multiple choice exam, and at least 50% will score a passing grade.
- b. On the Department Exit Survey, at least 80% of the graduating students will indicate that they received at least an adequate preparation in each area of biology assessed by the questionnaire.
- c. Biology Education students will compare favorably with students from other universities in their performance on the PRAXIS examination.

Results

In biology seminar, all biology majors will be given a standardized multiple choice test with select questions from the major subdisciplines of biology. The test was originally designed as a graduate admissions test and is very challenging. Of those students taking the test, 76% attained a passing score of 50 or above.

On the latest Department Exit Survey, 69 students participated. Eighty eight percent of the students were satisfied or very satisfied with their preparation. Only 12% were somewhat or dissatisfied. On the overall quality of the degree program, 91% of the students were satisfied compared to 9% with negative attitudes.

On the PRAXIS, Southeastern students continue to excel including biology education majors.

Use

The department will strive to analyze and address the negative comments directed towards the program. There were few negative comments about particular courses. Most of the comments addressed not enough higher level courses, not enough

summer courses, not enough night courses, not enough sections of higher courses, old facilities, and the need for better equipment and more specimens. The department will soon move into a better equipped new building, hire professors to teach upper level courses, and accommodate students when possible.

B. *Expected Outcome*

Students who wish to continue their education will be adequately prepared to pursue a graduate degree in a pedagogy or biological field.

Assessment

- a. At least 70% of the graduating seniors will indicate on the SLU Exit Survey that they feel adequately or well-prepared to seek further education.
- b. Students who indicate on the Undergraduate Alumni Survey that they are seeking a graduate degree in a biological science, will indicate that they are “satisfied” or “well-satisfied” with their instruction in the major and when they compare themselves with alumni from other institutions, they believe their preparation at SLU was “better” or “about equal”.

Results

Graduating seniors have indicated on the exit survey that they feel adequately prepared to pursue graduate degrees. On a recent survey 7.2% of the students had been accepted into a graduate program after graduation. Of the same group 66.6% plan to eventually enter graduate school. In addition, 92% were satisfied with job opportunities and the opportunity for further studies as the result of their SLU experience.

Use

The department is attempting to increase the number of students entering graduate or professional schools to at least 10%. The faculty will serve to encourage students to pursue such endeavors.

Goal II

Biology education majors at Southeastern Louisiana University will acquire process skills that are necessary to design, supervise, and conduct biological research in a meaningful and safe manner.

A. *Expected Outcome*

Senior students will have good written and oral communicative skills. These include being able to conduct a literature search, read and interpret scientific literature, include charts graphs, and tables; and write a grammatically correct, scientific report. In addition, these students will be able to develop and conduct an oral presentation on a biological topic.

Assessment

- a. Seminar students will present a well organized scientific seminar as part of Biology 441. This presentation will be evaluated by two members of the faculty.

b. Students enrolled in Biology for Teachers will develop and conduct a class on a selected issue in the biological sciences such as safety in the classroom, evolution in the schools, and science fairs to a class of their contemporaries.

Results

All senior students are required to successfully conduct a seminar on a selected topic and present a powerpoint presentation. Students enrolled in Biology for Teachers present a topic on current issues to their class. This class is under curriculum renovation for the 2003-2004 school year.

Use

Students are expected to have good presentation and computer skills. These skills will be important in further academic pursuits and in the job market.

B. Expected Outcome

Biology Education majors should know and be able to apply basic laboratory skills in botany, zoology, and microbiology including laboratory safety, developing, conducting, and performing laboratory experiments, using the basic and integrated process skills of science, using the scientific method, using basic laboratory equipment, synthesizing, evaluating, and arranging data into meaningful tables, charts, and graphs.

Assessment

- a. Students in the Biology for Teachers course will pass an instructor-developed safety in the classroom and laboratory examination with 90% accuracy.
- b. On the departmental exit survey, at least 80% will indicate they are satisfied with their preparation in basic laboratory skills.

Results

All students participating in Biology for teachers passed the safety test with 100% accuracy for the past 5 years. Although students indicated that the department needs new facilities and equipment, most students were satisfied with their attainment of laboratory skills.

Use

It is imperative that all biology students understand basic laboratory safety. This is especially true for biology education majors that will practice their skills in local schools. The department will continue to stress laboratory safety. New facilities will address the need for more equipment and better facilities.

Goal III

Biology Education majors will foster positive attitudes toward science and scientists.

A. Expected Outcome

Graduating seniors in Biology Education will have a positive attitude towards science and scientists. In addition, these students will have an understanding of science in society.

Assessment

- a. On the SLU Exit Survey, at least 80% of the graduating seniors will indicate that their attitude towards science and scientists in general, and biology in particular is positive.
- b. In the Biology for Teachers course, participants will conduct a survey on factors that foster positive attitudes towards science and scientists.
- c. In the Biology for Teachers course, students will be able to indicate the role of science in society. In addition, the students will be able to discuss biological and scientific applications.

Results

Biology students indicated that they had positive attitudes towards science and scientists. Students indicated that one on one work with professors was very rewarding. Presently the Biology for Teachers course is undergoing curriculum renovation. In the past, participants conducted surveys addressing attitudes towards science and sources of scientific anxiety.

Use

Attitudes towards science and scientists are very important to scientific success. The department will continue to develop experiences that foster positive attitudes and relieve high anxieties.

Goal IV

Biology Education majors will have an opportunity to work with members of the faculty.

A. Expected Outcome

Graduating seniors in Biology Education will have an opportunity to participate in research, field trips, and educational projects with specific faculty members.

Assessment

- a. On the SLU Exit Survey, 90% of graduating seniors will indicate that they are satisfied with the friendliness and helpfulness of faculty.
- b. On the SLU Exit Survey, 90% of students will indicate that they are satisfied with the opportunities to interact with faculty outside the class.

Results

The survey was limited because it did not specify biology faculty. However, 94% of the students were either satisfied or very satisfied with the faculty. No students were totally dissatisfied. Eighty eight percent of students were satisfied with opportunities to interact with faculty outside of class.

Use

Some 68% of our students indicated that they did not participate in activities outside of class. The department is trying to develop programs such as OSCAR to involve students more directly. Also, faculty members are encouraged to involve students with their research.

Goal V

Biology education majors at Southeastern Louisiana University will develop the skills to teach biology.

A. Expected Outcome

Biology Education majors will be provided with the skills and knowledge needed to teach.

Assessment

- a. At least 90% of graduates will score at least a 4.0 on the appropriate indicators of the Student Teacher Evaluation Form.
- b. At least 90% of the graduates will rate the components of the teacher education program as satisfactory or better on a survey of graduates.
- c. Students will be able to successfully apply computer technology in the classroom including ongoing powerpoint presentations.

Results

The results of these assessments are available through the education department. SLU biology education students continue to score high on all indicators. Seminars and teaching activities promote the use of computer technology.

Use

The biology department will analyze data and continue to improve courses and policy.

B. Expected Outcome

Students will be able to demonstrate knowledge of non-instructional aspects of education such as growth and development, learning theories, history and philosophy of public education, and technology for the classroom.

Assessment

At least 95 % of the graduates will score at least 645 on the Professional Knowledge portion of the NTE.

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SLU biology education students continue to score high on all indicators.

Use

The biology department will analyze data and continue to improve courses and policy.

Goal VI

Biology Education majors will have an opportunity foster global and cultural perspectives.

A. Expected Outcome

Biology students will have the opportunity to develop an awareness of other cultures and languages.

Assessment

- a. Biology education students will be provided the opportunity to travel abroad.
- b. Biology education students will be provided an opportunity to work with students representing various local cultures.
- c. Biology education majors will also develop essential global environmental perspectives through select courses.

Results

Biology education students have had the opportunity to take courses overseas. In 2002 an electron microscopy course was taught with a cultural emphasis in Paris. For the past two years, students have had an opportunity to take a tropical ecology course in Costa Rica. Along with students from other disciplines, biology students have participated in study abroad programs in Mexico.

Students participating in the Bachelor of Sciences program in Biology Education at Southeastern Louisiana University are exposed to cultural and global perspectives through their participation in coursework, practica and student teaching in multi-cultural public school environments, participating in science fair, olympiads, district rallies and other community experiences, as well as an opportunity volunteer in various local outreach programs.

Biology education students through local activities and international travel will have an opportunity to gain knowledge of culture as well as ecology. These experiences will foster a positive global perspective.

Use

The biology department will continue to facilitate the development of global and cultural perspectives by providing the same opportunities. In addition, new and innovative means of attaining global perspectives will be introduced and entertained.

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