AN EVALUATION OF THE RADIOLOGIC TECHNOLOGY EDUCATION IN THE PHILIPPINES: BASIS FOR POLICY FORMULATION

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ABSTRACT

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STATEMENT OF THE PROBLEM:

This study sought to evaluate the radiologic technology education in selected Higher Education Institutions (HEIs) in the Philippines during school year 2002-2003, with the end-in-view of arriving at vital recommendations that will serve as bases of the 13 colleges of radiologic technology towards policy formulation.

1. What is the profile of the participating colleges of radiologic technology in terms of:

   1.1 human resources (administrators and faculty)

      1.1.1 academic qualifications and

      1.1.2 length of teaching experience?
1.2 physical resources

1.2.1 library facilities and collections,

1.2.2 laboratory facilities, and

1.2.3 laboratory equipment?

1.3 financial resources

1.3.1 tuition and other fees and

1.3.2 selling of books, involvement in physical examination for students and staff (chest x-ray), grants and donations?

1.4 curriculum units

1.4.1 general education courses,

1.4.2 professional courses,

1.4.3 Associate in Health Science Education (AHSE),

1.4.4 institutional requirements, and

1.4.5 internship training program?

2. What is the evaluation of the respondents in the following areas:

2.1 faculty

2.1.1 selection policies,

2.1.2 ranking and promotion,

2.1.3 teaching assignment,

2.1.4 research,

2.1.5 performance evaluation and
2.1.6 faculty development

2.2 instruction

2.2.1 program of studies,

2.2.2 instructional procedures,

2.2.3 classroom management,

2.2.4 supervision for effective instruction,

2.2.5 instructional administration,

2.2.6 co-curricular activities,

2.2.7 academic counseling, and

2.2.8 internship training program?

2.3 administration

2.3.1 administration of records and reports,

2.3.2 collegiate planning and development,

2.3.3 administrative performance, and

2.3.4 administration of public relations?

2.4 student services

2.4.1 objectives,

2.4.2 admissions,

2.4.3 student orientation,

2.4.4 guidance programs and services,

2.4.5 student assistance program, and

2.4.6 extra-curricular programs and activities?
3. Are there significant differences in the evaluation of the respondents on areas of faculty, instruction, administration and student services when grouped

3.1 by college, and

3.2 as administrators, faculty and students?

4. What is the respondents’ general evaluation of the college on the four areas?

5. What are the actualities of the radiologic technology program in the participating colleges in terms of the following dimensions:

5.1 number of graduates (from 1997-2002); and

5.2 passing rate in the licensure examination (from 1994-1998)

6. Based from the findings of the study, what recommendations could be proposed to the colleges concerned to serve as bases for policy formulation?

**METHODOLOGY**

The descriptive method of research, supported with documentary analysis was utilized.

The study was conducted in the 13 Higher Education Institutions (HEIs) offering radiologic technology program during school year 2002-2003. There was a total of 508 respondents in the study of which 13 or 2.6% were college deans, 58 or 11.4% were faculty members and 437 or 86% were students.
The statistical measures used were percentage, mean, standard deviation, one-factor ANOVA, t-test of uncorrelated mean, and Scheffe' Method.

FINDINGS

The following were the significant findings of the study.

1. Profile of the participating colleges of radiologic technology in terms of:

   1.1 faculty members' academic qualifications: From the 13 colleges with 58 faculty members, 16 or 27.59% were holders of a bachelor's degree, 20 or 34.48% had units in MA/MS, 12 or 20.69% were master's degree holders, four or 6.90% were medical doctors and six or 10.34% had units in doctoral courses. None of the faculty members had a doctoral degree.

   1.2 administrators' academic qualifications. Three or 23.08% of the administrators had a master's degree. Four or 30.77% were medical doctors, two or 15.38% had units in doctoral courses and one or 7.69% was a holder of a doctorate degree. On the other hand, two or 15.38% of the administrators had units in MA/MS and one or 7.69% was a holder of a bachelor's degree.

   1.3 faculty members' length of teaching experience. Out of the 58 faculty members, five or 8.62% had been teaching for less than one year, 14 or 24.14% fell under one to four years, 23 or 39.65% fell
under five to nine years, nine or 15.52% fell under 10 to 14 years, and seven or 12.07% fell under 15 years and above.

1.4 administrators' length of teaching experience. Among the 13 administrators, one or 7.69% fell under one to four years, two or 15.39% fell under five to nine years, and five or 38.46% fell under 10 to 14 years. Five or 38.46% posted the longest teaching experience of 15 years and above.

1.5 physical resources (library facilities). Thirteen or 100% of the provisions in terms of library facilities existed among the 13 participating colleges in the study.

1.6 physical resources (library collections - foundation courses). Out of the 13 foundation courses, seven or 53.85% had more than five titles and six or 46.15% had three to five titles.

1.7 physical resources (library collections - professional courses). Four or 26.67% had more than five titles, nine or 60% had three to five titles and two or 13.33% had less than three titles of books in the professional courses.

1.8 physical resources (laboratory facilities). In general, 13 or 100% of the colleges had laboratory rooms for biology, physics, chemistry and computer. However, laboratory room for RT professional courses existed in 11 or 84.62% of the colleges while two or 15.38% were not.
1.9 physical resources (laboratory equipment). Out of 46 laboratory equipment, 33 or 71.74% were met while 13 or 28.26% were not.

1.10 financial resources (tuition and other fees per semester)

Tuition fee per unit

Three or 23.08% had tuition fees ranging from 150 to 300 php, nine or 69.23% ranging from 301 to 450 php and one or 7.69% had tuition fee above 450 php per unit. Most of the colleges had tuition fee ranging from 301 to 450 php per unit.

Miscellaneous fees

Four colleges or 30.77% fell under the range 1000 to 2000 php, six or 46.15% fell under the range 2001 to 3000 php and three or 23.08% had above 3000 php per semester. Most of the colleges had miscellaneous fees ranging from 2001 to 3000 php per semester.

Other fees

Nine or 69.23% fell below 1000 php and four or 30.77% collected above 2000 php. None of the colleges collected 1000 to 2000 php. Most of the colleges collected below 1000 php per semester for other fees.

Other Sources of Funds

Two or 15.38% were involved in selling of books, seven or 53.85% collected fees for physical examination (chest x-ray), one or 7.69% received local and foreign grants, and three or 23.08%
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received donations. Most of the colleges obtained other funds in connection with physical examination (chest x-ray).

1.11 Curriculum units. In terms of general education courses, 13 or 100% of the participating colleges had more than 54 units, 13 or 100% of the colleges had 26 units in Associate in Health Science Education, nine or 69.23% of the colleges had no institutional requirements, 13 or 100% of the colleges complied with the prescribed curriculum for radiologic technology in the professional courses and internship training program.

2. Evaluation of the respondents on the area of:

2.1 Faculty. The area of faculty was evaluated with a mean of 5.62 (very good). The highest mean of 6.13 (very good) was obtained on the item selection policies while research obtained the lowest mean of 4.55 (good).

2.2 Instruction. A mean of 4.97 (good) was obtained. Internship training program obtained the highest mean of 5.43 (good) while academic counseling received the lowest mean of 4.82 (good).

2.3 Administration. A mean of 4.78 (good) was obtained. The highest mean of 4.90 (good) was obtained by administrative performance while the lowest mean of 4.62 (good) was obtained by administration of public relations.
2.4 **Student Services.** A mean of 4.87 (**good**) was obtained.

**Student orientation** got the highest mean of 5.00 (**good**) while **student assistance program** received the lowest mean of 4.62 (**good**).

3. Significant differences in the evaluation of the respondents on areas of faculty, instruction, administration and student services when grouped:

3.1 **by college**

**Faculty**

With the tabular F value of 1.92, no significant differences were found in **selection policies** (0.99) and **research** (1.50). However, significant differences existed in **ranking and promotion** (4.23), **teaching assignment** (2.29), **performance evaluation** (3.53), and **faculty development** (4.01).

**Instruction**

With the tabular F value of 1.77, significant differences were found in **program of studies** (5.71), **instructional procedures** (7.18), **classroom management** (6.21), **supervision for effective instruction** (11.40), **instructional administration** (10.30), **co-curricular activities** (7.03), **academic counseling** (5.60). Likewise, with the tabular F value of 1.79, significant differences existed in **internship training program** (10.26).
Administration

With the tabular F value of 1.77, significant differences were also observed in the administration of records and reports (6.57), collegiate planning and development (4.23), administrative performance (5.11), and administration of public relations (20.17).

Student Services

With the tabular F value of 1.77, significant differences were observed in student services objectives (8.61), admission (8.10), student orientation (6.17), guidance programs and services (6.03), student assistance program (6.18), and extra-curricular programs and activities (6.63).

3.2 as administrators and faculty members, and students

Faculty

With the tabular t value of 2.0, there existed no significant differences in the selection policies (0.25), ranking and promotion (0.94), teaching assignment (0.61), research (0.06), performance evaluation (0.47), and faculty development (0.11) when the respondents were taken as administrators and faculty members.

Instruction

With the tabular t value of 3.01, there existed significant differences in the program of studies (23.09), instructional procedures (41.54), classroom management (52.30), supervision for effective
instruction (25.70), instructional administration (36.61), co-curricular activities (12.78), academic counseling (29.69). Likewise, with the tabular t value of 3.03, significant differences were also observed in the internship-training program (44.49).

Administration

With the tabular t value of 3.01, there existed significant differences in the administration of records and reports (41.40), collegiate planning and development (30.09), administrative performance (26.28), and administration of public relations (12.41).

Student Services

With the tabular t value of 3.01, significant differences were observed in student services objectives (21.07), admission (39.22), student orientation (27.23), guidance programs and services (31.56), student assistance program (10.78), and extra-curricular programs and activities (23.42).

4. General evaluation of the respondents on the four areas.

A mean of 5.06 (good) was obtained on the four areas which included faculty, instruction, administration and student services.

5. Actualities of the radiologic technology program in the participating colleges

The highest number of graduates was recorded in 1997 with a total of 1,296. The lowest number was posted in 2002 with a total of
339 graduates. In addition, findings also revealed that continuous decline in the number of graduates from 1997 to 2002 took place.

Out of the 3,485 examinees from 1994 to 1998, 1,526 or 44% passed the licensure examination. Such performance was higher than the average national passing rate of 42%.

CONCLUSIONS

From the findings, the following conclusions were drawn:

1. **In terms of colleges' profile.**

   (a) Majority of the faculty members were not master's degree holders nor doctoral degree holders hence the schools did not comply with the CHED's requirements for faculty; (b) majority of the administrators were qualified for the position based on their educational qualification; (c) most of the faculty members had teaching experience ranging from five to nine years; (d) majority of the administrators had been connected with the teaching profession for more than 10 years; (e) all the colleges involved complied with the provisions of the requirements for library facilities; (f) most of the colleges complied with the CHED's standards on library holdings and collection in foundation and professional courses; (g) most of the colleges met the criteria for laboratory facilities and equipment, (h) most of the colleges charged tuition fees ranging from 301 to 450 php. Miscellaneous fees ranged from 2001 to 3000 php. Other fees were
below 1000 php, (i) most of the colleges were resourceful in looking for alternative sources of funds, (j) as to curriculum units, all the participating colleges complied with the prescribed units of the Policies and Standards for RTE. However, majority of the colleges had no institutional requirements.

2. Evaluation of the respondents on the four areas.

'The area on faculty, instruction, administration, and student services were rated good.

'3. Significant differences existed in the area of faculty (except for research and selection policies), instruction, administration and student services when grouped by college. When the respondents were grouped as administrators, faculty members, and students, significant differences were observed in the area of instruction, administration and student services except in the area of faculty.

4. General evaluation of the respondents in the four areas

'The colleges involved did not come up to the highest level of desired expectations.

5. Actualities of the radiologic technology program in terms of the following dimensions:

'5.1 The marketability of radiologic technology as a course had been decreasing.
5.2 Based on the national passing rate in the licensure examination for RT, majority of the colleges in the study performed better.

RECOMMENDATIONS

On account of the findings and conclusions in this study, the following were recommended.

1. The college dean should (a) encourage their faculty members to finish their masters' degree, (b) enroll in post-graduate studies in order to enhance their skills in management, (c) purchase additional textbooks of recent edition in professional courses, (d) prepare a long-term plan with regards to the purchase of laboratory equipment in radiologic technology, (e) consider other sources of funds in order to implement their plans and programs.

2. Despite the fact that the colleges were rated good in all of the provisions, yet opportunities for improvement are strongly desired thus the following recommendations are given:

2.1 Faculty

2.1.1 Faculty selection should be based primarily on the educational qualification, teaching competence, passing the board examination and research output of the applicant.

2.1.2 The criteria in ranking and promotion should include teaching ability, research and publication, special services to the
college, further educational attainment, community involvement, and evaluation results of students, peers and head.

2.1.3 The members of the faculty should be given teaching assignments only in the field of their specialization. Class schedules should be given early to faculty members to give ample time for preparation. Overloading in teaching assignment should be avoided to foster efficient teaching.

2.1.4 The college should allocate fund for the training of faculty members in the field of research. Incentives such as de-loading, honorarium, points for promotion, and overload pay should be provided.

2.1.5 The college dean and subject/level coordinator should monitor teaching competence of faculty through semestral performance evaluation.

2.1.6 The college should increase the budget for faculty development to (a) support attendance in local/national seminars and conventions, (b) encourage newly hired faculty members to enroll in professional education courses, (c) provide research grants and scholarship program to all full-time faculty members, (d) provide inservice training of faculty members.
2.2 Instruction

2.2.1 The college should conduct a regular evaluation of the program of studies every year through continuous environmental scanning. Faculty members, upper class students, and alumni should have an active involvement in the process of evaluation.

2.2.2 The college should encourage and provide opportunities for student research projects and written reports, field trips, community activities, team teaching, group techniques as alternative methods of teaching.

2.2.3 The college should provide in-service training by inviting respected speakers to talk on effective classroom management. A provision for faculty to make up for missed classes should be provided.

2.2.4 The college dean should conduct supervisory class visitation to all faculty members every semester and periodic evaluation of instruction.

2.2.5 To insure effectiveness in instructional administration, the college dean should: (a) have a sound judgment in the management of the curriculum through feedback mechanism from students, faculty members and alumni and (b) provide adequate financial support to implement effectively alternative courses of actions.
2.2.6 The college should provide adequate co-curricular activities through: (a) providing a clear policy regarding students' participation in co-curricular activities, (b) providing alternative class activities such as symposia, exhibits, and visual arts, and (c) involving students in the college student council in the formulation of co-curricular activities.

2.2.7 The college dean should (a) inform the students on the availability of academic counseling services through regular class meeting with faculty advisers, (b) tap upper class students to assist in the counseling process, (c) form a peer counselors' group to assist the college realize the ultimate purpose of academic counseling.

2.2.8 The college dean should insure effective internship training program through: (a) including a mission statement in the internship logbook, (b) providing a reliable criteria in the accreditation of affiliating training hospitals/medical centers, (c) providing clinical instructors to monitor interns' performance, and (d) conducting a weekly review class.

2.3 Administration

2.3.1 The college should consider the following to insure effective administration of records and reports: (a) prepare a student directory, (b) send reports of students' performance to parents, (c) provide adequate training of the staff who handle the records, and (d)
coordinate with the university registrar and other college deans to discuss computerization of records to avoid delay in granting requests.

2.3.2 In order to insure effective collegiate planning and development, the college should: (a) have a person (college dean) who will oversee the overall plans of the college, (b) create a provision for short and long-term plans which addresses both institutional and collegiate objectives, (c) provide appropriate allocation of funds to insure the realization of objectives, (d) involve students, faculty members and non-teaching staff in the planning process, and (e) insure that plans are effectively disseminated to different sectors of the college community.

2.3.3 To insure optimum performance among administrators, the management should: (a) conduct a regular performance evaluation of deans and subject/level coordinators, (b) send college administrators to seminars focusing on effective leadership, (c) be open to alertness towards inter-college cooperation and sharing of resources, and (d) train/develop an understudy as future administrator.

2.3.4 To insure effective administration of public relations, the college should (a) provide additional funding to carry out public relations, (b) improve their present strategies to foster effective public relations with government entities, local church officials, local civic
organizations, local business community and most importantly, with the feeder schools, (c) regularly discuss with feeder school heads concerns/issues of the radiologic technology course.

2.4 Student Objectives

2.4.1 The college dean should consider the following recommendations to insure that objectives of student services are realized: (a) review regularly the objectives of student services and (b) insure that the objectives are clearly stated and understood by the students and faculty members.

2.4.2 To insure effective admissions, (a) the college dean together with the admission committee should regularly review the policies and programs on admission, (b) the school should provide effective tools such as standardized admission test to insure effective selection of students, and (c) the school should provide substantial budget and should conduct career talks to feeder schools.

2.4.3 To insure effective orientation program, the college dean should (a) regularly review the effectiveness of the orientation program, (b) assign a faculty member to prepare a plan for students' orientation, (c) allocate substantial budget to implement this program.

2.4.4 To insure effective guidance program and services, the college dean (a) together with the director of guidance office should review the objectives of the guidance program (b) should insure
adequate ratio between the number of counselors and the number of students (1 guidance counselor to 500 students), (c) should coordinate with the college guidance counselor to apply a systematic and continuing testing program.

2.4.5 In order to insure effective student assistance program, the following are recommended: (a) the school should provide a budget for SAP, (b) the school should offer financial aid to poor but deserving students, (c) school clinic should be open during school hours, and (d) the school should conduct regular health examination of food service personnel and insure that nutritious, well-balanced reasonably priced meals are provided.

2.4.6 To insure effective extra-curricular activities, the college should: (a) provide a variety of extra-curricular programs contributory to student development like leadership training programs, theater arts and student publication and (b) regularly review the existing polices concerning students' participation in extra-curricular activities.

3. In order to improve the licensure examination performance of graduates, colleges of radiologic technology should (a) conduct a review class for graduates before the board examination and (b) coordinate with PRC to re-evaluate the content of the licensure examination in order to insure relevance.
4. The Technical Panel for Radiologic Technology Education should re-evaluate some provisions of CHED Memorandum Order Number 6, series of 2001, otherwise known as the Policies and Standards for Radiologic Technology Education in order to make its provisions attainable and doable.

5. Further studies on the effectiveness of radiologic technology education in the Philippines and licensure examination performance in other HEIs may be conducted utilizing other variables.