

## **FINAL REPORT**

### **2009-2010 SOAP ASSESSMENT PROPOSALS “IMPLEMENTING DIRECT MEASURES OF STUDENT LEARNING AND USING THE RESULTS FOR PROGRAM IMPROVEMENT”**

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#### **I.- PROJECT BACKGROUND**

The Department of Public Health [former Department of Health Science] is very interested in developing objective student outcome assessments that are congruent with certification criteria from the National Commission for Health Education Credentialing-NCHEC (for the undergraduate program) and the National Board of Public Health Examiners (for the graduate program). Efforts to incorporate Outcomes Assessments in an ongoing and systematic way in the Department of Public Health have been developed since 2004 under the leadership of Dr. Jerry Davoli for the undergraduate program and Dr. Miguel Perez for the graduate program. These efforts needed to be updated based upon the current accreditation and community needs. Since the Fall, 2009 Drs. Pinzon-Perez and Rahman have taken the leadership in the Department of Public health to develop a SOAP plan that promotes program improvement and motivates changes in curricula.

This interest has been emphasized by our need to respond to accreditation suggestions and to address the calls from the Office of Institutional Research at CSUF regarding SOAP. This research grant proposal attempted to measure objective outcomes for the options of Community Health (in the undergraduate program) and Health Promotion (in the graduate program).

The Bachelor of Science in Public Health and the Master of Public Health (MPH) are designed to prepare students for careers with official and voluntary health agencies at the federal, state, or local levels of government as well as the private sector. Community Health is one of the options within the undergraduate major in Public Health. Health Promotion is one of the options within the graduate MPH program. The Master of Public Health degree is designed for individuals seeking a professional degree in public health. This degree is recognized throughout the world and is fully accredited by the Council of Education for Public Health (CEPH).

The curriculum is designed to prepare individuals not only to be competent instructors in the health areas, but to be health educators in many segments of our society. Upon completion of the undergraduate and graduate degrees, students are eligible to take the test to become a Certified

Health Education Specialist (CHES). CHES is an examination encouraged by the National Commission for Health Education Credentialing (NCHEC) for undergraduate and graduate students to document their proficiency as health educators. CHES is becoming a major requirement for job placement nationwide. Currently only handful students sit for CHES. An assessment of the level of proficiency of undergraduate and graduate students for the CHES is an objective measure of their knowledge regarding the core responsibilities and competencies required of health educators trained in our undergraduate community health option and our graduate health promotion option.

## **II.- PROPOSED METHODOLOGY FOR ASSESSEMENT:**

### ***A. ASSESSMENT FOR THE UNDERGRADUATE COMMUNITY HEALTH OPTION IN THE MAJOR OF PUBLIC HEALTH***

A Pre and Post test were given to students in the Community Health Option enrolled in a senior level class HS 135 (Introduction to Health and Disease) during the Fall, 2009. This assessment was aimed to measure knowledge gained in the program in preparation for the professional certification they are expected to attain upon graduation (Certified Health Education Specialist-CHES). Students' participation in this assessment was voluntary.

Students enrolled in HS 135 answered a set of 150 questions designed by the National Commission for Health Education Credentialing to assess students' knowledge on the seven professional responsibilities of the Health Educator. These questions were included in a preparation book created by the NCHEC. In order to use these questions, the PIs contacted the NCHEC to obtain permission prior to collection of data. NCHEC provided permission with the provision that students were required to buy the book that contained such questions. Students who completed this assessment purchased the book and took the 150 question pre-test in September, 2009. These questions are used nationwide as a practice for the CHES exam. Students are expected to obtain the knowledge required to pass the CHES exam in the courses HS 100 (Community Health), HS 131 (Introduction to Health Education), and HS 133 (Health Education Methods). Taken a pre-measurement of students' knowledge at the beginning of HS 135 provided the assessment team with an accurate indication of initial knowledge levels so they could be compared with the knowledge of students at the end of HS 135.

The selected questions were aimed to assess the same students who participated in the pre-test were asked to take the post-test (same 150 questions) during the last week of HS 135 class (December, 2009). In HS 135 students received reinforcement in the learning of the seven professional responsibilities and the competencies of health educators. It was expected that by the end of HS 135 students should have acquired the required knowledge that could make them proficient to pass the 150 questions of the CHES exam. It was the expectation of this grant that undergraduate students in HS 135 improve their score between the pre and the post test assessment.

## ***B.- ASSESSMENT FOR THE HEALTH PROMOTION OPTION IN THE GRADUATE MASTERS OF PUBLIC HEALTH PROGRAM***

Students enrolled in the graduate class PH 225A (Advanced Principles of Health Promotion- I) during the Fall, 2009 took a pre-test during the first week of classes consisting of 150 questions designed by the National Commission for Health Education Credentialing. These questions were included in a preparation book created by the NCHEC. In order to use these questions, the PIs contacted the NCHEC to obtain permission prior to collection of data.

NCHEC provided permission with the provision that students were required to buy the book that contained such questions. Students who completed this assessment purchased the book and took the 150 question pre-test in September, 2009. These questions are the same questions from the practice test for CHES examination from the National Commission for Health Education Credentialing. These students then took the post test during the last day of class in December, 2009. Students' participation in this assessment was voluntary. ) In PH 225A students received reinforcement in the learning of the seven professional responsibilities and the competencies of health educators. It was expected that by the end of PH 225A, students should have acquired the required knowledge that could make them proficient to have a passing score of at least 94 out of the 150 questions of the CHES exam.

### **III. - RESULTS:**

The questions in the 150 pool item taken by undergraduate (in HS 135) and graduate students (in PH 225A) assessed the seven (7) areas of 'responsibility' of health educators, defined as "major categories of performance expectations of a proficient health education practitioner." According to SOPHE and AAHE, which are leading professional organizations for health educators, the areas of responsibility define the scope of practice for the health education profession. In the questionnaire used for the project, the distribution of questions by these categories is as follows shown in table 1. In the report they have been referred to as 'sections'.

**Table 1: Distribution of CHES questions by sections**

<b>Sections/Areas</b>	<b>Frequency</b>	<b>Percent</b>
I. Assess Individual and Community Needs for Health Education	17	11.3
II. Plan Health education Strategies, Interventions, and Programs	23	15.3
III. Implement Health Education Strategies, Interventions, and Programs	28	18.7
IV. Conduct Evaluations and Research Related to Health Education	24	16.0
V. Administer Health Educations Strategies, Interventions, and Programs	18	12.0
VI. Serve as a Health Education Resource Person	18	12.0
VII. Communicate and Advocate for Health and Health Education	22	14.7
Total	150	100.0

### A.- Results for the MPH Health Promotion Graduate Students

**Table 2: Score from CHES exam (pre and post) for MPH Health Promotion students**

	Pre test	Post test	Difference in Pre Post test scores
Averages raw scores (out of 150 points)	94.75	103.08	8.33
Averages scores (%)	63.17	68.72	10.11

Note: The national 2009 CHES Exam *passing* score (held in October 2009) was 94 out of 150 or 62.66 percent. The average score obtained in the exam was 105.95 or 70.6 percent. (Source: [www.nchec.org/news/news.htm](http://www.nchec.org/news/news.htm))

The findings from table 2 are as follows:

- The score during the pre test was 94.75 which was less than the national average of 105 (approximate) in the national CHES 2009 exam. At the post test, the gap with the national average was narrowed and it stood at 103.08. Overall, the score improved by an average of 8.33 points.
- The students' average score improved from 94.75 during the pre test to 103.08 in the post test. In percentage terms, the average of the correct answers was 63.17 and in the pre test it was 68.72. Overall, the increment of the score was 10.11 per cent. Significant differences (.05) were found between pre and post test.
- Nationally, the passing score was set at correctly answering 94 out of 150 questions. By that standard, 8 out of 12 students obtained more than the national passing score during the pre test. In the post test, 9 out of 12 students obtained more the national passing score.

**Table 3: Results of CHES scores (pre and post) by sections for MPH Health Promotion students**

Sections	Average scores (Pre test)	Average scores (Post test)
I. Assess Individual and Community Needs for Health Education	69.1	71.5
II. Plan Health education Strategies, Interventions, and Programs	67.0	73.2
III. Implement Health Education Strategies, Interventions, and Programs	71.7	75.0
IV. Conduct Evaluations and Research Related to Health Education	50.6	55.8
V. Administer Health Educations Strategies, Interventions, and Programs	63.8	68.5
VI. Serve as a Health Education Resource Person	50.0	58.3
VII. Communicate and Advocate for Health and Health Education	67.4	76.5

The findings from table 3 are as follows:

- Table 3 shows the average of the scores obtained by students in seven learning areas. During the pretest the lowest scores were achieved in the learning areas/sections IV (Conduct Evaluations and Research Related to Health Education) and VI (Serve as a Health Education Resource Person).
- The scores for sections IV and VI were below the average passing scores of 62.6 per cent (or 94/150) set for the national CHES exams.
- Although there were improvements in the post test, the scores in these two learning areas/sections were still below the average passing score.

### **B.- Results for the Community Health Undergraduate Public Health Students:**

**Table 4: Distribution of CHES questions by sections**

Sections/Areas	Frequency	Percent
I. Assess Individual and Community Needs for Health Education	8	10.7
II. Plan Health education Strategies, Interventions, and Programs	11	14.7
III. Implement Health Education Strategies, Interventions, and Programs	13	17.3
IV. Conduct Evaluations and Research Related to Health Education	8	10.7
V. Administer Health Educations Strategies, Interventions, and Programs	7	9.3
VI. Serve as a Health Education Resource Person	13	17.3
VII. Communicate and Advocate for Health and Health Education	15	20.0
Total	75	100.0

For the undergraduate courses only 75 out of the 150 questions were used. Thus they have a slightly different combination of learning areas/sections questions than the graduate exam.

**Table 5: Score from CHES exam (pre and post) for Undergraduate Students (Community health option)**

	Pre test	Post test	Difference in Pre Post test scores
Averages scores ( out of 75 points)	38.86	42.57	3.7
Averages scores (%)	51.8	56.7	4.9

- The students' average score improved from 38.86 during the pre test to 42.57 in the post test. In percentage terms, the average of the correct answers was 51.8 and in the pre test it was 56.7.
- Only 1 out of 7 students obtained more than the passing average score during the pre test. In the post test, 2 out of 7 students obtained more the passing average score.

**Table 6: Results of CHES scores (pre and post) by sections (percentage)**

Sections	Average scores (Pre test)	Average scores (Post test)
I. Assess Individual and Community Needs for Health Education	55	59
II. Plan Health education Strategies, Interventions, and Programs	51	57
III. Implement Health Education Strategies, Interventions, and Programs	63	70
IV. Conduct Evaluations and Research Related to Health Education	45	55
V. Administer Health Educations Strategies, Interventions, and Programs	61	57
VI. Serve as a Health Education Resource Person	36	44
VII. Communicate and Advocate for Health and Health Education	54	55

- Similar to the graduate level MPH students, the bottom two scores were observed in the learning areas/sections:
  - IV (Conduct Evaluations and Research Related to Health Education) and
  - VI (Serve as a Health Education Resource Person).
- The scores for sections IV and VI were below the national average passing scores of 63 per cent (94/150) – 45 and 36 percent respectively. Although there were improvements in the post test, the scores were still below the national passing grade.

#### **IV. USING THE DATA/HOW ARE WE USING THE FINDINGS**

Systematic review of class contents for the required courses in the undergraduate and MPH program has been initiated. During a one day retreat of the community health option on April 21, 2010 the results were shared and discussed with 10 faculty members from the Department of Public Health. The participating faculty agreed to attend another 5 hour retreat in September, 2010 to review the syllabi for the core courses in the option and community health (HS 100, HS 114, HS 131, HS 133, HS 135) in light of the results of this assessment, and make changes in the syllabi of these courses to include gradual reinforcement of the seven professional responsibilities and competencies for health educators required by the NCHEC.

In the Fall, 2010 these findings will be discussed with full-time graduate faculty in the Health Promotion Option of the MPH program to determine student outcomes expected for the major required health promotion courses (PH 208, PH 213, PH 225A, PH 225B) and to design a model

syllabus for each of these classes that illustrates such outcomes and provides educational activities (projects, assignments) congruent with the elicited student outcomes. This systematic review will be conducted following content accreditation criteria required by the Council of Education for Public Health (CEPH).

#### **IV. WHAT PROBLEMS WERE ENCOUNTERED AND HOW THEY WERE RESOLVED**

A major difficulty in this initiative was the fact that students' participation was voluntary. This influenced the limited number of undergraduate (n=7) and graduate (n=12) participating in this assessment. Since it was optional, many students did not want to participate and take the time to complete the assessment. They were strongly encouraged by the two faculty members teaching HS 135 and PH 225A to participate, since students would be benefitting directly by practicing for this professional exam and by giving us data that could improve the quality of education future students will be receiving in our programs.

Another problem encountered was to obtain permission from the NCHEC to use the pool of 150 practice questions for the CHES. NCHEC required that students using these questions should buy the practice book, which had a cost of \$ 35 dollars. This cost may have limited student participation.

Despite these difficulties, Drs. Pinzon-Perez and Rahman feel that this assessment was very useful and provided valuable data for the improvement of our academic curriculum in the undergraduate and graduate programs. We hope to continue and expand this initiative in the future.