

ASSESSING KNOWLEDGE OF HEALTH EDUCATION COMPETENCIES VIA DISTANCE LEARNING ENVIRONMENT: A PILOT AND A NOVEL APPROACH AMONG UNDERGRADUATE STUDENTS AT A SOUTHERN UNIVERSITY IN THE UNITED STATES

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ABSTRACT

The mission of the National commission for Health Education Credentialing (NCHEC) is to enhance the professional practice of health education professionals by promoting and sustaining a credentialed body of health education specialists. They set various areas of responsibilities for health education specialists to describe the profession more comprehensively and add clarity to their roles within and outside the profession. The purpose of this novel pilot study was to assess mastery of certain health education related competencies based on specific Areas of Responsibilities' (Area I, Area II, Area III and Area IV) using a distance learning (100%) health program planning and evaluation online course. Results from data collected over two semesters demonstrated that there was a gain in knowledge in the Areas of Responsibilities' mentioned above. There is an emerging need for additional studies which assess gain in content knowledge among entry-level health education specialists particularly using rigorous experimental designs. Health education and promotion curriculums across the nation need to strengthen health education competencies among health education specialists for providing improved health education practices.

Key words: competencies, health education specialists, curriculum, distance learning

Introduction and purpose

The mission of the National Commission for Health Education Credentialing (NCHEC) is to enhance the professional practice of health education professionals by promoting and sustaining a credentialed body of health education specialists (National Commission for Health Education Credentialing, 2020). The seven areas of responsibilities set forth by the NCHEC assesses competencies and sub competencies defining the role of health education specialists. These competencies were verified by 2010 Health Educator Job Analysis report was the basis of conducting Certified Health Education Specialist (CHES) in past and were used for this study. However, this was recently updated and revised to have eight areas of responsibilities' which were developed building on the Health Education Job Analyses 2010 and Health Education specialists practice analyses 2015 models. (NCHEC, 2017, 2020).

The role of health education specialists as practitioners, researchers and leaders in health care organizations, communities, schools and universities has clearly evolved over last decade. The recent Health Education Practice Analysis II 2020 (National Commission for Health Education Credentialing & Society for Public Health Education, 2020) model has revised and updated the competencies and sub competencies that are essential for contemporary health education practice, along with the areas of responsibilities. The National Commission for Health Education Credentialing has revised their Certified Health Education Specialist and Master Certified Health Education Specialist Exams accordingly while also acknowledging the change in terminology of Health Education to Health Education/Health Promotion for various Areas of responsibilities for health education specialists to describe the profession more comprehensively and add clarity to their roles within and outside the profession (NCHEC, 2020; Society for Public Health Education 2020).

It certainly behooves then, that instructors offering health education/promotion programs, across the nation, train emerging health education specialists with content and skills which match the entry level competencies and sub competencies of a bachelor trained health education specialist and advanced level competencies and sub competencies of a master trained health education specialist. Along with the general robust growth in online courses and programs offered, there has been a specific growth in fully online programs in the areas of public health and health education. Recent efforts to demonstrate the importance of online training for public health

workers (Stamaikos, & Ratnapadipa, 2011) along with academic courses and programs in public health provide credence to this movement (Krisberg, 2012).

The purpose of this pilot study was to assess mastery in knowledge of health education competencies based on specific Areas of Responsibilities' (Area I, Area II, Area III and Area IV) using a distance learning (100%) health program planning and evaluation online course over a span of two semesters among a sample of undergraduate college students at a Southern University in the United States. The above-mentioned Areas of Responsibilities' were particular identified for this study as the researcher believed that they align the most with the course content.

Methods

An Institutional Review Board approval was sought and the study was approved in the Summer of 2013. This was a cross-sectional study which involved a short survey (10 questions) adapted from the National Commission for Health Education Credentialing (NCHEC, 2017) website. An announcement was posted in the online course shell of the HHPS 4380 Health Education Program Evaluation Course recruiting students to participate in this study during the Fall 2013 and Spring 2014 semesters and multiple reminders were sent over a period of two semesters. The survey was deployed in an online environment – as a course link under the 'Assessment' section of the online course. Students were provided extra-credit points for completing this assessment survey. These extra-credit points were no more than 3% of the total course grade. A Pretest-Posttest single group design methodology was used for this study among a self-selected sample of upper level undergraduate students (n=70) in a health program planning and evaluation course where the online course was an intervention itself.

Results

As per Table 1, the study reported results as percent of correct responses on the knowledge questions among upper level undergraduate students (n=31) along with percent change in knowledge scores for the Fall 2013 semester

-----Please see Table 1-----

As per Table 2, similarly results from Spring 2014 semester are displayed

-----Please see Table 2-----

Discussion

The purpose of this pilot study was to assess the mastery in knowledge of various health education related competencies based on diverse areas of responsibilities developed by the National Commission for Health Education Credentialing (NCHEC, 2017). The researcher believes that such a novel attempt to assess the health education competencies via Areas of responsibilities was the first of its kind in a 100% distance learning format. Overall, the literature in designing distance learning health education programs is limited (Ball et al, 2013; Chaney, Chaney, Stollefson & Eddy, 2008; Escoffery et al., 2005) and doesn't address measurement of National Health Education Credentialing Competencies (NCHEC) (NCHEC, 2017,2020).

The knowledge gain of students in Areas of Responsibilities 1, II, III, & IV cannot be fully attributed to this course (as an intervention), as students enrolled in this course were upper level undergraduate students who could have been simultaneously enrolled in other health education courses which offered knowledge and skills related to gaining competency related to the Areas of Responsibility mentioned above to train budding health education specialists.

An interesting and an inexplicable finding was that students actually showed a 4.9% loss in knowledge related to Area II: program planning responsibility from pre-test-post-test. It could be possible that sample questions addressing this area were fewer and not quite validated. It would be good to have a validated questionnaire with multiple constructs addressing the 'program planning' area to either show some gain in this competency or no gain (particularly if the pretest knowledge was already higher in this Area of responsibility).

Limitations

There were number of limitations of this study such as a) limited number of questions to judge the competency development among emerging health education professionals, b) a self-selected sample of undergraduate students and unaddressed Areas of Responsibilities such as Area V, VI, and VII and finally c) a non-experimental design (Cottrell, & McKenzie, 2011). Further studies could build upon this study with an extensive competency-based assessment via not only a single course study but multiple courses and programmatic studies. It is recommended that researchers obtain a random sample of students to participate in a

distance learning environment to improve the external validity of the study and strengthen the design to an experimental randomized comparison design which is considered the ‘gold standard’ for internal validity (Chang, Hayter, Yeh, Hsieh, & Kuo, 2016; Xi, Mao, Chen & Bai, 2017). Although competency building was discussed in this article, competencies and sub competencies were not specifically tested and measured as the researcher believed that such an attempt would be too complex in an 100% online learning environment and Areas of responsibilities were used as a ‘proxy’ for competency building. Another limitation of this study was of fully online testing of students which did not allow proctoring and hence the identity of students completing both the pretest and the post-test surveys could not be validated.

Conclusions

As emerging health education specialists prepare themselves to enter the health education/promotion workforce, the knowledge and practicing skills related to the previous seven areas of responsibilities identified by the National Commission for Health Education Credentialing become very vital, particularly those related to health program planning and evaluation. Since more than two-thirds of the percentage questions on the Certified Health Education Specialist Examination (NCHEC, 2017) correspond within areas of needs assessment, health education/promotion program planning, implementing and evaluating, the health program planning and evaluation course covers most of the competencies for practicing health education specialists. The revised and updated competency-based framework has added the eight Area of responsibility of ‘ethics and professionalism’ (NCHEC, 2020; Society for Public Health Education, 2020).

Health Education profession has undergone periodic analyses of its competencies and sub competencies at the entry level health education specialists and advanced-level health education specialists over last 10 years (NCHEC,2020; SOPHE, 2020). Although, this study findings provided a snapshot of knowledge outcomes, it opened doors for what could be achieved by health education faculty in terms of assessments conducted at curricular level. Program planning and evaluation related competencies are hallmarks for the health education workforce and very well represented on the percentage of questions in the Certified Health Education Specialist Exam (NCHEC, 2020). It is hence imperative that undergraduate programs nationwide which teach planning, implementing and evaluation courses assess knowledge and skills in these content areas to create a competent cadre of health education/promotion professionals.

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Table 1.

Fall Semester 2013-Areas of responsibilities-knowledge assessed among undergraduate students-correct responses (n=31)

Areas of Responsibilities*	Pretest	Posttest	% age of change
Area I Assess needs, assets and capacity for health education/promotion	79.8%	80.7%	Gain 0.9%
Area II Planning health education/promotion	94.6%	89.7%	Loss 4.9%
Area III Implementing health education/promotion	75.8%	82.6%	Gain 6.8 %
Area IV Conduct evaluation and research related to health education/promotion	48.3 %	50 %	Gain 1.7%

*updated and revised in 2015

Table II.

Spring Semester 2014-Areas of responsibilities-knowledge assessed among undergraduate students-correct responses (n=33)

Areas of Responsibilities*	Pretest	Posttest	% age of change
Area I Assess needs, assets and capacity for health education/promotion	57.5%	72.4%	Gain 14.9%
Area II Planning health education/promotion	79.7%	86.2%	Gain 6.5%
Area III Implementing health education/promotion	54.5%	68.9%	Gain 14.4%
Area IV Conduct evaluation and research related to health education/promotion	42.4%	55.1%	Gain 12.7%

*Updated and revised in 2015