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# A Case Study of Teaching Public Health to Graduate Students in Speech Language Pathology

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# A Case Study of Teaching Public Health to Graduate Students in Speech Language Pathology

**Author(s):** Sharma M, Nahar VK

## Abstract

Orienting speech language pathology graduate students about the core areas of public health and building relevant associated competencies in this area is becoming more and more important in the field. The purpose of this case study was to document the experiences of designing, implementing and evaluating a graduate level course that orients speech-language pathology students in core areas of public health. This course was developed at a Historically Black College/University (HBCU) in Deep South. The course has been delivered as a hybrid course (face-to-face as well as online) for the past three years in the summer semester. Strengths, weaknesses opportunities and threats (SWOT) analyses of the course were done by the students enrolled in the course. Some of the strengths of this course included interactive approach, skill building activities, effective instructor, connecting the relation between public health and communicative disorders, focus on research methods that related well with speech research and flexibility of class meetings. Some of the weaknesses of the course included too much information in a short time, offering at late night and intensive assignments. Some of the opportunities for this course included providing more opportunities for reaching out in the community, providing video recordings for asynchronous online classes and offering it to undergraduate students as well. Some of the perceived threats facing this course were students who are unwilling to do the required work, retirement of the instructor, and time availability and time management by students. The course can be replicated at other programs around the country.

## Introduction

Speech-language pathology is one of the clinical professions in the field of communication sciences and disorders. Speech-language pathology is the science of human communication and related disorders such as cognition and swallowing. Speech-language pathologists are professionals who provide prevention, assessment, diagnosis and intervention services for speech (e.g., articulation, apraxia, dysarthria), voice

(e.g., phonation, respiration), language (e.g., comprehension, expression, literacy), cognitive communication (e.g., attention, memory, executive functioning) and feeding and swallowing disorders [1]. Given the wide scope of practice for speech-language pathologists, graduate curricula in communication sciences and disorders programs cover the depth and breadth of a range of topics such as communication and swallowing processes, including the appropriate biological, neurological, acoustic, psychological, developmental, and linguistic cultural bases; normal and abnormal development across the life span; the identification, prevention, assessment, evaluation, and treatment of communication disorders including cognitive and swallowing disorders [2].

There are numerous potential etiologies of communication, cognitive, and swallowing disorders-many of which are medical etiologies (e.g., prematurity, low birth weight, cleft lip/palate, respiratory problems, pharyngeal and laryngeal abnormalities, neurological diseases, and genetic diseases). For this reason, some consider the field of communication disorders to be a subset of the medical field while others contend that communication disorders is a separate field with linkages to public health and medicine as depicted in Figure 1 (Illustration File 1)-the position held by the authors of this paper. As a consequence, teaching of public health core areas is mandatory for students pursuing careers in speech-language pathology.

The Council on Academic Accreditation (CAA) of the American Speech-Language-Hearing Association (ASHA) accredits masters programs in speech-language pathology [3]. There are 271 speech-language pathology masters programs of which 249 are accredited by the CAA and 22 are candidates for accreditation [1]. Of the 249 accredited programs, only four are housed within a School or College of Public Health. Jackson State University (JSU), a Historically Black University in Jackson, Mississippi, is one. JSU offers a CAA-accredited masters in speech language pathology.

For accredited programs, the CAA requires compliance with its standards of accreditation [3]. The CAAs standards for accreditation were recently revised in 2017 [3]. Inherent in this are competencies are evidence-based practice, cultural competence and

other public health oriented values. Thus, training of speech-language pathology students must entail an orientation course in public health. Furthermore, it is generally accepted that principles of epidemiology, health behavior, health policy, prevention, and core areas of public health are now essential requirements for all clinicians. It is in this context, that the purpose of this article was to document a case study on teaching graduate level speech language pathology students about public health at JSU, a Historically Black University. It is our hope that this case study will help in providing direction in designing and implementing such courses to several speech-language pathology programs across the country.

### **Theoretical Underpinnings of the Course**

The course is based on the tenets of progressive education [4], participatory learning [5, 6], problem based learning (PBL) [7], and andragogy (adult learning) [8]. Progressive education underscores the importance of experience, experimentation, purposeful learning, and freedom [4]. Case studies, documentaries and other interactive activities that encourage reflection and discussion align with Dewey's tenets of progressive education. The hallmark of participatory learning entails dialoguing and problem posing which is done in this course by bringing in challenging and thought provoking scenarios affecting decision making in public health by contemporary policies, actions, and programs [5]. Furthermore, student expectations for learning from the course are documented in the first session and tailoring of the syllabus, if any, are done. Problem based learning is an educational paradigm that focuses on student-centered learning and classroom discussion using practical problems [7]. The traditional approach of teaching in communication sciences and disorders focuses primarily on lecture-based acquisition of knowledge which this course also uses but complements it with reflective and flexible learning for the students through skill building activities. With the plethora of information available in the field of communication sciences and disorders and public health, it becomes imperative that students use this approach in addition to the didactic learning which is also important for introducing new concepts. Finally, andragogy (adult learning) that inculcates internal motivation to learning is done through involvement of students [8]; providing experiential simulations such as win as much as you can exercise that brings about affective learning on competitive approach versus cooperative approach; making topics relate to communication disorders such as by giving examples of traumatic brain injury, dysphagia, stuttering etc.;

and incorporation of problem-oriented skill building activities. Finally, evidence-based practice in public health is emphasized throughout the course which resonates with the commonly used approach in many communication sciences and disorders academic and clinical settings across the country [7].

### **Course Layout**

PHS: 500 Introduction to Public Health Disciplines is a three-credit required course for graduate students in communicative disorders at JSU. The course is offered every summer during a four-week session with the class meeting for three hours thrice a week (Mondays, Wednesdays, Fridays from 5:30-8:20 pm). The course is delivered as a hybrid (face-to-face and online) to provide flexibility to the students. The course objectives are following.

1. Define basic terms and identify key issues in public health.
2. Trace the historical timeline relating to the field of public health.
3. Identify common measures used in epidemiology and describe time, place, and person characteristics of health conditions.
4. Describe different types of epidemiological studies and relate them to infectious and chronic diseases.
5. Discuss the role and identify key measures of descriptive biostatistics used in public health.
6. Recognize common inferential tests and procedures used in public health.
7. Delineate the role of social and behavioral sciences in community and public health.
8. Identify common models and theories used in planning health education and health promotion programs.
9. Categorize cognitive, affective and environmental methods used in health education and health promotion.
10. Discuss aspects of population dynamics and control.
11. Describe the sources, impact, and control of different types of environmental pollution.
12. Examine methods for prevention and control of intentional and unintentional injuries.
13. Review organization, financing and delivery of health services and public health systems in the United States.
14. Discuss aspects of planning, budgeting, management and evaluation in community initiatives.
15. Deliberate the role of systems thinking and

leadership in public health.

In the sections below, we will describe the PHS 500 course that was most recently offered in the Summer 2017 semester at JSU.

All the lecture notes were formatted into PowerPoint slides and were uploaded on Canvas, the online learning platform that the university uses, at the beginning of the semester. Most (8/13) of the class sessions were face-to-face. Other sessions were held asynchronously online or synchronously online. When the classes were held online, the students were required to review the Power Point slides and complete an online skill building activity.

### Skill Building Activities

A set of 15 skill building activities corresponding to each course module were the hallmark of this course. These skill building activities were designed to help the students apply didactic learning into applied, doable, pragmatic tasks. Some class time was allocated toward these skills building activities. However, since the course was offered during a short-term summer course, it is envisaged that students would work an additional 18 hours per week toward completion of skill building activities and to fulfill the requirements of the course. Three out of 15 skill building activities were included toward the final course grade whereas the rest of the activities were considered as part of class participation and were not included in grading. Students were required to submit these in the discussion forum in Canvas learning platform. The specific skill building activities from the textbook corresponding to each module are following [10].

#### Module 1

##### *Introduction to community and public health*

Community and public health professionals work in a variety of settings. Examples of these settings are:

1. Federal, state, and local health departments
2. Voluntary and community-based agencies
3. Colleges and universities
4. Schools
5. Consumer advocacy organizations
6. Consulting firms
7. International organizations

In this activity get a glimpse of what kind of careers are available in community and public health. Visit the following sites:

1. PublicHealthJobs.net at <http://www.publichealthjobs.net/>

2. Public Health Jobs Worldwide <http://jobspublichealth.com/>

3. Public health employment connection <http://cfusion.sph.emory.edu/PHEC/phec.cfm>

4. APHA careers <http://www.apha.org/about/careers/>

5. World Health Organization employment site <http://www.who.int/employment/en/>

What kinds of jobs interested you? What kind of education is required for those jobs? What kinds of skill sets are required for those jobs? How can you acquire those? Were there any volunteer or internship positions that were available and those that you liked?

#### Module 2

##### *Descriptive epidemiology*

Choose a country of your choice other than the United States. Using the Internet, collect data about mortality and morbidity indicators about that country. A useful site that you will find helpful is the Central Intelligence Agency World Factbook website <https://www.cia.gov/library/publications/the-world-factbook/>. Now compare the five leading causes of death in the United States with the five leading causes of death in that country. Also locate the agent, host, environment details and time, place, and person characteristics of any one of those. Some of the websites that you will find helpful in doing this would be the World Health Organization <http://www.who.int/en/>, that countrys health department, PubMed <http://www.ncbi.nlm.nih.gov/pubmed/>, and Google <http://www.google.com/>. Summarize your response in 500 words.

#### Module 3

##### *Analytical epidemiology*

Fish consumption and fish oils rich in omega-3 fatty acids have been reported to be for both primary and secondary prevention of coronary heart disease. Conduct a literature search using PubMed or other health and medical databases available to you on this topic. Locate at least ten epidemiological studies. Prepare a position paper describing your position on the causative role of this association.

#### Module 4

##### *Descriptive biostatistics*

Consider you have conducted a pilot study at a small school with elementary school students. Total number of students is 25. Their sex (boy=1; girl=2), race (Caucasian American=1; African American= 2; Hispanic American=3; and Asian American=4), and scores on a knowledge test of 100 points is presented.

How would you go about summarizing this data? Which variables are nominal and which are interval? What measures of central tendency and dispersion can you calculate for knowledge scores? What graphs can you make?

### Module 5

#### *Inferential biostatistics*

Locate a quantitative study in community and public health that is published in a peer-reviewed journal on a topic of your interest. You can locate such a study from a search engine of your library or if you do not have access to that then you can locate one such study from PubMed at [www.http://www.ncbi.nlm.nih.gov/htbin-post/Entrez/query?db=m](http://www.ncbi.nlm.nih.gov/htbin-post/Entrez/query?db=m) or Google scholar at <http://scholar.google.com/>. The hallmark of this article would be that it is most likely divided into Introduction, Methods, Results, and Discussion sections. Read this article carefully. Identify the main independent and dependent variables. Identify the statistical hypotheses that have been tested in this article. What statistical tests have been used to test those hypotheses? Which of those tests are statistically significant? What can you say about the practical importance of the results? Summarize your responses in a brief typed paper.

### Module 6

#### *Social and behavioral sciences*

In this module we presented a number of community and public health programs such as the Stanford Three Community Project, the North Karelia Project, the CDC funded the AIDS Community Demonstration Projects, and Shape up Somerville, but there are many other examples. In small groups investigate another public health program, not presented in this module. After doing some investigation, answer the following questions: What were the goals/objectives of the program? What were the program activities? What levels of the ecological model was the intervention based upon? Who implemented the intervention? How long did the intervention last? What were the results of the intervention? Make a brief power-point presentation to your class or write a 1 to 2-page summary.

### Module 7

#### *Models in health education and health promotion*

The planning models discussed in this module have been utilized in varying levels in the community, but the PRECEDE-PROCEED model is likely the most used, with over 1000 applications posted on [www.lgreen.net](http://www.lgreen.net). First, use the directory on the aforementioned website that lists the applications of

the PRECEDE-PROCEED model to identify a recent application (within the last 5 years), and locate the full-text article. Write a summary of how each step was implemented, and critique each step to identify any shortcomings of the use of the model. Prepare a small presentation to give to your class or write a 500 word reflection.

### Module 8

#### *Theories in health education and health promotion*

Choose a health behavior; choose a target population; choose four constructs of social cognitive theory and based on this selection develop a health behavior change program for the selected target population. Include the behavioral objectives that are specific, measurable, had action verbs, were realistic, and had a time frame (SMART). Corresponding to the behavioral objectives you should include learning objectives that are also SMART. For each learning objective delineate the content, process and time for each educational activity.

### Module 9

#### *Methods in health education and health promotion*

In this module you have been introduced to a number of cognitive and affective methods used in health promotion. Imagine you have been asked to implement a physical activity program to senior citizens at a local community center. Identify at least one cognitive and one affective method you will use, and write out the details of the behavior change techniques. For each technique, be sure to include: the behavioral objective, required materials, and step-by-step instruction for implementing the method.

### Module 10

#### *Population dynamics and control*

Select any three of the fertility indicators discussed in the module. Obtain the most current values for those fertility indicators for your geographical area and the national average. Also, try to obtain the indicators from 5 or 10 years ago. Compare the longitudinal changes and comment on the trends you see. For instance, if the infant mortality has fallen over the past decade (based on your research) hypothesize the reasons why this may have happened.

### Module 11

#### *Air, water and noise pollution*

Select a country of your choice other than the United States. Then, select any one of the many different kinds of pollutions discussed above. Compile a list of at least 4 indicators relevant to that type of pollution. Next, gather data for each of those five indicators from

your selected country and compare it with similar data for the United States. For instance, if your selection was air pollution, you could gather ozone levels, sulfur dioxide levels and particulate matter (in millions) as three of your indicators. Write a short report, not exceeding 500 words, reflecting on the comparisons of your chosen indicators.

### Module 12

#### *Injury control and other environmental issues*

As mentioned in the module pesticides and radiation can have significant health consequences for unintended targets, namely humans and the environment. Research the many different health effects pesticides or radiation may have on the health and wellbeing of an aquatic ecosystem. Present your findings in a bulleted format. Consult at least five different resources for this activity.

### Module 13

#### *Health care systems*

Select a country of your choice other than the United States. In no more than five bullets for each heading, condense under the following headings, the health insurance system of your selected country.

- I. Structure of the health insurance system
- II. Financing of the health insurance system
- III. Public vs. Private components
- IV. Utilization of health care services

Reflect on how this country's health insurance system compares to the one we have here, in United States.

### Module 14

#### *Program planning*

Imagine you are a manager of public health staff, and have been asked to complete a SWOT analysis for your organization. Identify potential strengths, weaknesses, opportunities and threats your organization will have for implementing programs that address one of the following public health concerns, or a public health concern of your choice. Identify strategies related to strengths/opportunities, strengths/threats, weaknesses/opportunities, and weaknesses/threats.

When you are done, present your analysis to your class in a brief PowerPoint presentation or post in the discussion forum.

### Module 15

#### *Systems thinking*

Visit your nearest clinic or hospital and attempt to interview a health care provider (nurse, physician,

nurse practitioner, physician assistant and so on), either in person or via telephone. Attempt to gain insight into their understanding of cultural competence and how they incorporate it into their practice.

You may use some of the following as possible questions. Feel free to devise your own questions to get an accurate idea of how the provider you interviewed incorporates cultural competence in his/her practice. Compile a one to two page paper with your findings.

How do you serve patient populations with a different racial or cultural background than your own?

What kinds of interpretation/translation services are available?

Are patient education materials available in languages other than English?

### Graded Course Assignments

In PHS 500, the students were required to complete three skill building activities for grades following current formatting guidelines of the American Psychological Association (APA) publication manual [11]. Each write-up was required to be no less than two double spaced typed pages excluding references and was required to include at least five references, preferably from journal articles. The skill building activities comprised a possible 300 points with each write-up worth 100 points. The activities were graded using the following criteria: (1) Search: 25 points; (2) Content: 50 points; (3) APA style: 25 points.

*Skill Building Activity#1a:* In the first skill building activity, the students were required to conduct a literature search and prepare a position paper on the topic of fish consumption and fish oils rich in omega-3 fatty acids in both primary and secondary prevention of coronary heart disease. The students were required to conduct a literature search using PubMed or other health and medical databases available to them about this topic, to locate at least five epidemiological studies, and to prepare a paper describing their position on the causative role of this association.

*Skill Building Activity#1b:* This activity involved the students choosing a health behavior, a target population, four constructs of social cognitive theory. Based on their selections, the students were tasked to develop a health behavior change program for the selected target population. The students were required to write behavioral and corresponding learning objectives that were specific, measurable, had action verbs, were realistic, and had a time frame (SMART). For each learning objective, the students were required to delineate the content, process and time for

each educational activity that was a part of the health behavior change program.

*Skill Building Activity#1c:* The third skill building activity required students to select a country of their choice other than the United States. In no more than five bullets for each heading, they were required to condense under the following headings, the health insurance system of their selected country:

- I. Structure of the health insurance system
- II. Financing of the health insurance system
- III. Public vs. Private components
- IV. Utilization of health care services

Students were then required to reflect on how this country's health insurance system compares to the one we have here, in the United States.

Each skill building activity was due in the next class after the class presentation on the topic. The students' presentations were based on their APA-style paper, in which they were required to delineate any contemporary local, regional, national, or international public health problem that is modifiable through a public health intervention. Public health problems presented by the students in the most recent Summer 2017 semester included physical inactivity, obesity, cardiovascular disease, alcohol related harms, stroke, opioid drug use, diabetes, infant mortality reduction, sugar consumption, smoking, pediatric traumatic brain injury and special health needs. After identifying a public health topic, the students conducted a literature search to highlight significance, epidemiological aspects (such as mortality statistics, morbidity patterns, and determinants of the health problem), and strategies to address this problem. They cited a minimum of 5-6 sources from journal articles. Each student was also required to present her paper to the class using a minimum of 10 Power Point slides in 15-minutes. The presentation was worth 200 points and was graded using the following criteria:

*Style issues (30 points)*

1. APA Style title page and references (with close attention to the use of commas, spaces, periods etc.)
2. Correct grammar and spelling
3. Adherence to specified word limit

*Content issues (70 points)*

1. Significance (10 points)
2. Epidemiological aspects (10 points)
3. Determinants (20 points)
4. Strategies including diagram, if possible (30 points)

*Presentation (100 Points)*

1. Confidence, poise & dress (20 points)
2. Adherence to time limit (20 points)
3. Clear objectives (20 points)
4. Effective Power Point slides (40 points)

**Course Competencies and Learning Objectives**

Linkages between topics covered, public health competencies, learning objectives of the course, and methods of student evaluation are following. The public health competencies are the competencies based on Council on Education for Public Health (CEPH) recommendations [12].

1.

*Objective*

-- Define basic terms and identify key issues in public health.

*Competency*

- Explain public health history, philosophy and values.
- Identify the core functions of public health and the 10 Essential Services.
- Discuss the science of primary, secondary and tertiary prevention in population health, including health promotion, screening, etc.

*Assessments/Outcomes*

-- Skill building activity at the end of the module.

2.

*Objective*

-- Trace the historical timeline relating to the field of public health.

*Competency*

-- Explain public health history, philosophy and values.

*Assessments/Outcomes*

-- Skill building activity at the end of the module.

3.

*Objective*

-- Identify common measures used in epidemiology and describe time, place, and person characteristics of health conditions.

*Competency*

-- Explain the role of quantitative and qualitative methods and sciences in describing and assessing a population's health.

-- List major causes and trends of morbidity and mortality in the US or other community relevant to the school or program.

-- Explain biological and genetic factors that affect a populations health.

-- Explain how globalization affects global burdens of disease.

*Assessments/Outcomes*

-- Skill building activity at the end of the module.

-- Health problem presentation assignment.

4.

*Objective*

-- Describe different types of epidemiological studies and relate them to infectious and chronic diseases.

*Competency*

-- Explain the role of quantitative and qualitative methods and sciences in describing and assessing a populations health.

-- List major causes and trends of morbidity and mortality in the US or other community relevant to the school or program.

-- Explain the critical importance of evidence in advancing public health knowledge.

-- Explain biological and genetic factors that affect a populations health.

*Assessments/Outcomes*

-- Skill building activity at the end of the module.

-- Health problem presentation assignment.

5.

*Objective*

-- Discuss the role and identify key measures of descriptive biostatistics used in public health.

*Competency*

-- Explain the role of quantitative and qualitative methods and sciences in describing and assessing a populations health.

*Assessments/Outcomes*

-- Skill building activity at the end of the module.

-- Health problem presentation.

6.

*Objective*

-- Recognize common inferential tests and procedures used in public health.

*Competency*

-- Explain the role of quantitative and qualitative methods and sciences in describing and assessing a populations health.

*Assessments/Outcomes*

-- Skill building activity at the end of the module.

7.

*Objective*

-- Delineate the role of social and behavioral sciences in public health.

*Competency*

-- Explain behavioral and psychological factors that affect a populations health.

-- Explain the social, political and economic determinants of health and how they contribute to population health and health inequities.

-- Explain the critical importance of evidence in advancing public health knowledge.

-- Explain an ecological perspective on the connections among human health, animal health and ecosystem health (e.g., One Health).

*Assessments/Outcomes*

-- Skill building activity at the end of the module.

8.

*Objective*

-- Identify common models and theories used in planning health education and health promotion programs.

*Competency*

-- Explain behavioral and psychological factors that affect a populations health.

-- Explain the social, political and economic determinants of health and how they contribute to population health and health inequities.

-- Explain the critical importance of evidence in advancing public health knowledge.

-- Explain an ecological perspective on the connections among human health, animal health and ecosystem health (e.g., One Health).

*Assessments/Outcomes*

-- Skill building activity at the end of the module.

-- Health problem presentation assignment.

9.

*Objective*

-- Categorize cognitive, affective and environmental methods used in health education and health promotion.

*Competency*

-- Explain behavioral and psychological factors that affect a populations health.

-- Explain the social, political and economic determinants of health and how they contribute to population health and health inequities.

*Assessments/Outcomes*

-- Skill building activity at the end of the module.

10.

*Objective*

-- Discuss aspects of population dynamics and control.

*Competency*

-- Explain effects of environmental factors on a populations health.

-- Explain the critical importance of evidence in advancing public health knowledge.

-- Explain behavioral and psychological factors that affect a populations health.

*Assessments/Outcomes*

-- Skill building activity at the end of the module

11.

*Objective*

-- Describe the sources, impact, and control of different types of environmental pollution.

*Competency*

-- Explain effects of environmental factors on a populations health.

-- Explain behavioral and psychological factors that affect a populations health.

-- Explain an ecological perspective on the connections among human health, animal health and ecosystem health (e.g., One Health).

*Assessments/Outcomes*

-- Skill building activity at the end of the module.

-- Health problem presentation assignment.

12.

*Objective*

-- Examine methods for prevention and control of intentional and unintentional injuries.

*Competency*

-- Explain effects of environmental factors on a populations health.

-- Explain the critical importance of evidence in advancing public health knowledge.

-- Explain behavioral and psychological factors that affect a populations health.

*Assessments/Outcomes*

-- Skill building activity at the end of the module.

-- Health problem presentation assignment.

13.

*Objective*

-- Review organization, financing and delivery of health services and public health systems in the United States.

*Competency*

-- Identify the core functions of public health and the 10 Essential Services.

*Assessments/Outcomes*

-- Skill building activity at the end of the module.

14.

*Objective*

-- Discuss aspects of planning, budgeting, management and evaluation in community initiatives.

*Competency*

-- Identify the core functions of public health and the 10 Essential Services.

*Assessments/Outcomes*

-- Skill building activity at the end of the module.

15.

*Objective*

-- Deliberate the role of systems thinking and leadership in public health.

*Competency*

-- Explain how globalization affects global burdens of disease.

*Assessments/Outcomes*

-- Skill building activity at the end of the module.

**Grading in the Course**

In PHS 500, half of the grade was based on completion of skill building assignments and half of the grade was based on ability to apply knowledge of the subject matter on a mid-term and a final exam. The exams included knowledge testing, true/false and multiple choice questions and application type questions from the material covered in the class and the assigned textbook chapters. Point distribution for the course was as follows:

Assignment#1a: 100 points (Skill Building Activity)

Assignment#1b: 100 points (Skill Building Activity)

Assignment#1c: 100 points (Skill Building Activity)

Assignment#2: 200 points (Health Problem Presentation)

Mid-term exam: 250 points

Final exam: 250 points

The grading scale for the course is following.

A - Points: 900-1000 (Percentage range: 90-100%)

B - Points: 800-899 (Percentage range: 80-89%)

C - Points: 700-799 (Percentage range: 70-79%)

D - Points: 600-699 (Percentage range: 60-69%)

F - Points: < 599 (Percentage range: < 59%)

### Course Evaluation

As part of the ongoing quality assessment and improvement measures, a written reflection of the strengths, weaknesses, opportunities, threats (SWOT) was conducted with the students [10,13,14]. As a result of the SWOT analysis, the following strengths, weaknesses, opportunities and threats were identified by the students in Summer 2017 offering of this course.

#### Strengths

- The course provided examples of how to decrease risks from diseases.
- Skill building activities truly increased my learning for this course.
- Engaging and interactive course.
- The instructor challenged us to look at the big picture and think globally.
- Wide range of information-lessons are applicable in daily life.
- Very valuable information in a short time.
- Instructor is a fantastic teacher and makes the class enjoyable. A really fun professor. Having a great teacher who has great insight in the field of public health. The professor is wonderful and passionate toward public health.
- Connecting the relation between public health and communicative disorders.
- Focus on research methods relates well with speech research.
- Covers the analytical side of public health as well.
- Flexibility of class meetings.
- Content and access to power point lecture notes.
- The book assigned for the course was very helpful.
- Lot of research opportunities were provided during the course.

#### Weaknesses

- Online learning was a distraction.
- Too much information in a short time especially with three other classes and clinicals.
- Offering late at night.
- Course work/assignments were dense.

#### Opportunities

- Provide more opportunities for reaching out in the community.

- This course has long-term viability. It is a great introduction for those in other fields. We can take a little and apply it in our communities and continue to build on knowledge of current events. Important for us when we vote as well.
- Provide video recordings in asynchronous online classes.
- Have one day that specifically teaches about the connection between public health and communicative disorders.
- Provide examples of how to apply prevention and health promotion in our field.
- Focus more on public health studies, their implementation and effectiveness.
- Offer it to undergraduate students as well.

#### Threats

- This is a great course and the outlook for this course is good.
- Students who are unwilling to do the required work.
- Retirement of the instructor.
- Time availability and time management of students.
- No harm in this course.
- Since it was in summer, not able to spend as much time as was necessary.
- Speech pathology is medical and thus not much to relate with public health.

In addition to the SWOT analysis, the students were also asked to document their take home learning from this course. Here are the kinds of things students said:

#### Take home learning from this course

- Learned how to be an effective leader in my profession with the intent of increasing health care (specifically, speech language therapy) to as many as possible.
- Public health focuses on the health of an entire population and on prevention.
- Public health is where change in our communities and the world begins.
- Many preventative measures are available for health behavior change.
- Importance of speech language pathology and communicative disorders in public health. Not only does treatment play a role but also how people in our community need guidance and education.
- Public health prevents diseases and promotes good health. It has opened my eyes to different cultures and beliefs of other people. I love that health insurance was brought up in class and how it differs around the world. I enjoyed learning about obesity in America as well as poverty around the world.
- Prevention is key! It can be provided to the majority of the population in such effective ways
- Importance of studying outside my own culture and norms.
- Public health is very important to everyone in the world and very beneficial to our class as speech language pathologists.
- Five core areas of public health.

- Public health is a wonderful profession that aims to prevent adverse health conditions.

### Conclusions

There is growing demand to equip graduate students pursuing studies in communicative disorders regarding core areas of public health that include epidemiology, biostatistics, health behavior, health policy and environmental health. A public health course can effectively help students in communicative disorders develop competencies in cultural competence, evidence-based practice, research and other public health oriented values. This case study documents an effectual learning paradigm in this regard which can be replicated across different speech-language pathology programs around the country. The lessons learned from this case study will provide useful insights for programs planning to implement such a course.

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## Illustrations

### Illustration 1

Figure 1. Linkages of communication sciences and disorders with medicine and public health

