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Developing a Scholarly Identity and Building a Community of Scholars

Introduction

Dental hygiene scholarship development can be thought of as existing on a continuum. One end of the continuum begins in dental hygiene basic preparation programs where the focus is on evaluating research evidence for clinical decision-making and reviewing the literature on a specific topic. This continuum then progresses to increasing higher levels of scholarship development in master's degree programs that prepare learners to conduct at least pilot study-level original research; and in doctoral degree programs that require the conduct of more complex, large-scale original independent research projects. This paper highlights scholarship development in dental hygiene master degree educational programs and the need for dental hygiene doctoral education.

Indeed, graduate learners enrolled in academic dental hygiene master of science degree programs develop and master competencies related to the research process needed for the development of future dental hygiene scientists able to fulfill scholarly expectations in research-intensive universities to meet faculty promotion and tenure requirements. However, to further develop the dental hygiene discipline, dental hygiene scholars are needed in addition to dental hygiene scientists. A basic assumption of this paper, supported by others in the literature, is that there is a difference between a scientist and a scholar.¹ Ibrahim-Meleis points out that scientists systematically pursue answers to questions related to substantive areas of some discipline.¹ Scholars, on the other hand, not only are research scientists, but also have a dedicated and passionate commitment to how their science relates to their discipline's mission, its values and its effects on humanity. In this context, scholars have a sense of the discipline's history, welcome philosophical debate about the discipline and have a life-long commit-

Abstract: Progress in the dental hygiene discipline is predicated on the development of a community of scholars who explore questions related to the art and science of dental hygiene and clients in need of oral health care. Graduate dental hygiene education is challenged to develop programs that stimulate and nurture dental hygiene scholars as well as scientists. The need for the development of doctoral dental hygiene education is discussed.

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ment to the development of the discipline's knowledge base through focused research programs.^{1,2} For example, many dental hygiene scientists often focus on isolated questions that may or may not be directly related to the dental hygiene discipline. In contrast, dental hygiene research scholars envision the dental hygiene discipline as a whole, incorporate the norms and values of the practitioners, and conceptualize theory central to the discipline as the basis for further knowledge development. Although some dental hygiene scientists may interpret this perspective as being insular rather than interdisciplinary, the 2 approaches do not have to be mutually exclusive. Scholars use evidence to support their viewpoint, consider the study of related work of others in their field and elsewhere, and report their own results in the context of those of others in their field and beyond. A key component of scholarship is the dissemination of the findings of one's work through scientific publication.¹ Progress in the development of the discipline of dental hygiene requires a community of passionate dental hygiene scholars to ask and answer questions related to the discipline's whole while reaching across disciplines for assistance and to enhance their ability to bring dental hygiene's unique perspective to benefit the public's oral health.

Normally, in most disciplines, the development of

research scholars occurs at the doctoral level where the learner acquires competencies to perform independent research.¹ Since doctoral education is not yet a reality in dental hygiene, the responsibility for the development of dental hygiene scholars falls to the dental hygiene masters degree programs. These programs are challenged to do so within a limited time frame of 1 to 2 years.

Nevertheless, this paper focuses on the importance of developing a “scholarly identity” and community among master degree-level dental hygiene learners. We posit that doing so is needed to make progress in developing the dental hygiene discipline while at the same time reaching out to experts in other disciplines to assist in the development and implementation of rigorous research studies. Like all disciplines, the dental hygiene discipline needs to continue to grow by asking research questions relevant to the discipline. In fact, progress in our discipline’s development is needed in order to enrich the dental hygiene discipline’s contribution to interdisciplinary research and to enhance the public’s oral health. A scholarly, interdisciplinary approach to dental hygiene research will enable the dental hygiene perspective to influence oral disease prevention and health promotion at national and international levels.

Assumptions:

- Most of the graduate education in dental hygiene focuses on understanding and applying the research process and developing competency among their graduate learners to perform original independent research
- Dental hygiene researchers who have a scholarly identity will have a life-long commitment to the development of the dental hygiene discipline and, as scholars, will use an interdisciplinary approach to rigorous research

Given the above assumptions, the objectives of this article are threefold:

1. To define the term scholarly identity in graduate dental hygiene education
2. To discuss strategies for developing a scholarly identity, including mentors’ responsibilities to graduate dental hygiene learners
3. To discuss the need for the development of scholarly doctoral dental hygiene education

Definition of a Scholarly Identity

A scholarly identity is defined in this paper as a dental hygiene research scientist who:

- Has a sense of the dental hygiene discipline as a whole
- Has a life-long commitment to the development of the dental hygiene discipline’s knowledge base by asking and answering research questions central to the discipline
- Uses evidence to support one’s viewpoint
- Considers the related work of other dental hygiene scholars as well as those of other disciplines
- Reports one’s own results in the context of those of others in the field and beyond
- Disseminates the findings of one’s work through scientific publication¹

Strategies for Developing a Scholarly Identity in Dental Hygiene

Developing a scholarly identity is the important work of dental hygiene graduate programs. There are 3 key strategies critical to accomplishing this goal:¹

1. Coursework
2. Socialization to the culture of dental hygiene scholarship
3. High quality mentored scholarship

Each strategy will be discussed below and, when indicated, the authors will present aspects of the newly established Master of Science in Dental Hygiene degree program at the University of California, San Francisco (UCSF) as one example of how these strategies for developing a scholarly identity have been implemented. The authors recognize there may be variable approaches for achieving the same goal in other programs.

1. Coursework

When identifying strategies for developing a scholarly identity, course work and seminars, especially those related to the research process and different types of research methods and designs, initially come to mind as the most obvious avenues for accomplishing this goal. The research process includes identifying the research problem and different types of research methods and designs, reviewing the literature, specifying a research purpose and study questions/hypotheses, designing the study, collecting data, analyzing and interpreting the data, and disseminating the research results through scientific publication. However, courses that address this process are only tools to be mastered in conjunction with a disciplinary perspective. Equating the development of a scholarly identity only with research methods, statistics and design courses in isolation from the context of the den-

tal hygiene discipline constrains the development of the dental hygiene scholarly identity. At UCSF, faculty have been working on augmenting knowledge gained in research methodology courses with a critical knowledge of the dental hygiene discipline's research priorities in conjunction with learning how interdisciplinary approaches can be used in addressing these priorities central to the dental hygiene discipline.³ Faculty also include existing published theories that inform the dental hygiene discipline to focus on substance and content.^{4,5} The main curriculum objective is to prepare the graduate learners to use interdisciplinary and scientific approaches to address existing and emerging dental hygiene-related problems and to develop an original scholarly research project to study a specific problem of interest to the scholar and the dental hygiene discipline. This approach is designed to ensure not only high quality original research, but also the development of a disciplinary world view among the graduate dental hygiene learners that is more integrated and less fragmented. In doing so, the contribution dental hygiene researchers can make to interdisciplinary research is enhanced. Although developing an original scholarly research project is part of the course work, it will be discussed later in a separate section of this paper on high quality mentored research scholarship.

2. Socialization to the culture of DH scholarship

Masters-level dental hygiene graduate education that inspires the development of a dental hygiene scholarly identity includes professional socialization in addition to coursework. Professional socialization encompasses integrating course work with the norms and values of the discipline's culture that are fundamental to understanding the professional perspective.^{1,6,7} In the opinion of the authors, socialization with respect to developing a dental hygiene scholarly identity is more than just learning the skills and behavior of research. Rather, it must include the importance of asking questions central to the dental hygiene perspective as defined in dental hygiene's definition of the discipline and its paradigm concepts (i.e., the Client, the Environment, Health/Oral Health and Dental Actions).³⁻⁵ The process by which individuals are professionally socialized has been linked to a number of personal, situational and organizational factors throughout the lifespan.⁸ The graduate learner's early professional socialization in dental hygiene master degree programs to a dental hygiene scholarly identity is of central importance because during their education and training, the values, behaviors and attitudes necessary to assume their professional role are critical to motivating a career in research scholarship. Brim describes socialization as preparing adults for roles so

they will know what is expected of them, will meet those expectations and will desire to practice the expected behaviors.⁹ In the UCSF master of science degree dental hygiene program, faculty strive to support and nurture a culture that values knowledge development as a way of life, rather than as a means to achieving a degree. Faculty consciously work to create an environment that nurtures the dental hygiene scholarly identity and to communicate to the graduate learner a sense of belonging to a community of dental hygiene scholars and to the larger community of university scholars. This socialization is done mainly through faculty whose role modeling emphasizes that rigorous science is valued. Faculty shares their own scholarly behavior to produce and communicate new knowledge and engage learners in scientific debate and critique of the literature in seminars, while also striving to communicate the respect for knowledge and science in every facet of the program, beginning with the admissions' materials and interviews. In addition, faculty often refer to graduates learners as the "future generation of dental hygiene thought leaders, educators and research scholars" to emphasize these attributes they hope they will aspire to achieve. Other strategies used to build and reinforce the scholarly identity among dental hygiene graduate learners are assigning literature reviews and/or interviews of dental hygiene scholars or scholars of other disciplines about a particular topic of interest and having the graduate learners present their findings as scholarly class presentations.

Finally, graduate learner peer interaction also plays a valuable role in socialization and development of a scholarly identity. Peer relationships encourage growth and risk taking, build confidence in the learner's new scholarly identity, help with problem solving and alleviating the isolation of being a new member to a group. Dialogues in seminars are especially helpful for peer-to-peer support, mentoring and idea sharing in addition to faculty guidance and role modeling.¹⁰ A dental hygiene scholarly identity is not realized unless a whole culture is created to promote and nurture it.¹¹

3. High Quality Mentored Scholarship

The development of a dental hygiene scholarly research project is the major objective of graduate dental hygiene education. This scholarly research project, whether it is a thesis or a Capstone Project, is expected to demonstrate the student's ability to independently develop knowledge related to the dental hygiene discipline. Both are documents submitted in support of candidature for the academic masters of science degree, presenting the author's research and findings in writing. The writ-

ten Capstone Project usually is limited to a 12 page manuscript presenting the author's research and findings in a format ready for submission to a scientific journal for publication. The written thesis is a more lengthy document consisting of 5 chapters addressing the Research Problem, the Literature Review, the Methods, the Results and Discussion, respectively, and can be as long as 100 pages or more. These mentored scholarly research projects afford learners the opportunity to study a specific problem of interest that relates to the discipline of dental hygiene.

At UCSF, during the proposal development phase, graduate learners write their original scholarly research proposal and defend it orally and in writing to a committee of 3 university research faculty. This defense, known as the oral qualifying examination, includes a clear research problem statement, a thorough literature review of what is known and unknown about the problem, clear statements of the research questions and/or hypotheses, the proposed research design, data collection methods, and statistical analyses. The defense also includes a statement of research relevance to the dental hygiene discipline and to other disciplines and target audiences. Once the proposal is approved by the Faculty Committee and the UCSF Institutional Review Board, the learners begin the implementation phase of their original scholarly research study by launching their field work. Upon completion of the field work, the learners defend their research and findings orally and in writing to faculty members of their committee. The written component of the scholarly Capstone Project is submitted in the form of a 12 page manuscript suitable for publication in a scientific journal. The approved oral defense and written manuscript comprise the required components of the Capstone Project.² Thus, at UCSF, the scholarly Capstone Project is comprised of disseminating results of the fieldwork both in a written scholarly format suitable for scientific publication and in an oral presentation suitable for a scientific meeting. This need for communication of findings to scholarly scientific communities highlights the importance of including scientific writing and oral presentations as a part of the curriculum.

Mentor Responsibilities

Mentors assist in identifying projects and overseeing the related field work. Mentorship, facilitated by a wise and trusted faculty member who guides and supports the graduate learner, is a critical aspect of a graduate dental hygiene program. Although each graduate student has a major mentor to guide their independent work, mentors may need to be "matched and re-matched" according

to the needs of the developing scholar researcher.¹ For example, there may be a specific mentor for data collection or for presentation skills. One mentor may not be as well-versed in some areas that the graduate learner's project requires and helping that learner find other mentorship opportunities is another important part of high quality mentorship. This mentorship affords the learner varied opportunities to observe other scholarly role models, their work habits and communication styles.

Finally, a mentor needs to help the graduate learner participate in scholarly activities especially when it comes to written and oral communication. Being able to write for a scientific publication and to address the scholarly community and the public regarding scientific findings are skills the mentor will need to emphasize and offer the student numerous rehearsal opportunities. The mentor's role is not complete until the study or some aspect of it has been published.¹

The Need for Doctoral Dental Hygiene Education

Given the oral health care challenges facing the nation today, doctoral-prepared dental hygiene scholars, researchers and leaders are needed to bring the dental hygiene discipline's perspective to the interdisciplinary problem-solving table.¹² Challenges, such as oral health disparities, the growing number of elderly with complex medical conditions, the changing needs for different numbers and types of providers to help address problems creates a need for dental hygiene capacity building to prepare academic leaders, scholars, researchers and educators with interdisciplinary research, and interprofessional educational experience and expertise, all support the need for doctoral dental hygiene education.

Indeed, oral health disparities are a major multifactorial challenge. Factors such as the current structure of the oral health care delivery system, mal-distribution of providers, lack of diversity among providers, restrictive regulatory statutes, geographic, educational and cultural barriers, oral health literacy, and financing of care are issues contributing to the problem.¹³⁻¹⁵ In 2003, the Surgeon General released *A National Call to Action to Promote Oral Health*, highlighting that oral health is essential to health and wellbeing at every stage of life and urging the public, health professionals and policymakers to improve efforts to increase the affordability and accessibility of oral health care to the underserved.¹⁴ The report urged partnerships at local, state and national levels to engage in programs to promote oral health and disease pre-

vention. Doctoral-prepared dental hygiene leaders and scholars are needed to help create effective evidence-based, interdisciplinary strategies to help solve these problems and to improve access to oral health care for all.

Other challenges to effective oral health care and dental hygiene education relate to the increasing evidence of the oral health-systemic connection,¹⁶ and the growing number of elderly with chronic conditions that make collaborative coordinated health care management essential.¹⁴ Inter-professional education has been defined as bringing students from various health care professions together to evaluate and treat clients in a team-based environment. Through this process dental hygiene students learn to function as a member of an inter-professional team and to carry such knowledge, skills, and values into practice.¹⁷ Doctoral-prepared leadership in dental hygiene is needed to help establish academic guidelines and policies for integrating inter-professional components into dental hygiene education.

Moreover, the prevalence of managed care has led to changing needs for different numbers and types of providers. Expansion of the scope of practice and related changes in billing and payment rights create for some providers, such as dental hygienists, opportunities to redefine the boundaries between professions that deliver similar services and to train an interdisciplinary workforce.¹⁴ Capacity building is needed for doctoral-prepared leaders, educators, scholars and researchers in dental hygiene to participate in interdisciplinary research, health care workforce discussions and to address innovation in educational programs required.

For all the above reasons, the development of doctoral dental hygiene programs is critical to help address the oral health challenges of our nation and elsewhere.¹⁸ Dental hygiene doctoral programs would provide graduate learners with time to develop the skills needed to help confront contemporary challenges. For example, doctoral dental hygiene programs would offer the opportunity for dental hygiene graduate learners to extend their scholarly research skills, and to write research grants for funding to test innovative strategies to prevent oral disease and promote oral health. Funding from grant writing is key to conducting large-scale independent research. Experience in writing grants could be accomplished either by working with a mentor who is seeking research grant funding and actively participating in and supporting that effort, by encouraging and mentoring graduate learners to seek funding for their own independent research or by engaging in both strategies.¹⁹ These doctoral

activities would help graduate learners understand the grant writing process rather than fear it.

Most importantly, doctoral dental hygiene programs would provide time because of their length (3 to 5 years) for the graduate learners to become well-versed in a wide range of theories and research methodologies while at the same time allowing them to develop an in depth expertise in a specific theory and methodology to solve a problem of interest. Doctoral dental hygiene programs also would provide time for graduate learners to participate in residencies and on various interdisciplinary research projects of senior faculty. All of these mentored experiences would provide breadth and depth for the developing dental hygiene scholarly identity that is ongoing throughout one's entire scholarly journey. Indeed, doctoral education in dental hygiene would enhance the dental hygiene scholars' ability to meet faculty research and tenure requirements in research intensive universities.

To date, faculty in master level dental hygiene programs have made a herculean effort to squeeze the skills and experiences needed to prepare their learners for independent research into 1 or 2 years. This untenable situation needs to be changed in order for the discipline of dental hygiene to progress and make a significant contribution to interdisciplinary efforts to solve current oral health care issues. To further develop the dental hygiene discipline, dental hygienists who have the potential to become future dental hygiene scholars and scientists are entitled to a realistic academic experience similar to that received by doctoral students in other disciplines as they pursue their journey toward a scholarly future.

Conclusion

Dental hygienists' engagement in scholarship is a life-long enterprise that involves building a research program related to the dental hygiene discipline to promote oral health and oral disease prevention for all. Doctoral education in dental hygiene is the essential next step for progress in the discipline as dental hygiene enters its next hundred years. This type of advanced education will allow dental hygiene scholarly researchers to gain the skills, expertise, and interdisciplinary experience to help solve the many oral health challenges facing our nation and the world.

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