A qualitative exploration of student health-of-self competency: Which prevails salutogenesis or pathogenesis?

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ABSTRACT

Background: Higher education institutions are called to promote health, ensuring learners experience healthy learning environments. Additionally, health professionals, including dental hygienists and dentists must demonstrate competence in maintaining their health as part of their professional responsibilities upon entering practice. How the competency is taught and the learning environment influences the understanding of health-of-self. Do learners understand health from a prevention-focused perspective or do programs approach health through a health creation and promotion lens (i.e., from within the salutogenic or health-promoting paradigm)? Research is limited on dental hygiene and dental education programs' positioning as it relates to the paradigms that inform the teaching and learning of this competency. **Methods**: This qualitative study explores dental hygiene and dentistry learning environments and curricula at a Canadian university. Content analysis was conducted on respective accreditation documents and program meeting minutes to determine which paradigm—either explicitly or implicitly—guided the programs' approaches to the practice competency and supporting learning environment. **Results**: The findings reveal a pathogenic or disease paradigm informed both programs, reinforcing the hegemonic pathogenic perspective on health and healthcare. **Discussion:** While disease prevention is not in contention, future health professionals preparing to fulfill their role as health promoters would benefit from understanding health through a salutogenic perspective. This understanding would better position graduates to foster healthy workplace environments. **Conclusion:** Curriculum, policy implications and recommendations are discussed to inspire programs to be health-promoting or salutogenic learning settings.

Keywords: dental education; dental hygiene education; health; health-of-self competency; health promotion; healthy learning; healthy workplaces; learning environment; pathogenesis; salutogenesis; student health

CDHA Research Agenda category: capacity building of the profession

INTRODUCTION

The World Health Organization (WHO) Ottawa Charter on Health Promotion (OCHP) declaration that "health is created and lived by people within settings of their everyday life; where they learn, work, play, and love"[1] embodies the global effort to understand the determinants of health, a pivotal shift from approaching health from a pathogenic orientation. Ironically, healthcare providers and healthcare focus heavily on disease prevention and treatment and less so on health promotion.[2] This leads to the question "Where is health in healthcare?"[3] The pathogenic orientation focuses on knowing health via the absence of disease with disease prevention and treatment being central to health and healthcare. Disease prevention is "understood as specific, population- and individual-based interventions for primary and secondary (early detection) prevention, aiming to minimize the burden of diseases and associated risk factors" whereas health promotion is "the process enabling people to increase control over their health and to improve their health."[4] Disease prevention is rooted in pathogenesis or understanding the creation of disease whereas health promotion is grounded in salutogenesis or that which creates health. Aaron Antonovsky coined the word salutogenesis in his quest to explore what creates health.[5]

The Ottawa Charter contributed to health promotion distinctly differentiating from disease prevention and treatment.[6] Still, defining and describing health as a concept is not so simple; indeed, philosophical and practical discourse exists well into the 21st century. However, the WHO's constitution states that "health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity".[7] Further, contextual to health promotion, the WHO describes health as a resource for everyday life emphasizing health is about having the ability to realize aspirations, satisfy needs, and change or cope with the environment.[1] Such a description speaks to salutogenesis or health creation.[8]

Historical accounts of healthcare focus on that which ails humankind.[9] This pathogenic perspective centers on the 'not merely the absence of disease' aspect of health and on early identification, prompt intervention, and treatment of disease.[2] Health promotion, on the other hand, emphasizes understanding the determinants of health (i.e., what enables, mediates, and advocates) for health creation such as healthy policies, health literacy, supportive environments, community empowerment and action, and a reorientation of health services to not only focus on the absence of disease but as well, the fulsome description of health.[1] Figure 1, though imaginary, attempts to visually depict the relationship between the two orientations and the ultimate implications both have on health and healthcare systems.[10] Importantly, salutogenesis encompasses disease prevention and treatment whereas pathogenesis is limited to the absence of disease or midpoint on the imaginary continuum.

Nearly a decade before the OCHP, Antonovsky, a medical anthropologist, questioned why people stay healthy.[5,11] Antonovsky named his philosophical inquiry, salutogenesis. Rather than viewing health and disease dichotomously and exploring health as the absence of disease or infirmity, Antonovsky saw it as a health-ease/dis-ease continuum. He proposed salutogenesis

shifted exploration toward the health-ease on the continuum, recognizing stressors as part of the life journey. He hoped this shift would prompt inquiry and discovery about health creation and promotion with health not only known by the absence of disease. His scholarly work prompted the idea of health, personally and collectively, known as a life resource. Notably, in the OCHP emphasis is placed on health as a life resource. Salutogenesis informed health promotion as a discipline distinctly different from disease prevention.[12,13]

It matters how people and hence, systems approach health and thus, healthcare. Is it from a pathogenic or salutogenic paradigm? Healthcare, in general, is more about disease care.[2,8] Quality improvement calls for reorientation of health services to embrace population health; ensure health equity; improve patient/service-user experience and delivery efficiency; and promote healthcare workforce health and wellbeing.[14] Salutogenesis offers a means to put 'health' back into healthcare based on the assumptions that health includes both risk factors for disease and salutary factors for health, and importantly, that healthcare attends to the health of healthcare workers within. Indeed, healthcare professionals need to develop health-promoting literacy to be salutogenic agents alongside developing competency in disease treatment and prevention; hence, their prelicensure education needs to embrace salutogenesis and pathogenesis.[15] Importantly, since 2005, higher education institutions (HEI) have been called to be health-promoting places/settings so learners become health-promoting agents in their future workplace settings.[16] In Canada, the Association of Faculties of Medicine of Canada (AFMC) endorsed the Okanagan Charter (OC) as the framework for strategically creating learning environments enabling, mediating, and advocating for student health and well-being as an institutional responsibility with accountability.[17] In doing so, alumni enter practice health

promoting literate and salutogenic agents within healthcare. The strategy speaks to healthy learning,[18] a concept proposed described as:

> a lifelong process where people and systems increase the control over and improve health, well-being, and quality of life through the creation of learning environments characterized by clear structures and meaningful empowering conditions where one becomes an active participating subject in reciprocal interaction with others (p.90).

How do oral health professionals learn to care for their health as a professional responsibility and be practice-ready to be agents of healthy workplaces? In Canada, dental hygienists and dentists must demonstrate health-of-self competency upon entry-to-practice,'[19,20] yet little is known about how their schooling prepares them for this competency. The competency statement for dental hygiene is "maintain their wellness and fitness to practice"[19]and for dentistry "be able to demonstrate a commitment to personal health and wellbeing for optimal patient outcomes."[20]

Most of what is known about dental hygiene and dental students' health stems from understanding student mental health challenges experienced throughout the liminal educational journey.[21–24] Impacting student health, for example, are days brimming with class/lab/clinic, academic benchmarks, patient booking systems, and study demands. Students experience a lack of school-life balance and ability to attend to health-of-self during their studies. Recommendation and program approaches to address students' experience focus on providing student support like counseling and stress management activities.[25,26] For some, the educational journey is about survivorship.[27] These pathogenic-oriented approaches, though helpful, do not place programs responsible for creating healthy learning settings. However, there is a lack of

literature about oral health profession education programs investing in health-promoting approaches to enable students to develop and learn about health-of-self competency. Known is that dental and dental hygiene students have a moderate sense of coherence, an explicit salutogenic trait that positions them to be successful students.[10,28,29] Still, little is known about the orientation or positionality of oral health profession education programs regarding the competency or learning environment. Importantly, oral healthcare practitioners experience stress in their workplace impacting their sense of health and wellness. Thus, there is a need for prelicensure learners to gain the knowledge and skills to promote healthy workplaces within the curriculum and program learning setting.[30–33] This study focuses on dental hygiene and dentistry Canadian entry-to-practice health-of-self competencies, and on the premise that healthcare providers need to know their health-of-self to provide quality service and care for others. Given the entry-to-practice competencies, an assumption is that students learn about health-of-self as a professional responsibility via their respective curricula and in a health-promoting learning environment. Of interest, is how the curriculum presents health-of-self and how the learning environment reflects it—is it from a pathogenic or salutogenic perspective? The orientation matters to how learners and practitioners become encultured professionally to think about health, their own, and that of the people and communities served. Is health known through the absence of disease or as a resource for everyday living?

This study's research question was "From which health paradigm, pathogenesis or salutogenesis has the College of Dentistry (CoD) and School of Dental Hygiene (SoDH) addressed students' development of health-of-self professional competency?" The findings offer insights to program and curriculum planners as they ensure the entry-to-practice competencies are infused within the respective curricula. Additionally, the study provides the opportunity for

programs to reflect and respond to the global call to be an institution known as a health-promoting learning environment, a place and setting of healthy learning.

METHODS

A qualitative directed content analysis was conducted on extant documents.[34] This is an informative, cost-effective, unobtrusive, non-reactive, fact-finding, and efficient means of identifying historical context.[35] These features offset the limitations of the method, such as the potential for insufficient detail within documents, low retrievability and location of the documents, biased documentation, and selective documentation based on policy or bias.[36] Underlying assumptions included that historical documents provide evidence of what, conceptually, and how, contextually, the decision-makers addressed student learning and assessment strategies for health-of-self competency, and a learning environment supportive of student achievement of the competency.

With ethics approval (HS21378, H2017:421), the study focused on documents from the CoD Dentistry (DMD) and SoDH Diploma in Dental Hygiene (DipDH) 2015 accreditation site visits and minutes from the post-accreditation site visit committee and council meeting through December 2018. These documents offered a comprehensive review and account of the programs' structure, facilities, curriculum, and compliance with practice standards. Appendices included items like committee meeting minutes (e.g., Curriculum, Student-Faculty Advisory Council), course syllabi, handbooks, and policies. The dental hygiene competency statement applicable at the time of the study was "promote healthy behaviours of self, colleagues, clients, and the public".[37] The statement is reflected in the 2020 competency statement.[19]

The inclusion criterion was that the programs' accreditation documents, including appendices and identified reference documents, explicitly addressed student health contextual to the learning environment or curriculum. Each document was processed via Microsoft Word 'find function' for keywords. The keywords or phrases were as follows: health, wellness, well being, well-being, wellbeing, 'student health', 'student wellness', 'student well being', 'student well-being', 'student wellbeing', stress, 'student stress', self-care, self care, 'student self-care', 'student self care'.

The hits became the data processed through a directed content matrix created for the study. Triangulation between LM and two academic program leads responsible for overseeing program curriculum and accreditation, DS and MB, resulted in the construction, data analysis and eventual content of the matrix as per the informing health paradigm, contextual to the learning environment or the curriculum, policy and structure, or learning outcome or strategy. Among the three individuals, there was expertise in community health, health promotion, accreditation, and program/curriculum development. Hence, the method focused on the reliability, trustworthiness, and credibility of both the process and outcome. The process involved the following analytical aspects of each hit: 1) location within documents and link to accreditation requirement; 2) health orientation or paradigm (prevention [pathogenesis] vs. health promotion [salutogenesis]); 3) context (learning environment or curriculum), and 4) perspective (policy/structure vs. learning outcome/strategy). The analytical process, i.e., the words/terms used by programs inferred which paradigm seemed to be informing the programs.

RESULTS

The 2015 SoDH DipDH and the CoD DMD accreditations documents, all appendices, and CoD council and respective CoD and SoDH committee meeting minutes between the 2015

accreditation visit and January 2018 were processed through the directed content matrix. There were no emergent codes. Figure 2 depicts, and Table 1 identifies the quantification of the directed content analysis.[10] The light grey and dark grey boxes in Figure 1 represent the DMD and DipDH programs, respectively. Both programs attended to student health within the following accreditation sections: physical facilities, student issues, health and safety, and curriculum. The SoDH addressed it within the institutional structure. Neither program expressed an explicit statement about the paradigm informing their respective approach to student health and student achievement of the professional health-of-self competency.

As seen in Figure 2 and Table 2, only the SoDH attended to student health within the accreditation requirement of the institutional structure. The hit was the program's vision statement. It was considered health-promoting, focused on the learning environment, and from a policy perspective. The vision was to "serve to inspire and mentor students, faculty and the profession through dynamic role-modeling for continuous professional growth in a healthy and nurturing environment…improve the overall health of the public" (SoDH Accreditation Document, 2015). Other than the statement, there was no further mention or description of what and how the program strategized to meet this vision.

Physical facilities and health services

The programs' response for physical facilities (one hit within each program) restated one of the written responses for each program in the student issues section. Given the hit was within these two different accreditation sections, both contributed to the count. The duplication pertained to students' access to health and counselling services on campus. The hits indicated a prevention

orientation contextual to the learning environment and from the perspective of policy or structure of the respective program/curriculum.

Student issues

The three hits in the student issues section referenced the CoD/SoDH student handbook. Two of these three hits pertained to the location of health facilities such as the adjacent Health Sciences Centre Hospital, University Walk-in Medical Clinic located on another campus (seven kilometres away), and the university counselling services offered at specific times on campus and available at the other campus. The two hits implied a prevention orientation contextual to the learning environment and from the perspective of policy or structure of the respective program/curriculum. The third hit in the student issues section was as follows: "the Health and Wellness office provides health and wellbeing promotion…to support their success while…U of M community" (COD Accreditation Document, 2015, Link to Health and Wellness Office, University of Manitoba). The hit was seen as health-promoting, contextual to the learning environment, and from the perspective of policy or facility structure.

Health and safety

Within the health and safety accreditation section, both programs referred to student health policies regarding immunization, preparedness and response to medical emergencies, and protocols about radiation hygiene, infection control, and hazardous materials and wastes. The reference "…maintaining their health and immune status…responsibility of being a student…protect the health of the student as well as the health of vulnerable patients with whose care the students will be involved" (SoDH Accreditation Document, 2015, Appendix 5) was seen

as prevention-oriented, contextual to the learning environment and from a written policy perspective.

Curriculum content

Both programs had a curricular learning outcome about students being practice-ready to attend to health-of-self as a professional responsibility. However, the SoDH program had it stated within the learning outcomes and the CoD program planned for one. Programs referenced the respective national practice competencies. At the time of the accreditation document preparation, the CoD reported a curriculum based on the ACFD Competencies for a Beginning Dental Practitioner in Canada.[38] The 2016 ACFD competencies were not within the CoD accreditation document per se, but rather, appeared in the minutes of a CoD Curriculum Committee meeting two years after the accreditation. The curriculum committee initiated the program to adopt the ACFD competencies. Thus, at the time of the study, the CoD program did not have such a health-of-self professional competency. The keyword search within the course outlines for either program did not result in any further hits concerning student health. Analysis of the single hit within each program was considered health-promoting, contextual to curriculum, focused on learning outcome, and written as policy given the accreditation requirement that programs base their curriculum on national practice standards.

DISCUSSION

From a learning setting, programs prepare graduates for entry-to-practice in workplace settings. Both healthy learning[18] and healthy workplace[39] embed health in all aspects of the setting through quality improvement processes that promote health, safety, and wellbeing for all.

Both dentistry and dental hygiene have entry-to-practice practitioner health-of-self competencies, thus programs must ensure the graduates demonstrate the abilities, possess the knowledge, and reflect on the competency concerning healthy practice. Learners are encultured into their profession through their schooling, thus how programs approach the competency matters. A salutogenic orientation positions learners to be health-promoting agents in their workplace with a fulsome perspective on that which creates health (i.e., salutary factors) alongside the prevention and treatment of disease (i.e., risk factors). The emerging concept of pedagogical salutogenesis[40] or the pedagogy of wellness[41] provides insights on how to create healthy learning settings.

Health worldview and academic environment

The finding of the absence of a stated paradigm informing the program by either the CoD or the SoDH in the respective DMD and DipDH program documentation is consistent with the literature. Even in the systematic review and meta-analysis of dental students' stress, Elani et al.,[22] make no mention of an informing health paradigm. Further, studies on dental and dental hygiene students' mental health focus on what students find stress-inducing about their program and what students do to manage school-related stress or what programs do to help students manage.[42] The approaches infer a prevention perspective. Therefore, it is not surprising that a pathogenic positionality or approach appears evident for the CoD and SoDH learning environment (e.g., health and counseling facilities on campus).

Curriculum

For both programs, it seems a prevention intent prevails with curricular topics being about health and safety practices, such as infection control and hazardous waste management, nutrition, and ergonomics. The topics focus on disease prevention interventions (e.g., nutrition and dental caries prevention). The lack of an explicit expression of a health orientation informing the learning environment and curriculum may perpetuate the apparent prevention approach evident in the programs. Students learning about disease prevention is not in contention. However, facilitating understanding of that which creates health, in addition to understanding disease prevention provides students an opportunity to develop health-of-self competency not only from a pathogenic perspective but also a salutogenic one. Further, exploring health from a salutogenic lens is in keeping with the concept that "health is created and lived by people within settings of their everyday life; where they learn, work, play, and love",[1] and thus programs would be promoting and creating healthy learning settings.

Policy implications

A key action of health promotion is building healthy public policy,[1] thus, the call to higher education is to put health in all academic mandates.[16] The CoD and SoDH ensure students access health services and learn about health and safety practices; both are CDAC accreditation requirements. Students learning about health and safety practices also reflects regulatory practice standards (e.g., prevention of oral diseases) and guidelines (e.g., health and safety). It is commendable that the programs meet these accreditation requirements. However, the lack of curricular learning strategies and student assessment about the health-of-self competency is concerning. However, at the time of 2015 accreditation, the DMD program used the older

national standards, which did not have a health-of-self competency. The adoption of the 2016 ACFD national practice standards took place shortly after the visit. The curriculum now is based on the 2016 standards. The DipDH program used the 2010 CDHA national standards. Since the study, the DipDH program is based on the 2021 national dental hygiene standards which has the competency. Notably, since 2018, the SoDH added a learning activity for the senior learners requiring the exploration of health-of-self concerning quality assurance, and importantly contextual to healthy workplaces, a salutogenic lens. Additionally, in 2022, the SoDH incorporated a mandated wellness half-day into the curriculum.[43] In 2024 the CoD, introduced an interactive 90-minute lecture on salutogenesis to introduce health promotion and distinguish it from disease prevention. Importantly, the Rady Faculty of Health Science adopted the OCHP within the 2024-2029 Strategic Plan.[44] Thus, the CoD and SoDH programs policy-wise will be held accountable for creating healthy learning settings for the learners. Importantly, both programs are undergoing strategic planning, and health and wellness are integral to the planning, particularly as wellbeing is one of the core values of the University's strategic plan 2024-2029.[45]Accountability means observing and measuring the process and outcomes of the policy in action, and importantly, from a bona fide salutogenesis orientation. Pedagogical salutogenesis[40] and pedagogy of wellness,[41] both emerging concepts ought to help inform teaching/learning principles and strategies of healthy learning. Indeed, as emergent concepts, these need to be further explored to advance action in being or becoming a health-promoting learning setting.

Program recommendations and future study

Unlike higher education health-promoting settings,[46] the centrality of health was not evident in the CoD and SoDH programs at the time of the study. However, the SoDH's vision

statement “to create a healthy and nurturing environment for students” is congruent with healthy learning. Though not central or core to the programs at the time of the study, moving forward as per the strategic plans, it appears both programs will commit to being health-promoting settings. Additionally, both programs ensure students know about the University Health and Wellness Office. Having such a facility is consistent with what health-promoting universities do.[46] However, the fundamental difference is that not only do health-promoting universities have health and wellness facilities, but decision-makers within these universities mediate and advocate for commitment to health at all levels of decision-making utilizing healthy university resources such as the Health Promoting University Framework for Action (HPUFA),[47] and health-promoting evidence-based toolkits to inform and develop implementation strategies; and evaluate progress towards health-promoting goals.[46] Neither the CoD nor the SoDH referred to health-promoting resources in their documentation. However, medical education programs offer insights on taking action to promote healthy learning such as considering curricular organization and scheduling, including learner contact hours, means of student assessment or grading schemes, and elective and mandated content on personal health and wellbeing.[48,49] These strategies provide clear structures and offer meaningful health-promoting experiences. Future study is needed to look at the relationship between the HPUFA and toolkits with healthy learning as proposed by Lindstrom & Eriksson,[18], pedagogical salutogenesis,[40] and pedagogy of wellness,[41] and to accreditation requirements.

CONCLUSION

Importantly, “health is created and lived by people within settings of their everyday life; where they learn, work, play, and love."[1] Higher education is called to be a health-promoting

setting, so learners enter the workforce health-promoting literate with agency to contribute to the creation of health. Further, with health-of-self competencies, dental hygiene and dentistry programs must prepare students to enter practice; however, how programs prepare learners influences their way of thinking about health. There is a need for further study given little is known about program positionality concerning health and health-of-self (i.e., whether it is rooted in pathogenesis or salutogenesis). The findings of the current study, infer pathogenesis prevails. Learners entering the workplace may perpetuate a prevention-orientation, despite the need to create healthy or salutogenic workplace settings. Thus, there is a need for a study on the impact program positionality has on future oral healthcare providers.

Limitations

A limitation of the study is that historical document analysis relies on rich articulation within program documents. Thus, the DMD and DipDH programs' documentation process may have a limited description of the actual discussion that took place given parsimonious or succinct record-keeping. Additionally, the keywords searched in the documents may have limited discovery of information if the context of that information was associated with antonyms of health such as unhealthy, sick, diseases, and ill. These words were not searched given the focus was on health.

Another limitation of the study is the potential of a hidden curriculum such as students being taught implicitly to focus on their studies above all else, i.e., to achieve the goal of becoming an oral health professional and managing their health-of-self post-graduation. Since it is hidden there would be little documentation from which to affirm it, and hence, the directed content analysis of extant documents would not likely have identified teaching and learning about health-of-self as a professional responsibility. An exemplar of the hidden curriculum is the

behavioural and social sciences which helps oral health professional students gain depth and breadth of understanding of person-centred practice, yet this is an area suspect to being a hidden curriculum, i.e., implicitly not valued equal to clinical training.[50]

Practice relevance

There are several practice implications stemming from the study. Firstly, programs must be accountable for preparing learners to be practice-ready, knowing that health-of-self contributes to quality assurance and safe practice. Secondly, programs ought to consider which paradigm informs the program approach to students learning the competency; and importantly, engage in dialogue about health being not merely the absence of disease. Thirdly, given the adoption by the RFHS of the OCHP, dental and dental hygiene programs ought to explore the resources on health-promoting colleges and universities and reflect on how to ensure students experience a place and setting of healthy learning.

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Figure 1. Imaginary relationship between pathogenesis and salutogenesis. ©MacDonald, L. 2024

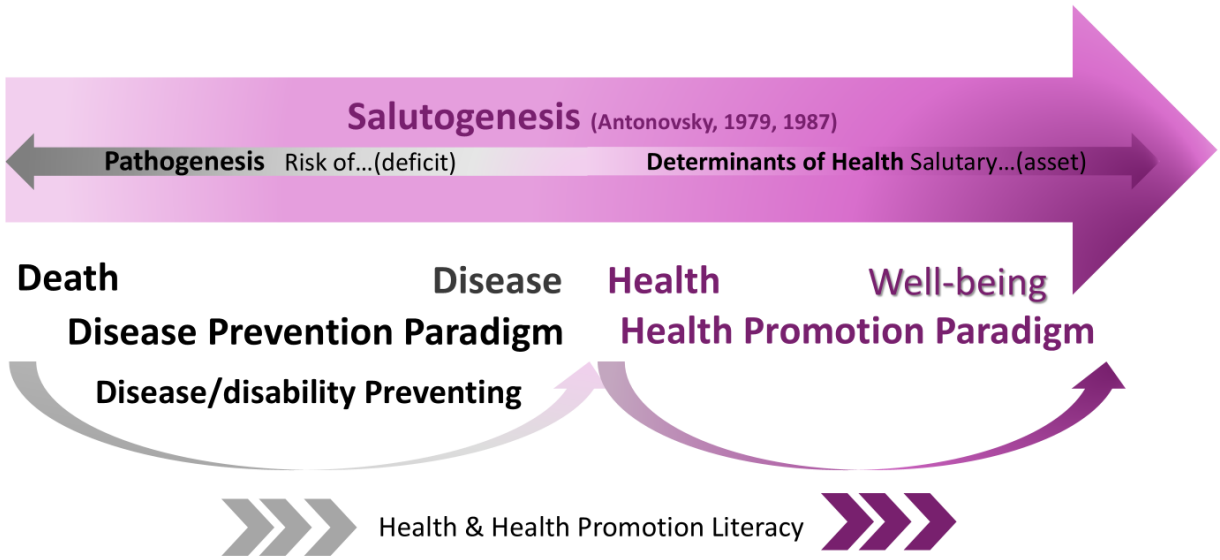

Figure 2. Directed content analysis of historical documents.[10]

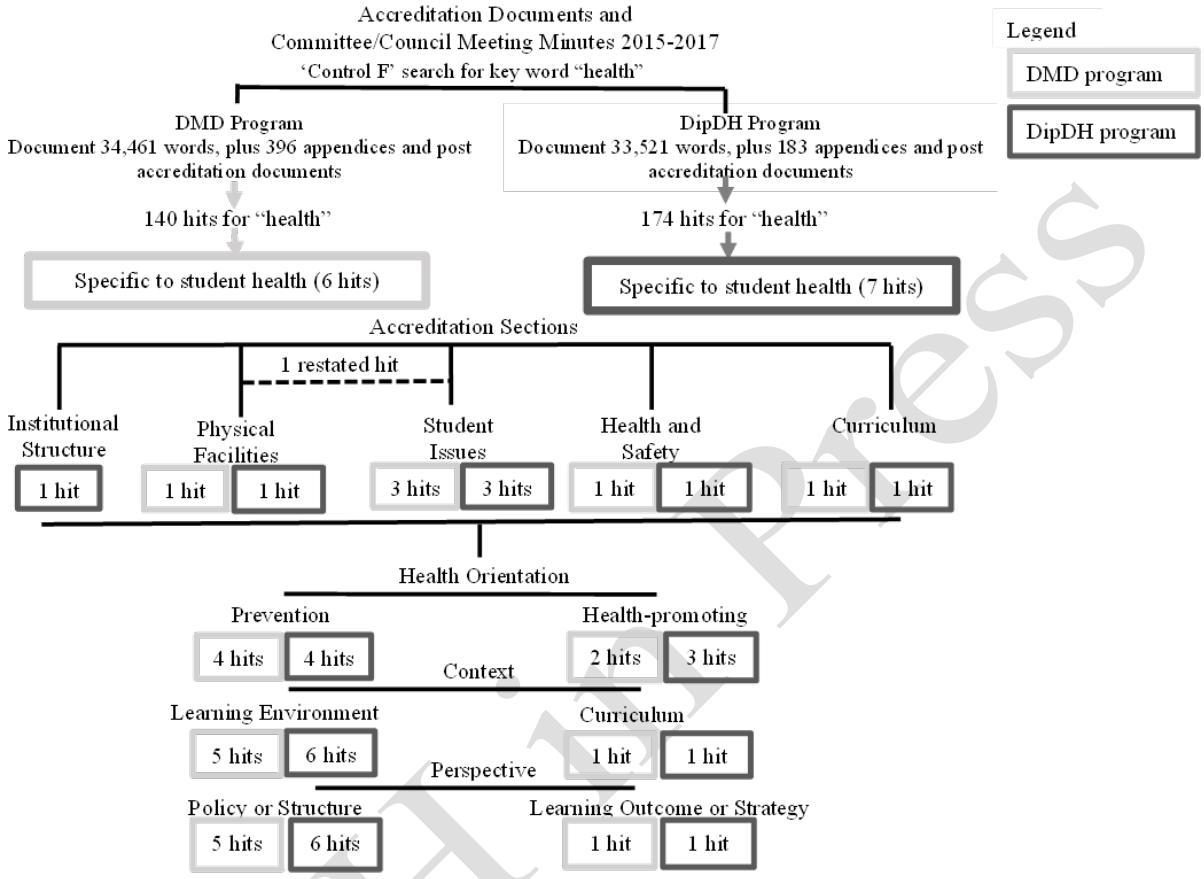

Figure 3. A healthy learning conceptual model. ©MacDonald, 2024

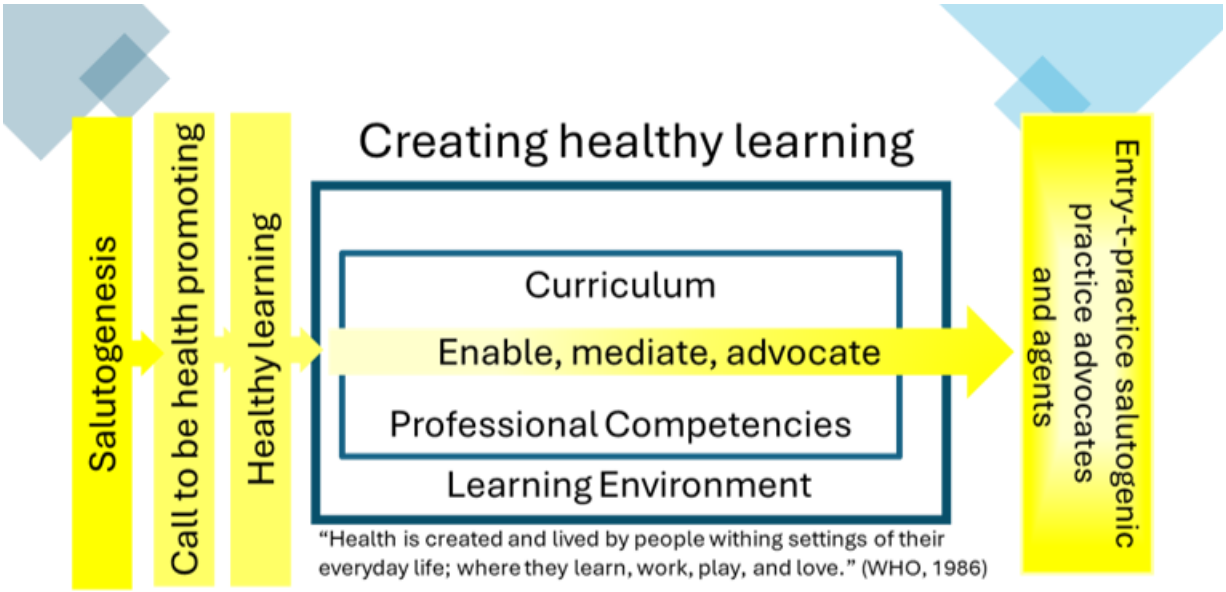

Table 1. Number of program hits by way of historical document analysis.[10]

Hit	Program	Accreditation			Health Orientation	Context	Perspective
		Section		Document	Prevention (pathogenesis) Health Promotion (salutogenesis)		
1.	DMD & DipDH	Physical Facility (Health Care Services)		Within the accreditation document proper (WADP) & with UM link	Prevention	Learning Environment	Policy/ structure
2.	DMD & DipDH	Student Issues	Health Care Services	WADP & with UM link	Prevention	Learning environment	Policy/ structure
3.	DMD & DipDH		Counselling Services	WADP & with UM link	Prevention	Learning environment	Policy/ structure
4.	DMD & DipDH		Health and Wellness Office	WADP & with UM link	Health Promotion	Learning environment	Policy/ structure
5.	DMD & DipDH	Health and Safety		WADP, appendices to clinic manual/policy	Prevention	Learning environment	Policy/ structure
6.	DMD & DipDH	Curriculum		National competency documents	Health Promotion	Curriculum	Learning outcome & policy
7.	DipDH Only	Institution		WADP: SoDH vision statement (& link to SoDH webpage	Health Promotion	Learning environment	Policy/ structure