

Laying the *Kahua* (Foundation): Incorporating Elements of Attitude and Purpose for Underrepresented Student Success at the University of Hawai'i John A. Burns School of Medicine 'Imi Ho'ōla Post-Baccalaureate Program

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Abstract

The 'Imi Ho'ōla Post-Baccalaureate Program is a proven pathway to medicine that has significantly increased the number of underrepresented and disadvantaged students that complete medical school in Hawai'i. A recent program evaluation indicated a relationship between student success and the significance of attitude and purpose from the Learning and Study Strategies Inventory. Curricular innovations in a 5-week introductory course during Phase 1, lay the foundation to promote a healthy attitude with purpose-led activities, such as personalized journal vision covers, weekly journal reflections, a multimedia autobiography, and projects focusing on medical specialties, well-being, and resiliency. Such purposeful innovations are vital for the success of underrepresented students, with the ultimate intent to diversify the physician workforce and to increase the number of physicians serving in underrepresented and underserved communities in Hawai'i and throughout the Pacific.

Keywords

post-baccalaureate, pathway programs, premedical, underrepresented, disadvantaged students, student success, curriculum, LASSI, attitude, purpose

Abbreviations and Acronyms

DNHH = Department of Native Hawaiian Health

'Imi Ho'ōla = 'Imi Ho'ōla Post-Baccalaureate Program JABSOM = John A. Burns School of Medicine

LASSI = Learning and Study Strategies Inventory

PBL = Problem Based Learning

Introduction

As institutions strive to increase the number of underrepresented students in medical school, pathway programs such as the 'Imi Ho'ōla Post-Baccalaureate Program ('Imi Ho'ōla), are essential in diversifying Hawai'i's healthcare workforce and increasing the number of physicians who represent the communities they will serve. For over 46 years, 'Imi Ho'ōla has significantly increased the number of underrepresented and disadvantaged students that complete medical school in Hawai'i and that commit to work in medically underserved areas.^{1,2,3} A recent program evaluation indicated a relationship between student success and the significance of attitude and purpose.³ As a result, purpose-driven innovations were expanded throughout the 'Imi Ho'ōla curriculum and emphasized from the very beginning of Phase 1 of the program. Curriculum innovations such as, creating a personalized journal vision cover, weekly

journal reflections, a multimedia autobiography, and projects focusing on medical specialties, well-being, and resiliency, lay the *kahua* (foundation), by incorporating elements of attitude and purpose required to succeed in the rigorous program and beyond. These innovations are prospective ways that the program can promote student success, with the ultimate intent of increasing the representation of underrepresented and disadvantaged serving physicians in Hawai'i and the Pacific Basin.

Overview of the 'Imi Ho'ōla Post-Baccalaureate Program

The 'Imi Ho'ōla Post-Baccalaureate Program, established in 1973, is a 12-month program within the Department of Native Hawaiian Health (DNHH) at the John A. Burns School of Medicine (JABSOM) that provides educational opportunities for students from educationally, socially and/or economically disadvantaged backgrounds who have demonstrated a commitment to service and are deemed capable of succeeding in medical school.^{1,2} When examining program participants from 1996-2016, over 50% were made up of traditionally underrepresented populations in medicine (30% Native Hawaiian, 27% Filipino, and 10% Pacific Islander), 63% were first-generation college students, and 61% came from families with incomes below the state median.³ 'Imi Ho'ōla accepts up to 12 students a year with ties to Hawai'i and the U.S.-Affiliated Pacific to participate in the program. Upon successful completion of the program, students matriculate to JABSOM as first-year medical students the following year. Successful matriculants enter medical school equipped with a stronger foundation in the basic sciences, are familiar with the problem-based learning (PBL) process, and are able to apply specific learning and test-taking strategies to support their academic success.

The 'Imi Ho'ōla program is comprised of 3 phases - Phase 1: Assessment and Orientation, (July through August), covering an introduction to the foundation (*kahua*) of personal, academic, and professional skills, Phase 2: Post-Baccalaureate Enrichment, which includes rigorous coursework in medical biochemistry, medical biology, and humanities in medicine (August through May), and Phase 3: Pre-Matriculation (May through June), focusing on transitioning students into medical school. This article will focus on Phase 1, the *kahua*.

Background of Phase 1

Phase 1 incorporates a blend of individual, pair, group, and entire class work in the form of lectures, discussions, presentations, and reflections. Students develop their oral and written communication skills from various assignments and projects. The focus is on understanding themselves by reflecting on who they are, where they come from, and where they want to be, by looking at their self-concept, values, and learning preferences and approach. Phase 1 centers on laying the *kahua* by introducing and building each students' personal, academic, and professional skills. The development of these skills, with a healthy attitude and purpose, helps to promote success in 'Imi Ho'ōla, in medical school, as a future physician, and in life.

For some students it is their first time learning and trying out these skills and strategies, for others it is refining them. After learning about the 'Imi Ho'ōla PBL process, students apply this process to non-medical cases in Phase 1. Other skills covered include listening and notetaking, reading and study strategies, exam preparation and exam taking, time management, stress management, and managing test anxiety. Additionally, concepts and strategies covered also include critical thinking and reasoning, wellness, professionalism, and medical terminology. These specific tools and strategies covered in Phase 1 continue to be refined throughout Phase 2 and Phase 3.

In the beginning of Phase 1, students are administered learning, personality, and lifestyle assessments and inventories to establish their level of skill development in reading and in learning strategies, and to identify learning and personal preferences and tendencies. In addition, a biochemistry pre-test is administered to provide baseline data on their competency in biochemistry. Based on the assessment results, course evaluations, and observations, all 'Imi Ho'ōla faculty come together to create individualized learning plans for each student, providing information on the students' strengths and recommendations on areas for further development. The Program Director, Learning Specialist, and Program Assistant meet with the students 5 times throughout the year, to go over this plan and provide recommendations and strategies for success.

Importance of Attitude and Purpose

One of the assessments administered in Phase 1 is the Learning and Study Strategies Inventory (LASSI).⁴ It is designed to help students gather information about learning, study practices, attitudes towards learning, and methods of studying. The LASSI is divided into 10 scales assessing student's awareness about and use of learning and study strategies related to skill (information processing, selecting main ideas, and test strategies), will (attitude, motivation, and anxiety), and self-regulation (concentration, time management, self-testing, and using academic resources) components of strategic learning. The intent is that thoughts, behaviors, attitudes, and beliefs that relate to successful learning can be promoted through educational intervention.⁶

For medical students, self-assessment tools such as the LASSI, provide students with information about their strengths and weaknesses and where to implement targeted support in specific study strategies which may correlate with a positive academic performance outcome.⁷ In another study, time management and self-testing were stronger predictors of first-year academic performance than aptitude.⁸ Other literature suggests that, for at-risk medical students, a combination of study skills, test-taking strategies, and time management learning tools should be provided to increase their chances of success. Further discussion suggests that the "will" components, such as motivation and attitude, are needed to promote the skill and self-regulation learning strategies for success.^{4,5} A recent 'Imi Ho'ōla program evaluation identified the significance of the Attitude Scale of the LASSI. Having a healthy attitude and sense of purpose is a significant factor that can predict student success and the potential completion of the 'Imi Ho'ōla program.³

Laying the *Kahua* in Phase 1 by Incorporating Attitude and Purpose

New additions and revisions are now implemented in the Phase 1 curricula, strengthening the laying of the *kahua*, through sessions designed to explore and clarify students' attitude and purpose (Table 1). Starting in Phase 1, the program stresses to the students the importance of giving meaning, relevancy, and a sense of purpose to why they want to become a physician. The goal is to have students be equipped with a toolbox of strategies to strengthen and maintain a healthy attitude and a sense of purpose throughout their academic medical journey and in their life-long professional and personal journey as a physician.

Examples of these curricula innovations include having students create a journal "vision" cover, by creatively using words, phrases, pictures (ie, from magazines, websites, and clipart) to represent positive and inspiring messages, often expressing where they see themselves in the future. In these journals, students are encouraged to self-reflect weekly on topics such as what they enjoyed, the challenges of what they learned, and what they will plan to implement in the future. At the end of Phase 1, they cumulatively reflect about what they learned through a summative journal entry. They also teach each other a learning success strategy and affirm to each other what tools they will attempt to utilize in Phase 2.

Other projects include an autobiography multimedia project, which further expands on the lifelines students share on the first day of Phase 1. Students are introduced to the importance of honoring where they come from by sharing who they are, including their family history, where they were born/grew-up, interests, and the significant events in their lives leading up to being enrolled in the program. Prior to starting 'Imi Ho'ōla, many students are not accustomed to seeing others from similar backgrounds pursuing medicine. Early in Phase 1 students are reminded about the significance of who they are and their

Table 1. 'Imi Ho'ōla Phase 1 Curricular Innovations	
Curricular Innovation	Ways to Incorporate Healthy Attitude and Purpose
Journal "Vision" Cover	To individually place words, phrases, pictures from magazines, clip art, etc. to represent positive and inspiring messages, giving purpose for their current and future goals.
Weekly Reflective Journal Entries	To self-reflect every week in writing on what they enjoyed, the challenges, what they learned, and what will use in the future
Autobiography Multimedia Project	To create an autobiography multi-media project, sharing who they are, where they come from, how they got to 'Imi Ho'ōla, and why they are pursuing medicine
Physician Specialty Project	To gain knowledge of different career paths and the awareness of their career interests and why they want to become a physician
Clinical Skills / SimTiki Session	To gain exposure in simulated clinical experiences in medicine and what it means to be a physician
Sense of Place	To purposefully understand their sense of place within the 'Imi Ho'ōla program, the historical and cultural significance of the program and JABSOM's physical location, and the meaningful connection of the program being part of the Department of Native Hawaiian Health
Wellness and Resiliency	To discuss and develop foundational skills to promote well-being and self-care as future health care providers
Book Projects	To read about non-technical science books, engage in meaningful discussions on ethical issues in medicine and health care, while promoting personal and professional relevancy

JABSOM = John A Burns School of Medicine

backgrounds, and also realize others in the program now and those who have completed the program share similar journeys. In addition, they share where they see themselves in the future. This reinforces having a purposeful attitude by thinking about the reasons they have enrolled in the program and exploring why they want to be a physician. This ties into a project where students select a physician specialty to research. They share the specialty pathway and requirements needed, job duties and work environment, patient population characteristics, and lifestyle considerations of these specialties. This project reminds students to keep an open mind as they learn from each other's presentations and create informational brochures during the exploration of different pathways in medicine. In Phase 1 there is also a session on clinical experiences in medicine. Students have the opportunity to visit JABSOM's Simulation Lab with a simulated mannequin (SimTiki) and practice introducing themselves to a patient, taking vitals, and experiencing what it may be like if a patient is in distress and undergoes a medical emergency and "codes." These practical experiences are helpful as students reflect on what it means to be a physician. These projects reaffirm their interests as they reflect on the overall purpose of why they are pursuing a career as a physician.

While in Phase 1, students are reminded about their purposeful place in 'Imi Ho'ōla. They learn about the history and cultural significance of the medical school's location, specifically the Kaka'ako area of Honolulu, in ancient and present-day Hawai'i, and the meaningful connection of 'Imi Ho'ōla being part of the Department of Native Hawaiian Health. This emphasizes the meaning and purpose of where they are and understanding their sense of place. Phase 1 also incorporates projects and activities that focus on wellness and resiliency, providing the foundational skills to promote well-being and self-care as future health care providers. Topics include dealing with adversity, burn out, mental health, and making healthy choices. There are also book projects, which include written and oral components, that incorporate non-technical science books about medicine

and health care. Students engage in reflections and meaningful discussions on ethical issues, while critiquing and sharing practical takeaways from their reading. This promotes personal and professional relevancy in their path toward medicine. The activities, projects, and assignments in Phase 1 encourage peer instruction and collaborative learning. Additionally, Phase 1 introduces students to the foundations of the PBL curriculum of JABSOM and 'Imi Ho'ōla, stressing the importance of teaching and learning from each other.

Preliminary observations and feedback of these curricular innovations indicate that these students are active learners who develop self-awareness, as well as increase their confidence as learners and leaders within the program and throughout medical school. A large number of 'Imi Ho'ōla alumni have taken on leadership roles while in medical school and in their careers, and are often active in social justice issues and community engagement activities.

'Imi Ho'ōla plans to further refine these innovative, healthy attitudes and purpose-led activities that start in Phase 1, and work on expanding and aligning them throughout the program. The program will continue to broaden initiatives and track the outcomes of 'Imi Ho'ōla alumni in medical school and in their careers. Implications of such initiatives and studies will continue to assist the program in facilitating the success of 'Imi Ho'ōla students while in the program and beyond.

Summary

The curricular innovations implemented in Phase 1 address attitude and purpose, which are instrumental in promoting the success of underrepresented and disadvantaged students enrolled in a post-baccalaureate program. The *kahua* of personal, academic, and professional skills introduced early on in Phase 1 promote a healthy attitude and give purpose and meaning, vital to the success and well-being of future physicians. A

large number of 'Imi Ho'ōla alumni go on to lead and provide meaningful service to the medical school and continue to serve in leadership roles within their practices, as advocates for their patients, families, and communities.

The 'Imi Ho'ōla Post-Baccalaureate Program has significantly increased the number of underrepresented and disadvantaged students that complete medical school in Hawai'i. Such a valuable medical pathway program is needed to diversify Hawai'i's healthcare workforce, by increasing the number of future underrepresented physicians and physicians serving in underrepresented communities in Hawai'i and the Pacific.

Conflict of Interest

None of the authors identify a conflict of interest.

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