UNIVERSITY OF CALIFORNIA, SAN DIEGO

Making Healthy Minds Healthy Bodies: An Activity-Theoretical Analysis of the Development and Organizational Adaptation of a Medical Service-Learning Program

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by

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2013

The Dissertation of Tamara J. Powell is approved, and it is acceptable in quality and form for publication on microfilm and electronically:

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Chair

University of California, San Diego

2013

DEDICATION

For Aaron, with whom I share all things,

and for the Wizard of the Laboratory of Comparative Human Cognition.

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LIST OF ABBREVIATIONS

Healthy Minds Healthy Bodies ..... HMHB

Cultural-historical activity theory ..... CHAT

University of California, San Diego School of Medicine ..... UCSD SOM

University of California Program in Medical Education ..... UC PRIME

Program in Medical Education, Health Equity ..... PRIME-HEq

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ABSTRACT OF THE DISSERTATION

Making Healthy Minds Healthy Bodies: An Activity-Theoretical Analysis of the Development and Organizational Adaptation of a Medical Service-Learning Program

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Physician workforce shortages in California are projected to grow rapidly in the next ten years, particularly in inner-city and rural regions. In response to this anticipated need, the University of California's medical schools are increasing enrollment and working to implement and evaluate new programs and curricula to prepare graduates to work with medically underserved communities.

In this dissertation I examine the origins and development of one of these programs, a health education outreach program known as Healthy Minds Healthy Bodies. By means of participant-observation, interviewing, and video-analysis, I observe how over the course of three-and-a-half years this program transitioned from a student-led, volunteer-based health education service project to a required course for first-year medical students participating in a new underserved medicine learning community. With

this transition of purpose and institutional status came other unforeseen changes in, and contradictions between, the practices, tools, and procedures that medical students used to carry out the operation of the program. This also coordinated with a shift in the atmosphere of the training sessions, which became more formal, less interactive, more evaluation-focused, and less simulation-based. These changes were connected to evolving and at times conflicting expectations, goals, and objectives for Healthy Minds Healthy Bodies.

I apply cultural-historical activity theory as a tool for analyzing these organizational contradictions, which allowed me to not only investigate the origins of the tensions, but also to imagine future trajectories for the program. I argue that the original objective of the program was volunteer community service and that as it became a required elective course experiential learning emerged as a new objective. Separately, these were competing interests; however, I suggest it might be possible to synthesize these orientations in the form of service-learning. Expanding the program's motivating object into service-learning could create synergy and coherence for the multiple actors and systems involved, as well as help to address contradictions within the program.

CHAPTER 1

PREPARING FOR CHANGE: TRAINING PHYSICIANS TO PROVIDE CARE TO DIVERSE POPULATIONS

The physician workforce shortage in the United States is projected to grow rapidly in the next ten years. The U.S. Department of Health and Human Services (2008) estimates that the physician supply will only increase by seven percent over the next ten years, a rate far surpassed by growing demand. The extension of Medicaid coverage to an additional 32 million uninsured Americans by 2020 under the Provisions of the Patient Protection and Affordable Care Act of 2010 will exacerbate existing shortages, which are driven by the rapid expansion of the number of Americans over age 65 (Kirch, Henderson, & Dill, 2011; Association of American Medical Colleges, 2011, 1). This nationwide shortage is projected to reach 91,500 physicians by 2020 and climb to 130,600 by 2025.

While the growing gap between the supply and demand for physician services will impact all Americans, underserved and vulnerable populations[1] will be affected most (Association of American Medical Colleges, 2011, 1). These populations include the approximately 20 percent of Americans who live in inner-city and rural regions that have health professional shortages; the economically disadvantaged; racial, ethnic, and

[1] Throughout this dissertation I will use the term underserved to refer to both medically underserved and socially vulnerable populations. This is the way the term is used commonly by physicians to reference both medical and social disadvantage – the distinction is not always made between the two. This is perhaps problematic, but since it is an insider term, I will use it to designate both sets of populations, unless otherwise specified.

linguistic minority groups; the elderly; low-income children; the homeless; and those with chronic health conditions, such as severe mental illness and human immunodeficiency virus (Aday, 1994). The growing physician shortage will make access to equitable care and to practitioners prepared to meet the needs of the aforementioned populations increasingly difficult, even in a time of heightened investment in medical coverage.

1.a CALIFORNIA'S COMING NEED FOR PHYSICIANS TO WORK WITH UNDERSERVED POPULATIONS

Another place of estimated growth by 2020 is California's population, which is projected to increase in size and diversity in ways unparalleled by any other state in the nation (Nation, Gerstenberger, & Bullard, 2007; University of California, 2007). By 2015, the U.S. population is expected to increase by 13.4 percent, while California is projected to grow by 22.3 percent – almost twice the national average (University of California, 2007, 9).

California already has shortages in many health professions, and in two years it is expected to face a shortfall of up to 17,000 physicians (ibid, 1). This shortage will be due to "overall population growth, aging of the current physician workforce, and the lack of growth in medical education programs in California (including UC) for nearly three decades. Regional shortages of physicians already exist and are expected to become more severe, particularly in areas that will have the most rapid rates of growth over the next decade" (ibid, 1).

In addition to this workforce shortage is a scarcity of physicians trained to work with diverse patient populations. California's population is more culturally diverse than any other state, as more than one in four Californians were born outside the U.S. – twice the national average of one in ten. "Currently, the majority of Californians are non-Hispanic whites. By 2015, however, nearly 37 percent of the population will be of Hispanic/Latino origin, nearly 14 percent will be of Asian or Pacific Islander heritage, and six percent will be African American. Increasing the diversity and *cultural and linguistic competence* of the health workforce will remain a priority for meeting California's changing health needs" (ibid, 9, emphasis added).

1.a.i Cultural Competence

Mercedes and Vaughn (2007) describe cultural competence as the ability to interact effectively and respectfully with people of various cultures, ethnic origins, and linguistic backgrounds. They also define cultural competence as involving the following attributes: 1) an awareness of one's own cultural worldview, 2) an attitude of openness toward cultural differences; 3) knowledge of different cultural practices and worldviews; 4) cross-cultural communication skills.

The roots of the discussion about cultural competence in healthcare can be traced back to the civil rights and ethnic health advocacy movements of the 1960s and to sociological and anthropological conversations taking place during the 1970s. Over the last 50 years, cultural competence programs have proliferated in U.S. medical schools, partially in response to increasing national diversity, and partially due to mandates from

accrediting bodies (Kripalani, Bussey-Jones, Katz, & Genao, 2006, 1116). These programs – generally referred to as multicultural or cross-cultural medical education programs – have shared goals for improving clinical encounters and reducing health disparities, but they have differed in content, emphasis, setting, and duration.

Amidst growing attention to the practice of educating professionals in this rather intangible quality, some educators are beginning to feel that using the term "cultural competence" to describe the objective of multicultural medical education may be undermining its very goals. This is because as cultural competence is becoming a more standard curricular objective, educators are being asked to measure and evaluate students in this area, which is driving the concept away from its foundation as a form of awareness and attitude toward diversity, toward a more knowledge- and skill-based definition.

1.a.ii Cultural Humility

In their article "Cultural Humility Versus Cultural Competence: A Critical Distinction in Defining Physician Training Outcomes in Multicultural Education," Tervalon and Murray-García (1998) describe how multicultural medical education has conventionally framed its desired outcome in terms of a traditional notion of cultural competence. They argue that the "traditional notion of competence in clinical training as a detached mastery of a theoretically finite body of knowledge may not be appropriate for this area of physician education" (Tervalon & Murray-García, 1998, 117) and that the notion of "cultural humility" may be more suitable. While a cultural competence

framework can focus on students' acquisition of cross-cultural communication skills and knowledge, a cultural humility framework "incorporates a lifelong commitment to self-evaluation and self-critique, to redressing the power imbalances in the patient-physician dynamic, and to developing mutually beneficial and nonpaternalistic clinical and advocacy partnerships with communities on behalf of individuals and defined populations" (Tervalon & Murray-García, 1998, 117).

What Tervalon and Murray-García suggest is that while cross-cultural skills and knowledge can prove helpful in clinical practice, the ultimate aim of multicultural medical education should be to initiate an attitudinal and relational change in students – to begin a developmental process that enhances students' capacity to engage in self-reflection and perspective-taking. Such a "training outcome" cannot be described as a discrete endpoint, but as a commitment to a developmental "process that requires humility as individuals continually engage in self-reflection and self-critique as lifelong learners and reflective practitioners" (Tervalon & Murray-García, 1998, 118).

Given this, the question becomes how to promote this developmental process? What kinds of pedagogical philosophies and tools promote the growth of reflective, self-evaluative, life-long learners while also allowing students to gain practical skills and knowledge?

1b. PEDAGOGICAL APPROACHES FOR MULTICULTURAL EDUCATION

A number of medical educators and institutions are making efforts to emphasize cultivating *attitudes* while teaching *skills* and have drawn on the work of social scientists

and humanities scholars to begin to identify the possibilities available through experiential pedagogies (Case & Brauner, 2010; Deloney & Graham, 2003; Henderson & Johnson, 2002; Jacobsen, Baerheim, Lepp, & Schei, 2006; Shearer & Davidhizar, 2003). Several medical schools are also adopting learning communities and peer cohorts (Hafferty & Watson, 2007) to provide social support for students as they engage in reflective learning.

1.b.i Experiential Education

Experiential education is a teaching philosophy and methodology that encourages educators to "purposefully engage with learners in direct experience and focused reflection in order to increase knowledge, develop skills, clarify values, and develop people's capacity to contribute to their communities" (Association for Experiential Education, 2007, ¶1). Experiential education uses a variety of pedagogical tools – games, role-plays, simulations, drama and narrative study, community service, problem-based teaching and discussion, and journaling – and can take place in an endless number of contexts.

The first experiential education programs in higher education were found in outdoor education and recreation (Raiola & O'Keefe, 1999), but the approach is used today for a large variety of educational aims. The philosophy, principles, and practices of experiential education are rooted in the educational ideal of social change (Breunig, 2005, 1) and were laid down by early- to mid-twentieth century progressivist educators. The work of these leaders continues to guide experiential educators today, particularly that of

John Dewey (1938) and his *Experience and Education* (Rapparlie, 2009, 128). Dewey believed that education should include active participation and that students benefit from contact with and cooperation in diverse groups, which help them to "broaden their own personal ideas" (Wurdinger, 1997, 9). Participatory group learning is thus an essential element of experiential education.

Adding to this, Knapp (1992, 36) has sketched out the important features of experiential learning as: 1) active student involvement in a meaningful, challenging experience; 2) individual and group reflection on the experience; 3) the development of new knowledge about the world; and 4) the application of knowledge to a novel situation.

One of the primary reasons why experiential education is growing in popularity in higher education is that experiential education increases student engagement, which is generally considered one of the better predictors of learning and personal development; several measures of student engagement have been linked positively with desired learning outcomes such as critical thinking and grades (Carini, Kuh, & Klein, 2006, 1). Lemke, Lecusay, Cole, and Michalchik (in press) define engagement as "affective involvement in and commitment to an activity, goal, practice, group or community which enhances the quality and quantity of participation despite obstacles, setbacks, or frustrations." Lemke, Lecusay, Cole, and Michalchik distinguish engagement from enjoyment, "the positive feeling accompanying an activity that makes it worth doing for its own sake" (ibid). Both engagement and enjoyment are important aspects of learning and influence the success of experiential education programs.

1.b.ii Service-Learning

Service-learning is a contemporary offshoot of experiential education (Breunig, 2005, 15) and "provides a bridge between the various forms of experience-based teaching and learning. Service learning is more than simple volunteerism and community service; it is service that is integrated with academic curriculum and is based on real community needs."

The National Service-Learning Clearinghouse (2012, ¶1) recognizes service-learning as "a teaching and learning strategy that integrates meaningful community service with instruction and reflection to enrich the learning experience, teach civic responsibility, and strengthen communities." Seifer and Connors (2007, 5) add that "service-learning is structured learning that combines community service with preparation and reflection."

All of these definitions describe service-learning as an integration of service projects with classroom learning. These two components, ideally, come together in a way that offers students a chance to apply knowledge, develop skills, and reflect on their personal growth while simultaneously addressing the needs, concerns, and goals of their local communities.

Kaye (2004, 10) described four phases of service-learning as preparation, reflection, action, and demonstration. Preparation includes identifying a need, investigating and analyzing it, and making a plan for action. Reflection is an integral and continuous part of service-learning that brings together learning and experience with personal growth and self-awareness. Action includes the work necessary to conduct the service project. Demonstration provides evidence of what students have learned and

achieved through their involvement. Kolb (1984) described a model of the key stages that service-learners cycle through during the educational processes: concrete experiences, reflective observation, abstract conceptualization, and active experimentation. "Each of these four stages is an integral part of service-learning that must be fully embraced by students, institutions, and community partners in order for service-learning's multi-faceted goals to be achieved" (Seifer & Conners, 1998, 6). While service projects can be conducted in a wide variety of settings and classrooms, learning activities can be executed in various ways. Most descriptions of best practices in service-learning are aligned with Kaye's and Kolb's configurations of essential components.

Seifer (1998) and Furco (1996) both argue that while service-learning is a form of experiential learning, it departs from traditional models of experiential learning in several ways. First, service-learning emphasizes "reciprocal learning," or the interplay of student development and community development, which highlights the role of reflection in the developmental process. Second, service-learning focuses on developing civic skills that can affect lasting social change. Third, service-learning increases students' understanding of the contexts in which their future professional activities may take place. And fourth, service-learning is collaborative and partnership-based. Service projects address community-identified concerns and involve community members in the design and implementation of the project, meaning that objectives and course structure are not decided by one person, but by all parties involved. This is a particularly important departure from other forms of experiential learning, such as internships or field studies.

Service-learning is not as one-sided as volunteering, and it focuses on collective as well as individual development (Seifer & Conners, 2007, 6).

Several scholars have defined criteria for evaluating and measuring the success of service-learning programs in higher education (Batenburg et al., 1997; Bringle et al., 2004; Caswell et al. 2011; Furco, 2002; Seifer & Holmes, 2002). While each of these investigations into the theories, research, and best practice that should guide service-learning in higher education come to slightly different conclusions, several common themes appear, including:

> joint planning, a genuine sense of reciprocity, clear definitions of roles and activities, a comprehensive student orientation and preparation process, and consistent communication with a primary point of contact on each side. The evaluations have also found that in order for higher educational institutions to build institutional capacity around service-learning, they need to clearly define their mission and goals, generate multi-level support, invest in faculty development, nurture long-term community partnerships, and integrate service-learning into the administrative structures and policies of the institution as well as the broader curriculum. For service-learning to really work for community partners, community partners needed to ensure that service-learning was closely aligned with their organizational goals as well as complementary to their overall mission. Furthermore, community partners needed to develop internal structures to support their involvement in service-learning as well as adopt the perspective that the students involved in service-learning had valuable skills and expertise to contribute. (Seifer & Conners, 2007, 6)

From this we see that clear definitions of roles, activities, goals, and curricular connections are important considerations for educators.

1.b.iii Learning Communities

Learning communities are also increasing in popularity in higher education as a pedagogical approach for promoting cultural competence and humility. Learning communities are groups of students who cooperate in formal programming in academic and social settings for a specific educational purpose (Firmin & Warner, 2012, 3). There are various types of learning communities; some focus on subject matter and others organize around commonalities among students. A key element of learning communities is the opportunity for students to connect with and socially support one another (James, Bruch, & Jehangir, 2006).

Peer-learning is another important feature of learning communities. Peer-learning partnerships are reciprocal relationships in which students share comparable learning objectives, as well as power statuses, enabling a dynamic and unrestricted exchange of ideas. Eisen (2002, 9) has written about how "interchange between peer-learners has proven to foster deeper reflection because it introduces contrasting perspectives, sometimes even generating arguments about interpretation, meaning, and application" of teaching.

Daniel (2009) explored the efficacy of the cohort model in preparing teacher candidates to address issues related to racial diversity and found that cohorts provide students with peer support and exposure to diverse experiences. Learning communities, therefore, simultaneously stretch and strengthen students intellectually and relationally.

1.b.iv The Challenges of Building and Sustaining These Approaches

As a growing number of institutions for higher education work to adopt and integrate experiential learning, service-learning, and learning communities into their curriculum, there is an increasing interest in identifying the necessary factors for implementing and sustaining long-term programs (Vogel, Seifer, & Gelmon, 2010).

In his chapter "Designing, Implementing, Sustaining, and Evaluating Idiocultures for Learning and Development: The Case Study of the Fifth Dimension," Cole (2009, 11) discussed how academic service-learning classes are implementable only under the rare confluence of an academically-linked practicum course, a willing professor, a supportive administration, and an eager community partner. Growing evaluation research demonstrating that such programs improve university students' academic performance, supplemented by institutional ideology supporting community engagement, have led to a growing movement in higher education to provide students with experiential learning opportunities.

However, institutional values around "helping the community" while educating students are generally vague and therefore leave definition of what is helpful up in the air. University and community partnerships vary in their degree of success in working through this haziness. Sustaining feelings of mutual benefit and satisfaction can be challenging and require frequent dialogue about goals – for the university, for students, and for the community.

The National Service-Learning Clearinghouse (2012, ¶1) touches on this challenge and others in its definition of sustainability in service-learning as:

> the ability to maintain or increase program efforts by building constituencies; creating strong, enduring partnerships; generating and leveraging resources; and identifying and securing funding sources that are available over time. Institutionalization addresses the extent to which service-learning is integrated into the culture and goals of a school, community organization, or institute of higher education.

1c. THE RESPONSE FROM THE UNIVERSITY OF CALIFORNIA HEALTH SCIENCES AND SERVICES

In anticipation of shortages of physicians and other healthcare professionals equipped to effectively and respectfully deliver health care to an increasingly diverse state, California's medical education institutions, administrators, instructors, and staffs have been working through the challenge of implementing and evaluating programs and curricula to prepare students to meet this intensifying need (Tervalon & Murray-García, 1998).

To provide equitable care to an increasingly diverse state population, "California's health providers must acquire better understanding of the nature and causes of health disparities, and better understanding of the cultural and socioeconomic factors, health practices, and environmental risks that affect health outcomes. To acquire these skills, new strategies and educational programs are needed" (Nation, Gerstenberger, & Bullard, 2007, 1140).

The University of California's response to this imminent need and organizational learning challenge was the creation of unique medical education learning communities, the Programs in Medical Education.

1.c.i The Creation of the Program in Medical Education

In 2007, prompted by evidence that California will continue to grow and increase in diversity, and conscious that the state already has physician and multicultural skillset shortages, the University of California – which houses five of the seven allopathic[2] medical training programs in the state of California – adopted a new system-wide, multi-year health sciences plan. This new plan – created by administrators, clinicians, policy makers, and faculty from administrative, instructional, and professional divisions – called for a one-third increase in student enrollment in health professional schools as well as the development of new programs that specifically seek to address the needs of California's medically underserved and vulnerable communities (Nation, Gerstenberger, & Bullard, 2007, 1139). The plan called for significant admissions growth at each of the University's five medical schools in order to anticipate projected increases in California's population size and diversity (University of California, 2007).

Just months before the new health sciences plan was enacted, Proposition 1D – the Kindergarten-University Public Education Facilities Bond Act of 2006 – was approved, devoting $200 million in bond funding to broadly support growth of the University's medical education. Part of this funding was assigned to develop a UC-wide medical education program to recruit and instruct future physicians to meet California's growing need for medical practitioners.

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[2] Allopathic medicine is a term used to distinguish mainstream medical practice – using pharmacological and physical interventions to treat disease and illness – as opposed to homeopathic or alternative medicine.

One of the important initiatives of this movement was the creation of a distinct training program – known as the Program in Medical Education (PRIME) – that was created as a "system-wide effort at the University of California to train physicians better able to meet the needs of the diverse Californian population who are traditionally underserved by the medical system" (UCSD SOM, 2012). PRIME was established to prepare future physicians to clinically serve and publically advocate for patients and communities through training in: culturally competent clinical skills; the socioeconomic determinants of health disparities and health inequity; and community-based advocacy, outreach, and research. PRIME students complete five years of post-graduate study – four in medicine and one in public health or another related field – to prepare for careers focused on addressing California's health disparities.

Nation, Gerstenberger, and Bullard (2007, 1139) wrote about the logic behind the creation of PRIME in their article "Addressing Physician Shortages" in *Academic Medicine*:

> For medical student education, the plan call[ed] for an approximately one-third increase in enrollment across the system – from approximately 650 current medical school graduates per year to a projected 920 graduates annually by the end of 2020…The first phase of this growth is under way and is planned to continue through a series of programs that seek to address the needs of California's medically underserved communities. Areas of focus included rural health and telemedicine (Davis); the Spanish-speaking Latino community (Irvine); diverse, disadvantaged communities (Los Angeles); health disparities and health equity (San Diego); and the urban underserved (San Francisco and Berkeley)…In the coming years, UC medical schools will face demographic and budgetary challenges that will require perseverance, creativity, and certain leaps of faith. Public expectations are high. (Nation et al., 2007, 1139)

All of these programs were to draw on a model from a program at UC Irvine, which was created initially as a learning community. From 2007 to 2009, each University of California medical school initiated its own PRIME program with distinctive foci (as described above) based on faculty expertise, local populations, and other regional considerations. And in 2012 a sixth PRIME program, UC Merced San Joaquin Valley PRIME (PRIME SJV) – a collaborative program headed by the UC Davis School of Medicine in partnership with UC Merced and UCSF Fresno – admitted its first class of five students. PRIME SJV demonstrates that PRIME's reach continues to grow and extend to new regions.

The UC-wide PRIME programs now admit cohorts of 10 additional medical students each year, recruiting students who demonstrate a desire to practice medicine with underserved populations in urban or rural California. PRIME has been an influential presence on UC medical campuses, and at most schools students who are not formally a part of PRIME still occasionally choose to participate in PRIME activities.

1.c.ii The Program in Medical Education Health Equity's Mission and Curriculum

UCSD's program, PRIME – Health Equity (PRIME-HEq), which admitted its first class of three students in 2007, is devoted to issues of health equity. The PRIME-HEq steering committee designed the program to "emphasize multicultural, multidisciplinary approaches to patient care, research, and health care advocacy" (Nation et al., 2007, 1142). The PRIME-HEq website (UCSD SOM, 2012) describes the program in the following way:

> PRIME-HEq is an inclusive program designed to build on students' interests and backgrounds in community service. PRIME-HEq faculty work with students to identify populations or communities at risk for health disparities. Students will then receive exposure, training, and the opportunity to work with the identified group to further their passion in the area and provide knowledge and skills to better equip the students to improve health equity for the group…Our mission: Developing leaders to eliminate health disparities in their communities, our nation, and the world.

In addition to the standard UCSD School of Medicine curriculum, the steering committee created specific PRIME-HEq classes and activities for PRIME students. These additions included:

- Taking a two-course core curriculum series that explores: 1) the socioeconomic determinants of health disparities and health inequity, and 2) developing the skills required to preform community-based research and build community-university partnerships.
- Obtaining a Masters in Public Health, Leadership of Healthcare and Educational Organizations, Bioengineering, Advanced Studies in Clinical

Research, Business Administration, Peace and Justice, Advanced Studies in Law and Medicine, or another related field.

- Meeting quarterly with the program director for professional mentorship.
- Completing the standard curriculum longitudinal primary care clinic requirement in a clinic that works with underserved populations.
- Attending monthly PRIME-HEq meetings and a yearly statewide conference with PRIME students from other UC campuses.
- Participating in student-led, community-based service projects with underserved and at-risk populations to develop a skill set for caring for underserved and vulnerable populations.

In addition to these curricular requirements, "students are given the opportunity to enhance their cultural competency and knowledge of traditionally underserved communities through excursions, performances, and presentations, including program-sponsored community tours, theatrical productions, and conferences (Willies-Jacobo, 2011, 11).

Figure 1.1: Students from the third HMHB cohort at Cesar Chavez Park during their orientation day community tour.

In 2011, three first-year medical students worked with the program director to outline "four pillars" of PRIME-HEq, which were adopted as the program's explicit goals:

1. *Personal and Professional Development*: Prepare physicians to provide health care services to underserved and at risk populations.
2. *Diversity in Medicine*: Increase number of clinicians, research scientists and advocates addressing minority health and health disparities.
3. *Research*: Create a diverse community of scholars that develop, disseminate, and apply new knowledge in minority health and health disparities.
4. *Community Outreach and Advocacy*: Promote a multidisciplinary community/university partnership to eliminate health disparities and increase health equity.

1.c.iii Healthy Minds Healthy Bodies

While PRIME was in its infancy at UCSD and still in need of a long-term director, students from the second cohort came together to create a health education outreach program they named Healthy Minds Healthy Bodies (HMHB). I will detail the genesis of HMHB in Chapter 2, but for now it is best described as a health educational program in which medical students teach 10 one-hour, bi-monthly health lessons in science classes at Kennedy High School in southeastern San Diego. Lessons address six health topics identified in the Youth Risk Behavior Survey (YBRS, 2007) and the California Health Education State Standards Grades 9-12 (CDE, 2009): tobacco and substance abuse, exercise and nutrition, sexual reproduction and anatomy, HIV and STDs prevention and safety, birth control and safe sex, and healthy relationships. The program

concludes with a visit by Kennedy students to the UCSD School of Medicine, where they have the opportunity to be a "Doc-for-a-Day[3]."

In order to prepare to serve as educators, participating medical students – primarily first- and second-year PRIME-HEq students – meet for bi-weekly student-led teacher training sessions. Medical students currently spend every other Tuesday in training sessions, and the alternate Tuesday teaching at Kennedy High.

Over the course of three years, HMHB has grown to be an official, required component of PRIME-HEq's curriculum and is in the midst of transforming some of the objectives, tools, and procedures that guide and organize the program. The history and future trajectory of these changes are the subject of this dissertation.

1.d A MULTI-LEVEL ORGANIZATIONAL CASE STUDY IN BUILDING AND SUSTAINING NEW MULTICULTURAL MEDICAL EDUCATION PROGRAMS

On October 20th, 2012, all six of the UC PRIME programs met in Sacramento, California for the annual PRIME statewide conference, PRIME 2012: Advocating for a Healthy California. Held for the first time in 2009, the yearly PRIME conference serves as an opportunity for students and faculty to share experiences and "build partnerships with other members of the PRIME community as we continue to work together towards our shared vision" (Eidson-Ton, 2012, 2).

[3] The Doc-for-a-Day event will be discussed further in Chapter 2.

Each PRIME conference is kicked off by a keynote speech from a high-level UC administrator and PRIME advocate. This address serves as keepers of PRIME's collective memory and identity, through yearly retelling of the program's origin story, purpose, mission, and future aspirations – and student presentations of recent and continuing community engagement projects.

At PRIME 2012, Dr. Mark Servis – Senior Associate Dean for Medical Education and Professor of Psychiatry and Behavioral Sciences at UC Davis – delivered the opening address. In his address he stated that one of the greatest challenges the PRIME program faces is as follows:

> From an organizational perspective, PRIME is a med school within a med school. When we initiated PRIME, it wasn't all worked out – we had to build it as we went. I like to use the metaphor of building a plane as we fly it to describe PRIME. We launched it, we're running it, but it's a work in progress. This is the structural, organizational challenge of making PRIME as we go. (Service, 2012)

PRIME – like so many educational initiatives created to respond to a projected need – was instated with the knowledge that it would have to be formed and adapted while it was already moving. Servis' metaphor – of building the plane as we fly it – is an apt description of HMHB and PRIME as fledgling programs for multicultural and underserved medical education. Having to "build as you go" presents an organizational learning challenge and opportunity for UC educators and students, because they must work together to create and implement innovative, sustainable programs that offer students experiential education that will encourage their professional development.

HMHB also presents a promising opportunity for research on organizational

stability and transformation since PRIME activities involve an interplay between local, bottom-up, and largely student- and faculty-led efforts to transform medical education and institutional processes that can both support and complicate this work. Research in organizational change has, for the most part, struggled to trace linkages between broad institutional forces and situated interactions. Macro, institutional analyses often miss much of the "invisible work" of small, everyday innovations, contingencies, and agitations (Nardi & Engeström, 1999; Star, 1991), making the process of organizational change appear more smooth and streamlined than it is in experience. Micro-analyses, on the other hand, "tend to focus on relatively arbitrary segments of work and communication, with no interest or ability to connect the analysis of local interactions to broader institutional, cultural, and historical forces" (Engeström, 2008, 23).

Qualitative research methods have been used effectively in other areas of research to explore both levels of analysis, yet have been under used by organizational researchers (Lee, 1999, 171). Cultural historical activity-theory (Engeström, 1987; Cole, 1996) – a qualitative, descriptive theory that contextualizes people, practices, and actions within historically developed systems of activity, which I will describe in more detail in Chapter 3 – offers a potential framework for such an investigation. However, activity theory is still in need of "both low-level analysis of social acts characteristic of ethnomethodology and the higher-level analysis of social frameworks without which such acts lack meaning" (Nardi, 2007, 6; Thompson, 2004), a research need to which this dissertation will contribute.

1.d.i Research Questions

In this dissertation I explore questions regarding the organizational trajectory of HMHB as an evolving program within evolving organizations. The questions guiding this research are:

- Is HMHB a program that can be an effective and sustainable form of experiential, multicultural medical education that encourages students to be life-long learners and reflective practitioners?
- How can cultural-historical activity theory help us think about the future of HMHB in light of its past and as situated in a network of organizational relationships?

To address these questions, I engage in an ethnographic analysis of multiple levels of organizational change, with HMHB as the primary activity under examination, and seek to integrate both levels of analysis described above. I expect that such analysis may be helpful in informing the future efforts of the HMHB and PRIME-HEq communities, while also contributing methodologically to the field of organizational communication.

1.d.ii Methods, Findings, and Structure of the Dissertation

The details presented in this dissertation – drawn from ethnographic field notes, video recordings of meetings and planning sessions, semi-structured interviews with participants, and email communications – give insight into HMHB as a program-in-the-making. As described, and as we will explore more closely in the subsequent chapters, it is nestled between and responds to the relatively "macro" forces of a new California statewide medical and health policy initiative, and the relatively "micro" challenges of implementing the unique features of this program at a major UC medical school.

In the following chapters I observe that over the course of three-and-a-half years HMHB transitioned from a student-led, volunteer-based health education service project to a required course for first-year PRIME-HEq medical students. With this transition of purpose and institutional status came other unforeseen changes in and contradictions between the practices, tools, and procedures that medical students used to carry out the operation of HMHB. This also coordinated with a shift in the atmosphere of the training sessions – which became more formal, less interactive, more evaluation focused, and less simulation-based – and was connected to evolving, and at times conflicting, expectations, orientations, goals, and objectives for HMHB. HMHB is still in a period of formation, and therefore I offer my developmental analysis of the program as a tool for PRIME-HEq and HMHB leadership to think about next steps, particularly if continuing to transition the program to align with the best practices for service-learning might help coordinate the various interests involved.

In this introductory chapter, I have presented the questions and issues that this dissertation will address. I discussed the current and growing need for a new generation of physicians ready to address the medical needs of California's underserved populations,

as well as pedagogical approaches – such as experiential learning, service-learning, and learning communities – for multicultural medical education. I also described the University of California's efforts to expand medical education to meet California's projected needs and the challenges it faces in implementing and sustaining programs for underserved medical training. I then outlined the goals and unique features of UCSD's PRIME-HEq and introduced one of its first programs, HMHB. I shared how HMHB presented a unique opportunity to study organizational development from the ground up, and concluded by stating my research questions and by discussing the methods of data collection and analysis used for this dissertation.

Chapter 2 offers a chronological description of the first three-and-a-half years of HMHB. I recount its origination, development, and institutional adaptation, and highlight several important and emergent features of the project. Several contradictions emerged between the practices, tools, and procedures that came to define HMHB. I conclude by outlining these discordances, which will be taken up for further analysis in Chapter 4.

In Chapter 3 I suggest that the contradictions that emerged in HMHB can and should be analyzed closely and in view of large institutional changes, and that such an analysis requires drawing links between micro-level interactions and more macro-level organizational forces. Research on organizational change has struggled to combine these levels of analysis, but cultural-historical activity theory offers a promising tool for studying organizational contradictions from up close and far away. I describe the need for such research in cultural-historical activity theory, which is a well suited framework for observing, analyzing, and redesigning the process of organizational change.

In Chapter 4 I analyze in greater detail the emerging tensions outlined at the end of Chapter 2. I present and explicate transcripts of classroom interactions and research interviews that revealed students' perspectives on contradictions emerging within HMHB. I demonstrate how shifts in the atmosphere of and attitudes toward the training sessions of HMHB – which became more evaluation focused, less simulation-based, and more crunched for time – were connected to evolving (and at times conflicting) tools, rules, subjects, division of labor, community, and objectives for HMHB as it became a newly-required course in PRIME's curriculum.

To conclude, in Chapter 5 I argue that applying cultural-historical activity to analyze organizational contradictions not only offers insight into the origins of tensions, but also provides tools for imagining future trajectories for activities such as HMHB. I show how a residual orientation toward HMHB as volunteer service is bumping up against an emerging notion of HMHB as experiential education. I suggest that service-learning is a synthesis of these two perspectives, and that reframing the program's motivating object as service-learning could create synergy and coherence for the multiple actors and systems involved, as well as help to address contradictions within the program. I also offer initial considerations for how to expand HMHB into service-learning.

CHAPTER 2

A THREE-YEAR SKETCH OF HEALTHY MINDS HEALTHY BODIES

In this chapter I describe the origination, implementation, institutionalization, and adaptation of Healthy Minds Healthy Bodies (HMHB) over the course of three-and-half-years, ending with a discussion of some of the intriguing contradictions that emerged as the program matured and changed.

I divide the following narrative into four sections corresponding to what I observed to be phases of the program's development. As described earlier, HMHB is nestled between and responds to both institutional forces and local challenges, therefore I intend this introductory narrative to serve as a mid-level developmental account. By this I mean an account of HMHB that draws out its relational linkages to both larger and smaller threads of development.

This will set the stage for further analyses in subsequent chapters, in which I continue this case study from an activity-theoretical point of view in order to consider how the contradictions of HMHB's past might inform its future.

2.a ORIGINATION: APRIL – JUNE 2009

As mentioned in Chapter 1, the University of California San Diego's Program in Medical Education (PRIME-HEq) admitted its first class of three students in 2007. The following year, it admitted seven students. Because PRIME-HEq was only in its infancy, many of the features its steering committee envisioned had yet to come into being. Most

noteworthy of these was that PRIME-HEq did not have an official director to teach core courses, facilitate community partnerships, and offer professional mentorship. An interim director offered some guidance, and a lecturer taught the core courses, but students desired more faculty leadership for the program.

Recognizing that this might not come immediately, the students decided that they would start meeting on their own time at students' apartments to discuss their ideas for the program and what they wanted to do through it and get out of it. They called these meetings "Sí Se Puede" (or "It Can Be Done") meetings. At these meetings they created their own mission statement and goals, and discussed their desire to build community partnerships.

2.a.i An Opportunity at Kennedy High

Not long after the students started their Sí Se Puede meetings they received an invitation from the School of Medicine's Associate Dean for Programs and Policy to attend a meeting at a local high school to discuss a budding university-community partnership to establish a community wellness center. On March 13th, 2009 representatives from Kennedy High School – the school's nurse and three key administrators – and faculty and graduate students from UCSD's School of Medicine and departments of sociology and engineering met to form the Kennedy High School Wellness Collaborative. I was one of the graduate student attendees, and I was joined by three others – second-year PRIME-HEq medical students, Jessie, Amber, and Lisa.

During the first Kennedy High School Wellness Center Collaborative meeting, Kennedy's administrators handed out an agenda with information about perceived needs and student demographics. Located in a region with ethnically diverse and vibrant neighborhood communities, yet a history of poverty and violence, Kennedy administrators shared the following statistics with the group:

- 84.0% receive free or reduced lunches
- 26.3% are English Language Learners, 93.8% of which are native Spanish speakers
- 14.7% receive special education services
- 37.5% are members of families who live in poverty
- 46.0% live in single female family households

Table 2.1: Kennedy High students' demographics, as reported by Kennedy's administration.

Race/ Ethnicity	Number of Students	% of Student Population
Latino	1,205	52.2
African-American	917	39.7
Asian	75	3.2
White	48	2.1
Pacific Islander	36	1.6
Filipino	24	1.0
American Indian	3	0.1

In June 2003 Kennedy High School closed its doors for major reconstruction – both infrastructural and curricular – and reopened in September 2007 with several updates, the most relevant to this research project being: 1) a new facility connected to the main office devoted for a wellness center; 2) state-of-the-art physical education equipment and facilities; and 3) a budgetary allotment to hire a school nurse to run the wellness center. Despite these wellness-focused additions, Kennedy did not establish a multi-year health curriculum, something that concerned the school nurse who was inadvertently tasked with providing health education and promotion at the school.

Kennedy's school nurse sought the help of Kennedy's administrators to provide connections with local universities and health organizations to help bring programming and resources to the new wellness center. The Kennedy administrators approached a UCSD sociology professor they had an existing relationship with about this need, who contacted a colleague from the School of Medicine, who then invited the Dean of Programs and Policy and the Dean of Medical Education to join the discussion. After meeting once with Kennedy administrators, the Dean of Programs and Policies saw an opportunity for collaboration and contacted Jessie[4], a medical student who had worked with her previously on another health education outreach program, Doctors Ought to Care (DOC). DOC, as defined on the School of Medicine's website, is:

> a community-based program run by medical students at the UCSD School of Medicine. DOC is designed to send medical students out into local schools – elementary, middle, and high – to give classroom presentations on a variety of important health topics. Our mission is to improve the knowledge and health of children and adolescents while providing medical

[4] All informants names have been altered for privacy.

> students with a better understanding of the communities surrounding UCSD. (DOC, 2012)

After the Kennedy High School Wellness Collaborative meeting, the Dean and Jessie met to discuss the possibility of initiating a program similar to DOC. The Dean for Programs and Policy knew that Jessie worked previously as a Teach For America middle-school science teacher in Oakland, California and that she would have the leadership skills to get a program off the ground. They decided to recruit PRIME-HEq students to teach at Kennedy since it was in a historically underserved neighborhood and to tailor DOC materials specifically for Kennedy's urban student population. The Kennedy High School Wellness Collaborative was coming together in such a way that is served goals of both institutions involved, which happened to fit together nicely: 1) Kennedy High administrators and staff would get help providing health education and promotion services; and 2) UCSD students would get to engage in community-based outreach in an underserved neighborhood.

Jessie was keen to get the program started. She created a Kennedy student needs assessment, which she administered to teachers and students on campus, and recruited some of her peers – including Amber, Lisa, and another key student, Carly – to help her create a plan for initiation.

2.a.ii Health Minds Healthy Bodies Pilot Program

Jessie and her classmates met for the first time to discuss the possibility of starting a health education program at Kennedy led specifically by PRIME students at a Sí Se

Puede meeting in March of 2009. At this time, Jessie and her classmates were finishing their first year in medical school and PRIME-HEq was in its second year of operation, yet they still did not have an official director. They had heard rumors that Dr. Collins-Morales, a pediatrics clinical professor who supported the students as best she could while serving in a clinical role, might come on as a long-term director, but they were not sure. The group decided they would press on as a volunteer student-led project. Amber described this Sí Se Puede meeting in the following way:

> We kind of felt like, if we don't make something out of this then we're going to be the ones that miss out, and that was impetus for doing something. I think we also felt like you know it shouldn't really be the job of one person who's the director of our program when there's eighteen of us and we need to take part and have responsibility for where this goes and build it and it's nice to know that you can leave a legacy for students that come after you.

In this statement Amber referred to 18 students, even though there were only eight PRIME-HEq admits at this time. Interestingly, several of the students who came to Sí Se Puede meetings and identified with PRIME were not officially part of the program. Many of them were unaware of PRIME when they applied to medical school, yet even though they missed out on membership (and funding to complete a Masters year), these students freely participated in PRIME-HEq activities because they valued the vision of PRIME and found friendship in this community. This collection of unofficial members adopted the name Modified PRIME and Jessie was part of this committed sub-group.

At the Sí Se Puede meeting about the potential Kennedy partnership, the students decided Jessie should continue to lead the way and she committed to creating a curriculum for the fall. But first, she asked if some students would volunteer to get things

rolling by teaching one or two lessons before the end of Kennedy's school year, that way the medical students could begin to develop relationships with Kennedy.

Seven students agreed and taught a few lessons that Spring from the standard DOC curriculum. The medical students who participated in this pilot initiative reported back to Jessie that they were nervous to enter the classroom having such little experience teaching large groups of adolescents. Prompted by this feedback, Jessie reflected back on how she became a teacher: through Teach For America's summer institute – a short, intensive teacher preparation program, which according to Jessie, used lesson modeling and classroom simulation to teach instructional methods and classroom management. Jessie felt adding a training component would be beneficial for the medical students and her peers agreed. It was too late to add one for the pilot program, so it would have to wait until the fall.

Summer came and Jessie created a curriculum for the program that was inspired by but was distinct from DOC's curriculum – which she titled Healthy Minds Healthy Bodies (HMHB). HMHB included ten lesson topics, compared to DOC's seven. Jessie selected new subjects she thought would be relevant to and interesting for Kennedy students (which she determined by consulting the results from the needs assessment and the Center for Disease Control and Prevention's [2007] list of suggested adolescent and school health topics). The following, Table 2.2, shows the titles of the lessons from DOC and from HMHB.

Table 2.2: A comparison of the presentation/lesson topics from the DOC and the HMHB school health education programs.

Doctors Ought to Care	**Healthy Minds Healthy Bodies**
AIDS/Sex	Introduction to Diseases
Exercise	Substance Abuse
Nutrition	Tobacco
Substance Abuse	Nutrition
Sun Safety	Exercise
Tobacco	Female Reproduction and Anatomy
How to Become a Health Professional	Male Reproduction and Anatomy
	HIV/STDs
	Birth Control
	Healthy Relationships

DOC provided students with talking points for presentations but did not provide detailed lesson plans. This was frustrating for students who participated in DOC and felt unprepared to enter a classroom, as voiced during the Kennedy pilot. In order to try to address this concern, Jessie created a lesson plan for each of the HMHB topics.

Over the summer Jessie also worked to find teachers at Kennedy who would be willing to participate in the program. She sent an email to the staff, via one of the administrators and compiled a list of interested instructors. Jessie received more replies than she anticipated, and so she worked to recruit more PRIME-HEq medical student teachers via the PRIME listserv and hallway conversations.

Before the summer ended, 13 students committed to teach heath at Kennedy in the fall. This group was an assortment of PRIME and Modified PRIME students.

2.b IMPLEMENTATION: SEPTEMBER 2009 – MAY 2010

On October 8th, 2009 six PRIME-HEq and twelve Modified PRIME-HEq pre-clinical[5] medical students gathered together for their first training session for their health education service project at Kennedy High School – or as the medical students were now calling this endeavor, Healthy Minds Healthy Bodies. As mentioned earlier, "HMHB" was originally used by Jessie to refer to the curriculum she developed, but during the first year of implementation the name also came to represent the routine practices involved in teaching at Kennedy and training at the School of Medicine, what we will later come to talk about as an activity system.

2.b.i The First Healthy Minds Healthy Bodies Training Session

[5] Pre-clinical medical students are first- and second-year medical students working to complete coursework before beginning clinical apprenticeships. Pre-clinical students do get some clinical experience through a second-year preceptorship, in which students shadow a clinical physician for half a day every week. Pre-clinical students are generally very eager for opportunities to 'put their book knowledge to work,' which was certainly true with the first group of HMHB educators.

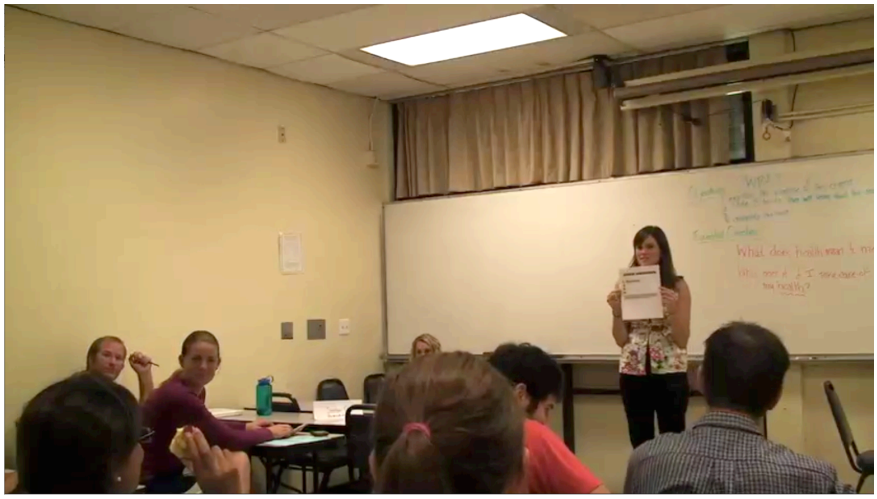


Figure 2.1: Jessie fielding a question about one of the handouts.

For the first HMHB training session, Jessie asked participating students to meet in a small classroom in the Medical Teaching Facility during lunch. Before beginning, Jessie distributed printouts of the materials she created over the summer to help students be able to "just walk into the classroom and teach." The materials were assembled into folders, one for each medical student.

She informed the group that for the remainder of the session, and for the year, she would be using these training sessions to simulate the lessons with the medical students: "So, disclaimer. A lot of this- I'm going to talk to you like you're students for a lot of this." She went on to explain that she was going to model the lessons because during the pilot program, they learned that Kennedy has "a different demographic, so it's a little bit- it's a higher energy school" which presented some challenges for the medical student teachers who had trouble leading their classrooms. Therefore, Jessie announced that she

was "going to model, because one of the things you asked for last year is that we model how to do that."[6]

Jessie went on to introduce the teaching materials (which are described in more detail in the next session), asking the students to look at each sheet with her. She was careful to point out that each lesson plan was designed with a California State Health Standard in mind, and used this opportunity to share with the students that HMHB was an important undertaking because the state has health standards that Kennedy students are not being taught.

After this call to action, Jessie began the simulation of the lesson, establishing a procedural pattern that would last for the rest of the year: training sessions began with an introduction of the lesson up for discussion and review of any relevant business or to-dos, followed by a simulation of the lesson. Subsequent sessions would come to conclude with grading assessment materials, which are described below.

I will return to discuss other important developments in the training sessions over the course of the first implementation year of HMHB soon, but first I will pause to take a closer look at the teaching materials the students used.

2.b.ii Curriculum Packet

The materials that Jessie created and assembled into the brown folders, which later became known as the "curriculum packet," were closely modeled after materials that she used when she was part of Teach-for-America. Each lesson plan included designated

[6] PRIME-V-10/08/09-1-07:05

topics and takeaways; objectives; enduring understandings and essential questions; an introduction, activity, and closing; and assessment materials.

2.b.ii.1 Overview of Lesson Topics and Takeaways

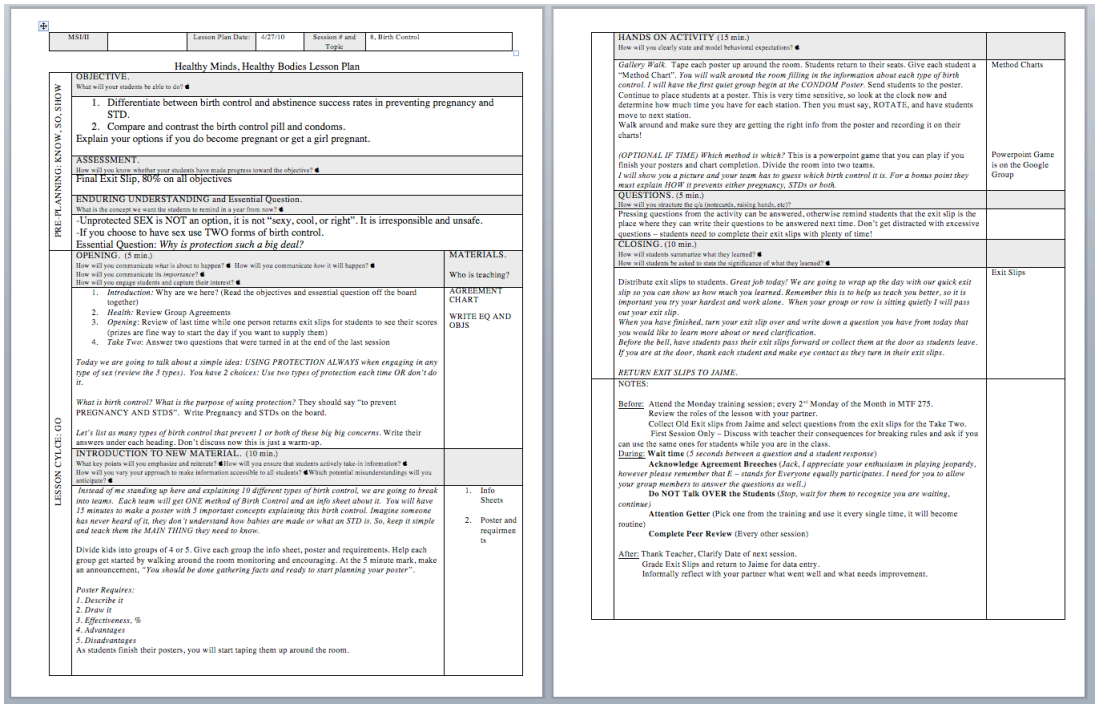
This five-page handout contained a grid with an overview of the ten lesson topics, objectives, and achievement targets. It served as an overview of the most valued information to share with the Kennedy students and a glimpse into how the lessons fit together.

2.b.ii.2 Health Standards

As mentioned earlier, the new topics for HMHB were selected to align with the California High School Health Standards.

Jessie explained to the group at the beginning of the first meeting that Kennedy was not currently teaching the California standards and that HMHB was to "fill that gap" for Kennedy students. This established one of the medical student participants' collective goals, which they shared with Kennedy's staff.

2.b.ii.3 Lesson Plans



MSI/II		Lesson Plan Date:	4/27/10	Session # and Topic	8, Birth Control

Healthy Minds, Healthy Bodies Lesson Plan

PRE-PLANNING: KNOW, SO, SHOW

OBJECTIVE.
What will your students be able to do?

1. Differentiate between birth control and abstinence success rates in preventing pregnancy and STD.
2. Compare and contrast the birth control pill and condoms.

Explain your options if you do become pregnant or get a girl pregnant.

ASSESSMENT.
How will you know whether your students have made progress toward the objective?
Final Exit Slip, 80% on all objectives

ENDURING UNDERSTANDING and Essential Question.
What is the concept we want the students to remind in a year from now?
-Unprotected SEX is NOT an option, it is not "sexy, cool, or right". It is irresponsible and unsafe.
-If you choose to have sex use TWO forms of birth control.
Essential Question: *Why is protection such a big deal?*

LESSON CYCLE: GO

OPENING. (5 min.)
How will you communicate *what* is about to happen? How will you communicate *how* it will happen?
How will you communicate its *importance*?
How will you engage students and capture their interest?

MATERIALS.
Who is teaching?

1. *Introduction:* Why are we here? (Read the objectives and essential question off the board together)
2. *Health:* Review Group Agreements
3. *Opening:* Review of last time while one person returns exit slips for students to see their scores (prizes are fine way to start the day if you want to supply them)
4. *Take Two:* Answer two questions that were turned in at the end of the last session

AGREEMENT CHART

WRITE EQ AND OBJS

Today we are going to talk about a simple idea: USING PROTECTION ALWAYS when engaging in any type of sex (review the 3 types). You have 2 choices: Use two types of protection each time OR don't do it.

What is birth control? What is the purpose of using protection? They should say "to prevent PREGNANCY AND STDS". Write Pregnancy and STDs on the board.

Let's list as many types of birth control that prevent 1 or both of these big big concerns. Write their answers under each heading. Don't discuss now this is just a warm-up.

INTRODUCTION TO NEW MATERIAL. (10 min.)
What key points will you emphasize and reiterate? How will you ensure that students actively take-in information?
How will you vary your approach to make information accessible to all students? Which potential misunderstandings will you anticipate?

1. Info Sheets
2. Poster and requirments

Instead of me standing up here and explaining 10 different types of birth control, we are going to break into teams. Each team will get ONE method of Birth Control and an info sheet about it. You will have 15 minutes to make a poster with 5 important concepts explaining this birth control. Imagine someone has never heard of it, they don't understand how babies are made or what an STD is. So, keep it simple and teach them the MAIN THING they need to know.

Divide kids into groups of 4 or 5. Give each group the info sheet, poster and requirements. Help each group get started by walking around the room monitoring and encouraging. At the 5 minute mark, make an announcement, "*You should be done gathering facts and ready to start planning your poster*".

Poster Requires:
1. Describe it
2. Draw it
3. Effectiveness, %
4. Advantages
5. Disadvantages
As students finish their posters, you will start taping them up around the room.

HANDS ON ACTIVITY (15 min.)
How will you clearly state and model behavioral expectations?

Gallery Walk. Tape each poster up around the room. Students return to their seats. Give each student a "Method Chart". *You will walk around the room filling in the information about each type of birth control. I will have the first quiet group begin at the CONDOM Poster.* Send students to the poster. Continue to place students at a poster. This is very time sensitive, so look at the clock now and determine how much time you have for each station. Then you must say, ROTATE, and have students move to next station.
Walk around and make sure they are getting the right info from the poster and recording it on their charts!

Method Charts

(OPTIONAL IF TIME) Which method is which? This is a powerpoint game that you can play if you finish your posters and chart completion. Divide the room into two teams.
I will show you a picture and your team has to guess which birth control it is. For a bonus point they must explain HOW it prevents either pregnancy, STDs or both.

Powerpoint Game is on the Google Group

QUESTIONS. (5 min.)
How will you structure the q/a (notecards, raising hands, etc?)
Pressing questions from the activity can be answered, otherwise remind students that the exit slip is the place where they can write their questions to be answered next time. Don't get distracted with excessive questions – students need to complete their exit slips with plenty of time!

CLOSING. (10 min.)
How will students summarize what they learned?
How will students be asked to state the significance of what they learned?

Exit Slips

Distribute exit slips to students. *Great job today! We are going to wrap up the day with our quick exit slip so you can show us how much you learned. Remember this is to help us teach you better, so it is important you try your hardest and work alone. When your group or row is sitting quietly I will pass out your exit slip.*
When you have finished, turn your exit slip over and write down a question you have from today that you would like to learn more about or need clarification.
Before the bell, have students pass their exit slips forward or collect them at the door as students leave. If you are at the door, thank each student and make eye contact as they turn in their exit slips.

RETURN EXIT SLIPS TO JAIME.

NOTES:

Before: Attend the Monday training session; every 2nd Monday of the Month in MTF 275.
Review the roles of the lesson with your partner.
Collect Old Exit slips from Jaime and select questions from the exit slips for the Take Two.
First Session Only – Discuss with teacher their consequences for breaking rules and ask if you can use the same ones for students while you are in the class.
During: **Wait time** (*5 seconds between a question and a student response*)
Acknowledge Agreement Breeches (*Jack, I appreciate your enthusiasm in playing jeopardy, however please remember that E – stands for Everyone equally participates. I need for you to allow your group members to answer the questions as well.*)
Do NOT Talk OVER the Students (*Stop, wait for them to recognize you are waiting, continue*)
Attention Getter (Pick one from the training and use it every single time, it will become routine)
Complete Peer Review (Every other session)
After: Thank Teacher, Clarify Date of next session.
Grade Exit Slips and return to Jaime for data entry.
Informally reflect with your partner what went well and what needs improvement.

Figure 2.2: An example of a printed lesson plan.

Each lesson plan was about 6-10 pages and contained the following information:

- *Objectives*: Also referred to as "Students Will Be Able To" (SWBAT) objectives, these were generally three statements of things Kennedy students should be able to do after a lesson concluded. For example, the objectives for Lesson 3 on Tobacco were:

    1. SWBAT state cigarettes are a stimulant and three long-term effects of tobacco on their health.
    2. Name the addictive chemical in cigarettes is nicotine.
    3. Rank the following drugs in order of most addictive to least addictive – tobacco, alcohol, meth.

- *Enduring Understandings and Essential Questions*: This section of the lesson plan listed the key concepts that Kennedy students should remember from the lesson a year after the program. For example, the enduring understandings for Lesson 3 on Tobacco were:

    1. Tobacco is the most addictive drug, legal or illegal; and
    2. Teens who start smoking, even just once, are very likely to be smokers for life, making them more likely to develop emphysema, COPD, lung cancer and increase other risk factors.

  The essential questions for this lesson were:

    1. If smoking kills millions of people each year, why do teenagers start smoking?
    2. Why are teens the target of the tobacco industry?

- *Opening and Introduction to New Material:* This section detailed how to introduce key points of the lesson in an accessible way for high school students. This section often included a worksheet or diagram for students to use to teach any scientific concepts.
- *Hands on Activity*: Generally the longest section of the lesson plan, this section described how to set up and conduct an in-class activity or game. It also offered a script for certain components, such as explaining the rules and guidelines and how to transition in and out of the activity.

- *Questions and Closing*: At the conclusion of each lesson, medical student educators were to answer any questions that came up after the lesson and distribute an assessment slip.

2.b.ii.4 Assessment Materials

Each lesson plan also included a five- to ten-question exit exam, referred to as "exit slips," that tested students' understanding and retention of the SWBAT objectives. For example, the question on the exit slip for lesson three regarding the second objective was:

"Name the addictive chemical in cigarettes: _____."

The exit slips also included a "comment corner" for student feedback, comments, and suggestions and came with an accompanying answer key.

The very first handout in the folder – Overview of Lesson Topics and Takeaways – outlined quantitative and qualitative assessment goals for the program, which included measures such as:

- An average of 80% mastery of lesson objectives on exit slips
- 25% growth from pre-test to post-test scores, students being able to explain and defend facts surrounding the lessons topics
- Students are able to explain and defend the facts surrounding exercise, nutrition, safe sex, etc. to their peers safely and respectfully

- Students feeling confident to make changes to their health habit, particularly in food choices, exercise frequency, and responsible sexual decisions

Medical students were responsible for grading their classes' exit slips and giving them back to Jessie, who entered all of the scores into a spreadsheet.

2.b.ii.5 Classroom Management Materials

Finally, the folders also contained handouts on classroom management techniques, such as: 1) establishing group agreements for respectful conduct in class, 2) dealing with behavior infractions by utilizing interactional cues (e.g., sudden silence, addressing a student by his/her name, eye contact), and 3) lesson delivery strategies (e.g., using short and concise sentences, pausing between questions and student responses, not attempting to talk over students).

2.b.iii Training Sessions

Returning now to the training sessions, these meetings continued to be conducted once a month (from October 2009 to May 2010) for one hour during the medical students' lunch break. The students snacked on their lunches throughout the training session and the atmosphere was relaxed and lighthearted.

Jessie generally began training sessions by taking questions and reporting logistical information. She then designated that she was transitioning into the simulation

of the lesson the medical students were to teach at Kennedy the following week by standing behind the podium or raising the pitch and volume of her voice. Jessie played the role of the medical student educator and the medical students acted as the Kennedy students. The medical students not only acted out the lessons but also completed the hands-on activities from the perspective of a Kennedy student.

The medical students embraced the opportunity to act as teenagers. At times they seemed sincere, other times they seemed to be acting up just for the fun of it. The simulation led to moments of jest about adolescent behavior as well as honest inquiry into the perspectives of the Kennedy students. The sincere moments afforded opportunities for discussion about why a student might feel and/or think a certain way in response to the lesson; and the joking moments – when students pretended to give Jessie the "teacher" a hard time – were taken up as opportunities to demonstrate classroom management skills.

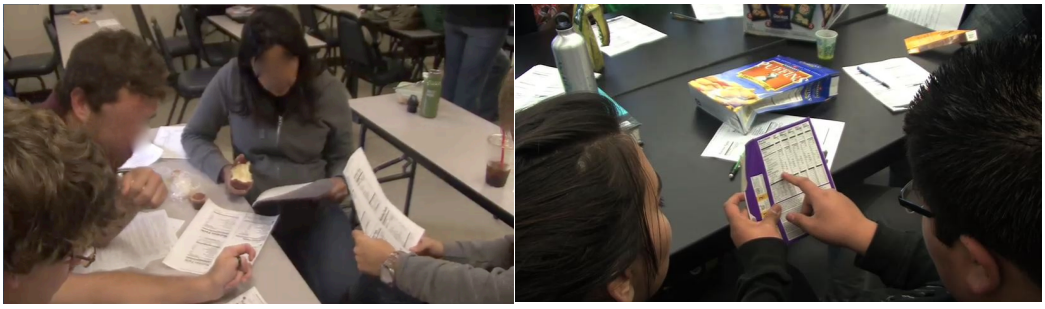


Figure 2.3: Medical students read nutrition labels and pretend to be high school students making a decision about what to eat for lunch; Kennedy High students read nutrition labels as part of the same exercise the following week.

In order to conduct the simulations smoothly, it was necessary at times for someone to break character. These shifts in the framing of the activity – from a

simulated lesson to a discussion about the session as a training exercise – often led to fruitful reflection and discussion.

When the group completed a lesson simulation, some students left for their next class while the remaining medical students stayed to grade exit slips from the previous month's teaching session.

2.b.iv Teaching Sessions

The medical student educators traveled thirty minutes southeast by car to Kennedy High the week following a training session to teach in 5th and 6th period science classes. Most of the medical students only had a one-hour lunch break, so they skipped classes in order to travel to and teach at Kennedy.

Jessie paired the medical students up and assigned each pair to a teacher at Kennedy, providing the teachers contact information so that the pair could work directly with the teacher. This system did not work so well and there was frequent miscommunication between teaching pairs and Kennedy teachers.

The final teaching event to conclude the school year was a UCSD SOM campus visit for the Kennedy students. One hundred students came by bus to the medical campus to be an honorary "Doc-for-a-Day."[7]

[7] The Doc-for-a-Day event was originally created by the UCSD Latino Medical Student Association. It is a community outreach event in which medical students host local K-12 grade students at the School of Medicine and show them a day-in-the-life of a medical student. Doc-for-a-Day is a student-operated event created to expose "disadvantaged middle school and high school students to the possibility of pursuing a career in science or medicine. The students work in small groups with a UCSD medical student to learn

2.b.v Preparation for the Next Year

Before the final training session, Jessie sent the following email to participants (italics from original):

> From: Jessie Paterson
> To: HMHB listserv
> Date: Sun, May 9, 2010 at 8:58 PM
> Subject: Re: We need your Healthy Minds POSTERS ASAP for new class!!
>
> Hey all -
>
> Hope ERM and Path studying is moving along for all. Personally totally over it, but hope the rest of you are trucking away. :)
>
> **Tomorrow Noon, usual MTF 275 = PIZZA, Post-Test Grading, and Planning Meeting for NEXT YEAR.**
>
> SO, finish your exam, relax a bit and bring your post-exam treats to MTF 275 for a big reflective and productive finale. I will be in there before 12, so feel free to come hang before.
>
> **BRING: ALL Post Tests, ALL Exit Slips, AND YOUR HEALTH AGREEMENT POSTERS** to turn in. Be ready to share ups, downs, and ideas for next year!
>
> Buena suerte mañana,
> **Jessie**

---

about physical exams, neurological exams, anatomy and various other health related topics. The medical students also hold a panel to discuss issues they encountered upon choosing a career in medicine" (UCSD SOM, 2012c).

The final meeting began with students grading post-tests and transitioned into a very lively and thoughtful discussion about medical humanities, the social determinants of health, and next steps for HMHB.

Jessie had hoped that the medical students would turn in all of their graded assessment materials at this final session, but they did not. Eager to finalize her efforts to measure and evaluate Kennedy students' progress before she started her third year clerkships (one of the most time consuming and physically draining phases of medical school), Jessie sent another email to ask once again for medical students to turn in graded exit slips (italics and bold from original). She also shared that Ida, a first-year medical student who participated in the first year of HMHB, agreed to take over the role of instruction and curriculum leader, and that other leaders were still needed:

From: Jessie Patterson
To: HMHB listserv
Date: Wed, Jun 30, 2010 at 8:58 PM
Subject: Missing Documents and Materials: HEALTHY MINDS HEALTHY BODIES. Respond ASAP

Hi Everyone!

Congrats MSIs you are all MSIIs!!! And for MSIIs here we go head on for the wards!

Unfortunately, WE ARE MISSING MANY MANY EXIT SLIPS AND POST TESTS.

I need EVERYTHING before Tuesday July 5th. **We start rotations and I will not be able to harass you anymore - but I will find a way if I dont have everything by then! Dr. Collins-Morales will help me hunt you down. :)** Talk to your partner and figure it out.

So,
1. Use the google doc to enter all your scores. I will send an email with

your class GROWTH from Pre to Post once I get the scores. Congrats to Ida and Zack, their class grew by 15%!!
2. RULES and AGREEMENTS CHARTS NEED TO BE TURNED IN TO THE PRIME BUILDING to the small office behind Isabel's desk. We are re-using them next year and so far I only have gotten back Jeff's. If they are still at Kennedy, email your teacher ASAP and make sure it was not thrown away.
3. If you are an MSI going on II - we want your help for next year!! Ida is taking on curriculum. We need the following jobs still - Kennedy *Coordinator, Data and Grading, Doc-4-a-Day, and Team Leader/Pep Squad. If you are interested please please please let me or Ida know. She will be taking on my job and helping you guys understand these other roles. It will not be a huge amount of extra work and you will be ensuring that what we started continues!!*

On that note, HAPPY SUMMER for the MSIIs, enjoy every bit of it, you totally deserve it. Forget about med school for 10 weeks! And for the MSIIIs let's go show them what we know (or dont know but are willing to learn!).

Thanks for your commitment to Healthy Minds, Healthy Bodies. You have started something awesome and it will continue to provide much needed health education to the Kennedy youth. I applaud you all and I will desperately miss working so closely with you.

Best,

Jessie

When the year finished Jessie was both exhilarated and exhausted. Her work with HMHB inspired her and kept her busy, which led to trouble in one of her pathology classes. The responsibilities of leading HMHB, particularly organizing Doc-for-a-Day during end-of-the-year testing, were overwhelming.

At that time Jessie was also trying to identify a leader for the next year. She determined that it might be best to divide up the roles she fulfilled so that Ida would not

feel so stressed (as seen in the email above). She asked me to help her create a list of responsibilities and we came up with the following:

- *Instruction and Curriculum Leader*: Oversee teaching and instruction; lead training sessions; maintain curriculum; print copies of teaching materials.
- *Kennedy Coordinator*: Liaise with Kennedy administration and teachers; schedule teaching sessions; maintain email listserv; manage internal communication between students involved in HMHB.
- *Data and Grading Leader*: Organize data from pre- and post-tests and exit slips; act as HMHB historian.
- *Doc-for-a-Day Leader*: Organize Doc-for-a-Day; apply for funding for the event.
- *Pep Leader*: Provide general leadership, vision, and support.

Jessie did not receive any replies to her solicitation for other leaders, but she eventually singled students out and asked them to take on a leadership role. Nolan was placed in charge of Doc-for-a-Day, and Zack took on the role of Data and Grading Leader. The other roles were left open with the hope that someone would take them on in the fall.

2.b.vi Institutional Status

Jessie also applied at this time for the School of Medicine to recognize HMHB as an elective. The students agreed that receiving elective credit for participating in HMHB

would be favorable because: 1) students were investing a lot of time and it was difficult to balance their course load while also participating in time-intensive outreach, and 2) giving course credit for participation might encourage more students to be a part of HMHB, meaning that more classrooms and students at Kennedy could also be involved.

The Dean of Curriculum approved the application and HMHB was established as a four-credit elective, with Dr. Collins-Morales as the instructor of record. Dr. Collins-Morales was in attendance at the first training sessions in October 2009 and talked with students throughout the year about HMHB's progress as she transitioned into her role as the PRIME-HEq director, but she wanted to let the students have the freedom to lead HMHB since they had shown such initiative and enthusiasm conducting HMHB independently. When HMHB became an official course, Dr. Collins-Morales decided to keep Jessie's model and give Ida autonomy as the student instructor (which the students referred to as the student leader in the following years) and so Ida served as a Teaching Assistant for Dr. Collins-Morales as the instructor of record. Dr. Collins-Morales came to as many sessions as possible and organized regular planning meetings, but she also had to attend to other duties – as she was not only PRIME Director, but also the new Dean of Diversity for the School of Medicine and a continuing pediatrics clinical professor. Like the medical students who were stretched to meet their school requirements while also investing in community outreach, Dr. Collins-Morales was also stretched between her administrative/professorial responsibilities and her efforts to equip students to lead community engagement projects.

2.c INSTITUTIONALIZATION: SEPTEMBER 2010 – April 2011

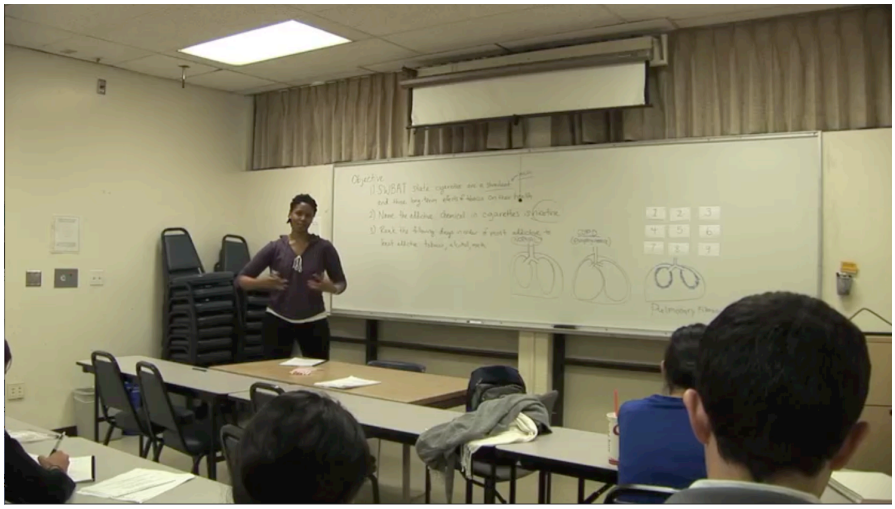


Figure 2.4: Ida explaining lung function for Lesson 3 on Tobacco.

The second iteration of HMHB began in September of 2010. In the planning meetings that took place before the start of HMHB's second year, Jessie and Ida decided to change HMHB's schedule to make it more consistent and suitable for an elective class. Instead of having training sessions once a month with a teaching session on the following week, training sessions would take place every other week with teaching sessions on the alternate week. They also decided that HMHB should run for six months rather than nine so that it would finish a couple months before the board examination that second-year students take at the end of their pre-clinical training.

Training sessions were held on Tuesdays from 1:00pm to 2:30pm, with teaching sessions on the alternate Tuesdays between 12:30-2:30pm (depending on whether the students taught in a fifth or sixth period class). Another adaptation that took place this year was the creation of a bound curriculum packet, which Jessie and Ida compiled over the summer. This helped students to keep materials more organized and on-hand.

While students responded positively to these changes, other changes caused frustration and confusion. First, because HMHB was now an elective, student participation changed halfway through the program with the transition to a new academic quarter. This caused discontinuity in some classrooms and caused stress for Ida, who was the primary point of contact with teachers at Kennedy, since no one stepped forward to serve as Kennedy Coordinator.

Second, during the second year the students did not meet during their lunch time but instead during regularly scheduled time for class, and they continued to seem as though they needed to be somewhere after the sessions. Ida had difficulty convincing people to stay and grade exit slips and felt as though she was constantly reminding students to complete this task and "not flake." Those students who did complete grading were unsure how to enter it into the Google document set up to track scores and this division of labor for executing this task was either unclear or disregarded.

Third, Ida – who taught in a classroom for the first time as a participant in the first cohort of HMHB – was still gaining confidence in leading training sessions. At times she felt comfortable leading the simulation, other times it was a bit of a strain for her to sustain the model. By the end of the year, like Jessie, Ida felt tired. She had taken on almost all of the leadership responsibilities herself. She, like Jessie, felt totally overwhelmed, and perhaps even more so, as she was also questioning her desire to complete medical school and practice medicine. The "second-year burn out" hit Ida hard. HMHB was both a source of stress and inspiration, as it kept her very busy during her second year of medical school, but also made her want to pursue a Masters in Education during her year allotted for interdisciplinary training.

2.d ADAPTATION: SEPTEMBER 2011 – April 2012

The third iteration of HMHB began in September of 2011. This time per a decision made in pre-planning meetings, all first-year PRIME-HEq students were required to take the course, as were second-year medical students who did not participate in HMHB the year before. The course was offered as a pre-clerkship elective in the schedule of classes with the following description: "Students will be trained to give ten lessons on health topics to the same high school/middle school class providing a longitudinal health curriculum. They will learn teaching strategies, receive video and written feedback, track student learning and act as role models. Tuesdays 1-2:30pm, 5 hours total: 2 hours training, 1 hour prep with partner, 1 hour reflection and participation in Doc-for-a-Day" (UCSD SOM, 2012). Training sessions were now held in a larger classroom in the newly built Medical Education and Telemedicine Building, the construction for which was funded by the same bond money used to sponsor the PRIME program.

During the first hour of the now two-hour training sessions participants were to continue as they had in years past and produce an enactment of the following week's lesson. The second hour was added to bring in two new features: 1) scheduled time for medical student teachers to grade exit slips and enter data into a Google document to track scores, and 2) group discussion and reflection about students' experiences while teaching at Kennedy and how these experiences connected to concepts they were learning about in other classes, lectures, seminars, or interest groups. This new schedule was

decided during summer planning meetings, in which Jessie, Dr. Collins-Morales, and I voiced support for dedicating time for discussion and reflection now that HMHB was an official course and students would benefit from making such linkages.

Another modification that took place during the 2011-2012 year was opening up enrollment in the HMHB elective to post-baccalaureate students[8], which made for the largest cohort of HMHB yet. While the class size grew, the student leadership role was divided up between two participants from the year prior – Gloria and Matt. In total, 22 students signed up: two medical student leaders and 20 medical/post-baccalaureate student teachers. Interestingly, one of these student leaders was not part of PRIME-HEq, though he was active in a "like-minded" student organization, which had strong connections with the UC-wide PRIME program.

[8] The UCSD First-Time Applicant and Reapplicant Post-Baccalaureate Program is a medical education pipeline program and "is designed to assist highly motivated students from disadvantaged backgrounds in gaining an acceptance into a U.S. medical school within one year of completion of the program. Selected candidates are provided an opportunity to improve their existing academic credentials through advanced coursework in the biological sciences and public health. Students also receive instruction in cognitive strategies, basic science research, and exposure to introductory clinical skills before beginning the medical school application process" (UCSD SOM, 2012b, ¶1).

Figure 2.5: Gloria and Matt explaining the HEALTH agreements.

There were also changes to past procedures and routines during the third year. One of these developments was related to grading. Anxious after observing Ida's trouble with exit slips the year prior, Gloria and Matt placed a strong emphasis on exit slips. They moved the time allocated for grading from the end of the training session to the beginning, but then switched it back. While students as a whole did improve in grading and reporting consistence, they did not check the spreadsheet to review total averages – so part of this procedure changed while another part stayed the same.

Another disturbance in routine was that students regularly voiced a desire to alter elements of the lesson plans. Three first-year students, who all participated in Teach for America before enrolling in medical school, had several suggestions for change. The student leaders were not sure if they could change the lessons and/or perhaps felt burdened by the task. One of the first-year students started making Powerpoints to use at Kennedy and distributing them to everyone, even through they were generally not used in the training sessions. This created a bit of tension between leaders and trainees.

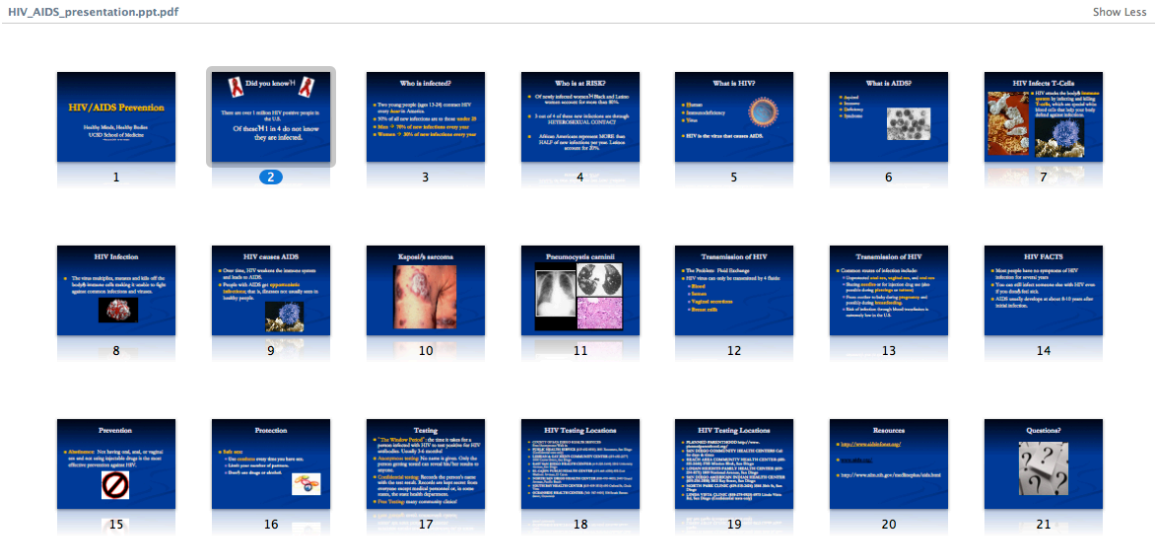


Figure 2.6: Thumbnails of a Powerpoint used by students to teach HIV/AIDS prevention at Kennedy High during the third year of Healthy Minds Healthy Bodies.

This less optimal dynamic was also impacted by an increased presence of laptops during the training sessions. This was particularly the case on days when grading took place before the lesson, which meant that students began their time in class on their computers. These factors seemed to come together to create a different "feel" to training sessions than in years prior.

Also of note is that the discussion and reflection time that was added to the class was not used as such, except on a couple of occasions – one of which I led since Matt and Gloria opted out, seeming unsure what was supposed to happen during this time and what they should say. This is not to say that students never had a chance to reflect on their experiences – they often had thoughtful conversations during car rides home from Kennedy High – but they did not have an opportunity to engage in a large discussion aimed to facilitate connections with broader curricular objectives.

All of these shifts seemed also to connect with increasing desires to make training sessions operate more efficiently and to finish earlier. Students seemed to want to spend their afternoons studying – as students' afternoons were often more flexible than their mornings since most classes were held in the morning – and this desire to move things along quickly trickled into all aspects of the training sessions.

2.e SUMMARY

After connecting with PRIME students at a meeting at Kennedy High to discuss potential community/university collaboration, I started observing and assisting PRIME students as they created a health education service program especially tailored for Kennedy High. In a matter of weeks they connected with Kennedy, created curriculum, coordinated with Kennedy teachers and staff, and executed a pilot HMHB program. The medical students' efforts were driven by Kennedy's need for health education, but also the PRIME students' desire to make a difference in an underserved community and to create a uniquely PRIME service project.

The next fall, HMHB was implemented as a service project. During this implementation phase, HMHB transitioned into a more solidified program, as participants' procedures and use of materials became more routine. Drawing from her experience with Teach for America, Jessie orchestrated teacher-training sessions to help students prepare to lead a classroom, which she structured similarly to those she participated in as a novice teacher, utilizing a form of improvisational and interactive

modeling to simulate lessons and demonstrate instructional techniques. She also created an assessment system in which Kennedy students were tested on lesson content immediately after a lesson and medical student teachers would grade these "exit slips" before teaching again. HMHB became a form of organization that functioned separately from PRIME and the School of Medicine, yet complimented these organizations objectives and goals.

Before the first year of HMHB finished, the School of Medicine named Dr. Collins-Morales director of PRIME (and thereby overseer of HMHB, whereas the program did not have a director before Dr. Collins-Morales and therefore very little faculty guidance) and the medical students involved in HMHB petitioned to have HMHB become an official elective so that they could get course credit for their efforts.

During the second year, the program was institutionalized and absorbed into the School of Medicine's coursework. Participation grew, but fluctuated between quarters, and several aspects of managing the program became overwhelming for Ida who felt like she was trying to hold everything together.

When I returned to observe the training sessions in HMHB's third year of implementation I found the atmosphere of the training sessions felt markedly different than the first year. There were even more students enrolled, and grading exit slips became the preeminent task for a while. At times students seemed less engaged; training sessions transitioned from simulations to lectures; and students seemed to frequently want to end training sessions early in order to go study. The simulation framework was

rarely used and there seemed to be an increased concern about and amount of time dedicated to grading. Informal reflective discussions about the purpose of the program and the big picture takeaways that used to emerge organically seemed absent, and one of the additions that the previous leaders talked with the new leaders about installing – adding group discussion and reflection time and mid-course analysis of assessment data – was not introduced. These changes appeared to me as a departure from some of the initial routines and uses of artifacts established during the implementation phase.

What can help us make sense of these shifts? We have begun to see from the sketch in this chapter that there are changes happening at both the institutional and local levels, and that these changes appear loosely connected, but we need more analytic tools to explore further this web of relationships. In the next chapter I will introduce cultural historical activity theory as a theoretical framework that can help us to trace links between micro-level interactions and more macro-level organizational forces, thereby offering itself as a promising tool for observing, analyzing, and redesigning9 the process of organizational change from up close and far away.

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[9] For the remainder of this dissertation, the different phases and groups of students described in this chapter will be referenced as Pilot Group (participants during the origination phase from April to June 2009), HMHB Cohort 1 (participants during the implementation phase from 2009-2010, which also includes all members of the pilot group), HMHB Cohort 2 (participants during institutionalization phase from 2010 to 2011), and HMHB Cohort 3 (participants during the adaptation phase from 2011-2012). Groups of students are referenced by year of participation (i.e., Cohort) rather than graduating class because HMHB contained a mix of first- and second- year medical students. All of the students were first- and second-year medical students at the time that they participated in HMHB. Below is a table of the code names of the participants by group.

CHAPTER 3

CULTURAL-HISTORICAL ACTIVITY THEORY AS A TOOL FOR ANALYZING ORGANIZATIONAL CHANGE

In the first chapter I described current large-scale, institutional changes taking place in multicultural medical education in California. In the second chapter I offered a glimpse into some of the more local concerns and interests of students and educators involved in these shifts as part of UCSD's PRIME-HEq and HMHB. In the fourth chapter I will continue to zoom in on this process of organizational change to inspect how the broader institutional changes and organizational challenges described earlier play out. But first, I pause here to discuss the need for the particular mode of research, theory, and methods that I deploy in Chapter 4 in order to observe organizational change in the details of social interaction, while maintaining coherence with macro level movements.

Past research on organizational change as it has tended to take either too narrow or too wide of a focus (Engeström, 2008, 23). Consequently, it has not been particularly successful at connecting broad institutional, cultural, and historical forces with local, situated interactions. Macro, institutional analyses often miss much of the "invisible work" of small, everyday innovations, interactions, contingencies, and agitations (Nardi & Engeström, 1999; Star, 1991), making the process of organizational change appear more smooth and streamlined than it is. For its part, micro analyses can overlook important aspects beyond interpersonal relationships while "focus[ing] on relatively arbitrary segments of work and communication, with no interest or ability to connect the

analysis of local interactions to broader institutional, cultural, and historical forces" (Engeström, 2008, 23).

Taylor (1995) has made a similar argument and called for new modes of empirical and theoretical investigation in organizational communication that blend these levels of analysis:

> field research in naturalistic circumstances, idiographic in its emphasis, will be even more salient than it now is, but, in addition, we will need to develop new instruments for the analysis of discourse if we are to show, rather than take for granted, how organization is constructed through conversation, how boundaries of conversation can be recognized, and how individually self-organized communities of discourse are coupled one to the other. This will lead to a new emphasis on the phenomena of stability and change. Organizational research will find it imperative to integrate into its modes of analysis the models and methods of discourse and conversation analysis – fields that have previously evolved in their own fashion. This will require a broadening of the objectives of those latter fields, as they are now constituted, to take account of the institutional moorings of talk – a sensitivity to the macro as well as the micro dimensions of talk that I do not find in them as they stand. (ibid, 29)

Cultural-historical activity theory – an interdisciplinary approach to studying human activity and development – offers a potential answer to Taylor's call for a methodology that allows researchers to "show, rather than take for granted" how organizational change takes place in the day-to-day interactions of collaborative groups. Cultural-historical activity theory offers conceptual tools and methodology that weaves together broad cultural and historical conditions with the everyday actions of individuals. It provides a bridge between the macro and micro levels of organizational change.

In this third chapter I will sketch out some of the concepts from cultural-historical activity theory that I have found helpful for integrating my analysis of changes in

multicultural medical education with local efforts to implement and sustain programs that support this movement. I explain the components of activity systems, five principles of cultural-historical activity theory, and useful concepts such as boundary objects, contradictions, and expansive learning. To conclude I describe my data collection and analysis methods, which were designed to be an adaptation of applying cultural-historical activity theory to concrete case at hand.

In Chapter 4 I will begin where I left off in Chapter 2 – which showed how by the end of HMHB's third year in operation, some of its practices and participants started to experience discord – and begin to put the concepts in this chapter to work to examine the evolution of these tensions. It is my intent that applying cultural-historical activity theory to interpret the emergent contradictions will not only illuminate interesting features of its past but also inform its future.

I turn now to consider cultural-historical activity theory as a framework for observing, analyzing, and redesigning the process of organizational change.

3.a CULTURAL-HISTORICAL ACTIVITY THEORY

Cultural-historical activity theory (CHAT) has gained increasing popularity and relevance in organizational research (Blackler, 2009), and is particularly well suited for questions regarding organizational learning (Engeström, 2000; 2008; Alder, 2005) and organizational change management (Blackner, 1993; Engeström, 2001; 2007). This is

due to the fact that CHAT's theoretical principles are well suited to inform the analysis and redesign of patterned, routine, and collaborative undertakings of groups organizing around a shared goal. Activity theory examines the elements of practical activities, their cultural and historical origins, and the nature of the "activity systems" within which people collaborate. It provides analytic and conceptual tools for such investigation – some of which will be outlined below, such as models of activity systems and constructs of contradiction and expansive learning – that aid in the examination of human beings collaborating to design and transform organizations (Engeström, 2006; Engeström & Sannino, 2011).

CHAT also allows researchers to transcend the dichotomies of micro/macro-level analysis and observation/intervention that often limit the value of qualitative research. It does this by framing the short-lived, goal-oriented actions of individuals and groups within durable, object-directed activity systems. This framework allows researchers and stakeholders to consider how micro-level changes impact the entire system, making observation relevant not only for research purposes, but also for design purposes. Research projects informed by CHAT can, therefore, be directed to gain insight into how collections of purposeful action combine and cohere into systems of activity, as well as how to improve the functioning of these systems, even in light of a diversity of participant objectives.

It is helpful to think of CHAT as a framework for interpretation or a descriptive theory, rather than a predictive or explanatory theory. Mary van der Riet (2010) describes CHAT not as a theory "in the grand sense" but as an "approach" or "theoretical

perspective" that offers conceptual tools and methodological principles for looking at the world and examining a particular problem. Activity theoretical analysis, as described by Lee and Roth (2008, 298), does not offer causal explications but rather historical genealogies that trace social phenomenon as the byproducts of contingent agency, as the latter better accounts for new information entering into and transitioning from one phase of the activity system to the next. CHAT may not explain why organizational and communicative phenomena occur or predict what to expect next, but it does provide a toolkit for tracing and analyzing how phenomena develop and can be reimagined for the future.

A number of useful presentations of the general concepts and principles of cultural-historical activity theory have informed this dissertation (Brown & Cole, 2002, Cole & Engeström, 1993; Cole, 1996; Engeström, 1987; 2001). In the following sections I draw from these works to describe the components of an activity system, as well as five principles of CHAT that have proved useful in my effort to use CHAT as a tool for looking backwards at and forwards for HMHB.

3.a.i The Components of an Activity System

Seven elements come together to constitute an activity system – subjects, tools, rules, community, division of labor, object, and outcome. Engeström (1987) outlined these elements and their relationship to one another using the following diagram:

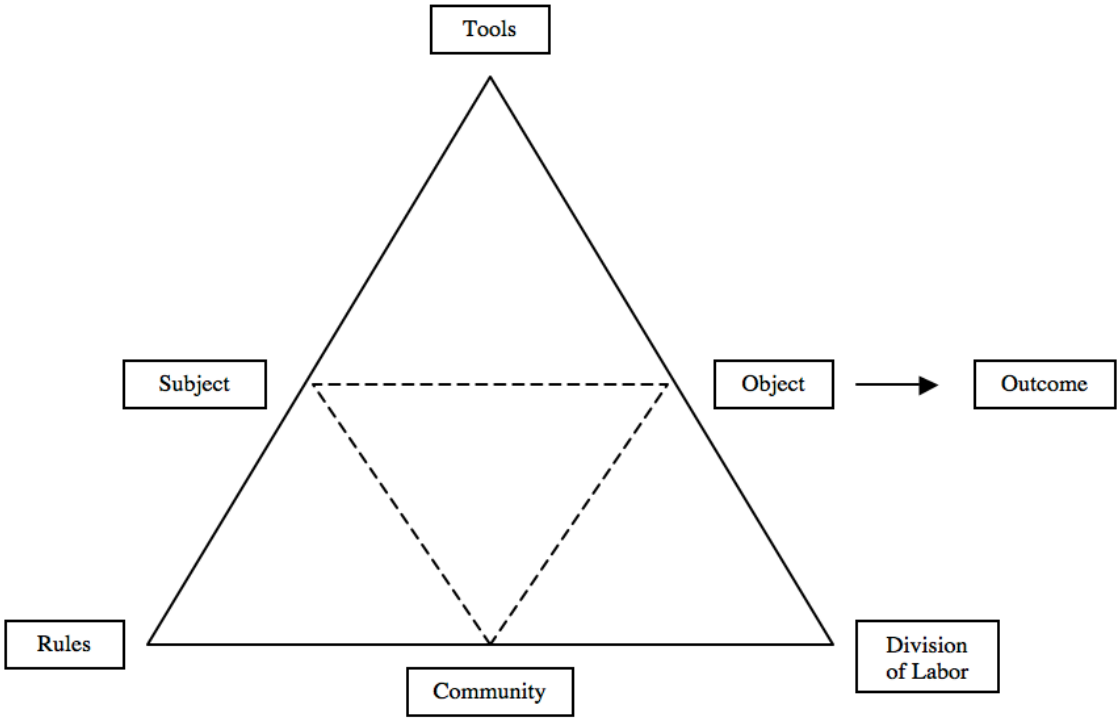

Figure 3.1: A diagram of an activity system.

This model begins with the notion of activity – a system of human "doing" in which individuals collaborate together to work on or create a common object in order to obtain a desired outcome. The model uses triangles to demonstrate that relationships between elements within this system are always mediated by other elements. For example, the relationship between a *subject* and the *object* is mediated by *tools*. The subject is the person whose individual perspective is chosen as the point of view for analysis; the object is the motivating, productive focus of the system; and the tools are instruments and symbols that are useful for working with the object. Thus, tools are mediational instruments that subjects use to work toward their shared object.

This kind of mediational structure exists for every triangular relationship in the diagram. *Rules* – the norms and conventions, both explicit and implicit, which regulate interactions within the activity system – mediate interaction between subjects and members of the *community* – groups of participants who share (or believe they share) an object and therefore sustain interaction with one another. Communities work together toward an object through a *division of labor* – the horizontal division of tasks between the community members and the vertical division of status and power.

The object of an activity system is a particularly complex concept that requires further clarification. The object is the purposeful task domain of the activity – the focus and target of the activity system. Subjects in communities construct objects of activity as they single out properties they predict will meet a human need (Engeström, 2008, 89). Transforming the object so that it addresses this need and creates an *outcome* is what motivates the existence of activity system. The *motive* is embedded into the term object, and links the object with the outcome – the compelling reason for creating or manipulating the object. Therefore the object of an activity system is both a material thing and a less tangible hope for the future; the object is both a physical entity or condition and a conceptual possibility motivated by a vision for the future.

It is also important to note that an object is neither unitary nor static, even though it is the organizational force of an activity system. Subjects mold and transform the object over time, and different participants often have distinct goals and notions about their shared object. New goals can also emerge over time, only to be articulated retrospectively, and changes in the cultural-historical conditions surrounding activity can also bring about motivational shifts. Thus, the object is a multifaceted moving target; it

carries collective meanings and interpretations. It is coordinated heterogeneity more than a singular purpose.

In an effort to be as clear as possible in my coming analysis, I will use the term object to refer to the expressed focus of productive effort in an activity system; outcome to refer to the expressed need the object is imagined to meet; and goal to refer to a uniquely positioned motive-object of a subject participating in the system.

3.a.ii Interaction Between Activity Systems

Activity systems do not function in isolation and coordinate or conflict with other systems in a variety of ways. One of the ways activity systems can coordinate and even collaborate is through a *shared object* – an object that is meaningful and motivational in both settings. Engeström (2001, 136) used the following model to depict two interacting activity systems and potentially shared object:

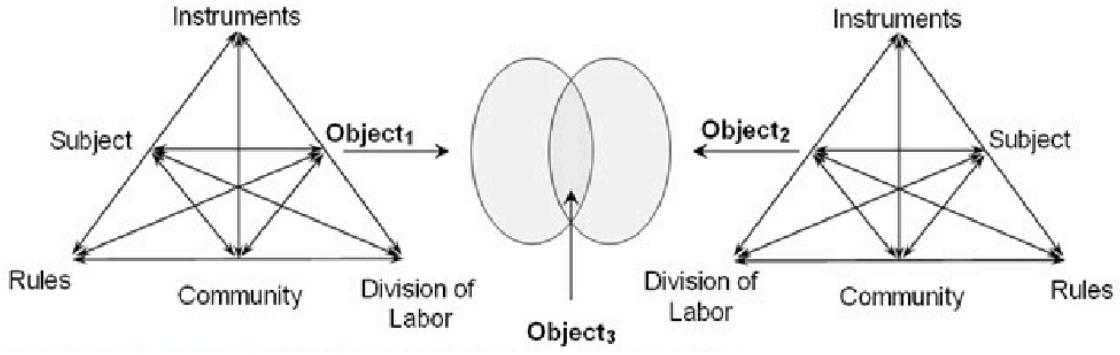

Figure 3.2: A model of two interacting activity systems.

In this figure we see that the objects of two activity systems share some overlap, whether in function or in perception, and therefore constitute a shared object. However, a shared object does not necessarily have the same meaning within the different activity systems. The object of one activity system may mean something different in the second system, forcing subjects to reconcile – or translate – the meaning of an object across systems. Star's (1989) concept of *boundary objects* speaks to this issue and allows coordination without consensus, because a boundary object permits local understandings to be reshaped in the context of collective activity:

> Boundary objects are objects which are both plastic enough to adapt to local needs and constraints of the several parties employing them, yet robust enough to maintain a common identity across sites. They are weakly structured in common use, and become strongly structured in individual site-use. They may be abstract or concrete. They have different meanings in different social worlds but their structure is common enough to more than one world to make them recognizable, a means of translation. The creation and management of boundary objects is key in developing and maintaining coherence across intersecting social worlds. (ibid, 393)

3.b FIVE PRINCIPLES OF CULTURAL-HISTORICAL ACTIVITY THEORY

Continuing on from the components of an activity system and boundary objects as points of contact between systems, I now present five principles of cultural-historical activity theory (Brown & Cole, 2002; Engeström; 2001) that will be useful for closely analyzing HMHB's past – as we will see in Chapter 4 – and thinking about its future – as will be seen in Chapter 5. These principles are: 1) the centrality of context for analysis, 2) the multivoicedness of participants, 3) the necessity of historical analysis, 4) the

inevitable emergence of contradictions, 5) the cyclical nature of transformation.

3.b.i The Centrality of Context for Analysis

First, the analytic focus of cultural-historical activity theory is an object-oriented, artifact-mediated activity system, viewed as embedded and interacting within a network of other activity systems and made up of the collective actions of a community. For this reason it is very important to understand individual actions in the context of this web of culture.

As Cole and Engeström (1993) have observed, there is a close association between contemporary notions of *context* and the idea of *activity* as described in cultural-historical activity theory. Context can be illustrated by two helpful metaphors – context as concentric circles and context as strands that weave together (Bronfenbrenner & Morris, 1998; Cole, 1996). The concentric circles metaphor, as used by Bronfenbrenner, describes context as a nested "social-ecological system" composed of concentric circles, like Russian nesting dolls that are found within both larger and smaller figures. Such an illustration highlights the idea that people and their actions are embedded simultaneously within multiple settings, and that these individuals are acting and changing within active and changing environments. "In this view, the environment is composed of one's immediate settings as well as the social and cultural contexts of relations among different settings, such as home, school, and workplace" (Rogoff, 2003, 45).

The context-as-weaving-together metaphor is another helpful image, as it highlights how individuals, institutions, ideologies, and artifacts come together to co-

constitute the phenomena of interest. This metaphor also calls attention to the fact that there are temporal and spatial dimension involved in context. "It is by tracing changes between the activity and its contexts, considered in both their temporal and spatial dimensions, that allows us to gain some purchase on the problem of understanding the dynamics of change" (Brown & Cole, 2002, 229).

Activity, while similar to the concept of context, is more attentive to the historical dimensions of the essential constituents of the phenomena under investigation. Engeström (2008, 26) describes activity as "a collective, systematic formation that has a complex mediational structure. Activities are not short-lived events or actions that have a temporally clear-cut beginning and end. They are systems that produce events and actions and evolve over lengthy periods of sociohistoric time." This is not to say that activity does not include short-term, up-close, face-to-face interactions, but that these interactions reproduce and develop the more enduring, long-term historical trajectories of activities, organizations, and institutions. These social structures, built in the past, provide the context for future activity.

3.b.ii The Multivoicedness of Participants

Activity systems are multivoiced and bring together multiple points of view, traditions, and interests. Participants have diverse histories and positions, and this diversity is multiplied through interaction with other activity systems.

The multivoicedness of activity systems can bring both tension and innovation. A subject's unique experiences in other activity systems may inspire them to bring new

tools or rules to the system. At first this may cause confusion, as it will disrupt the routine division of labor or productive rules. However, over time, this new adaptation may be found to be helpful and innovative.

Tensions can also occur when subjects bring unique motives and goals to activity. For this reason, activity systems operate best when there is a "solid understanding of the authentic motives, constraints and resources of the varied participants" (Brown & Cole, 2002, 229).

3.b.iii The Importance of Historical Analysis

Because activity systems respond and appropriate from a "multiplicity of elements, voices, and viewpoints" (Ellis, 2011, 190), this multiplicity must be "understood in terms of historical layers. An activity system always contains sediments of earlier historical layers, as well as buds or shoots of its possible future (Engeström, 1993, p. 68).

Activity systems are shaped and developed over long periods of time, but a singular innovative action can change the course of activity, as can a slowly developing wave of institutional context. For this reason, analyses of organizational change and stability using cultural-historical activity theory as a framework pay careful attention to both the evolution of specific practices in local activity systems and to broader historical institutional movements. Ellis (2011, 191) argues "the analytic challenge and the formative potential of the CHAT perspective lies in its potential to identify and examine

the points of contact—and therefore potential sites of development— between change in specific activity systems and historically evolving channels of sociocultural practice."

Past problems and future potentials should be analyzed and forecasted in sight of the history of the central activity system, as well as its neighboring activity systems. Historical analysis helps the researcher and stakeholders identify the preconditions of the decisive actions that characterize the formation of the activity system" (Igira & Aanested, 2009, 210) and to think about how "sediments of earlier historical layers" may be (or need to be) in the process of transformation in order to align with the evolving object and motives of the system.

3.b.iv The Inevitable Emergence of Contradictions

As mentioned previously, tensions are preconditions for innovation in activity systems, as efforts to resolve tensions stimulate development and learning. Tensions emerge as activity systems interact with neighboring systems and adopt new elements from outside. When mismatches accumulate historically to become structural tensions between or within activity systems they become contradictions (Engeström, 2008).

Contradictions are distinct from the everyday sense of paradox, conflict, or trouble, but these phenomena often point to contradictions hidden in the system (Engeström, 1987). "Contradictions emerge when one component changes or develops beyond the operational logic of the other components, originally due to interaction with and influence from other activity systems" (Engestöm, 2008, 27). Contradictions show

themselves in interaction as tensions or disturbances, and these situated moments "offer a potentially powerful lens for understanding the interconnections between micro-level events and macro-level structures" (Engeström, 2008, 27).

When contradictions arise, they have to be worked through, which often leads to creative ruptures with the past. Contradictions drive learning, change, and development in systems. They are not a secondary feature of activity; they are central aspects of the system. "Any concrete, developing system includes contradictions as the principle of its self-movement and as the form in which the development is cast" (Il'enkov, 1977, 330). Contradictions do not cause change in and of themselves; rather, they are resources for and products of human involvement in sociotechnical transformation (Sewell, 1992). Understood this way:

> contradictions are never deterministic upon decision making, unlike physical forms of causality. Whether agents take one or another route depends on how accountable and better able it is to provide grounds for acting given the surrounding circumstances, which might be contradictory in themselves. (Lee & Roth, 2008, 297)

The concept of contradictions is essential for understanding the origins of trouble or disputes between subjects and communities, as well as for formulating thoughtful responses to these hiccups. A first step towards such understanding is identifying the elements involved and the type of contradiction at hand. Contradictions, according to Engeström (1987) can be classified into one of four possible types:

- *Primary contradictions* are conflicts that occur when the work that takes place within an activity system is motivated (even if only partially) by financial gain.

Some activity theorists believe there is an inherent contradiction between meeting the needs of humanity and profiting from these needs.

- *Secondary contradictions* occur when one component of the system is altered and this creates tension between the changed component and another component of the system. Secondary contradictions are the driving force behind visible disturbances or troubles.
- *Tertiary contradictions* happen when an older version of an activity system clashes with a more advanced version. A new object (or related motive or desired outcome) may be introduced into the activity and a contradiction then occurs between the old and new objects of the central activity.
- *Quaternary contradictions* emerge between the central activity and its neighbor activities, as these systems develop and change along side one another. Analysis of quaternary contradictions requires looking beyond a single system to consider how multiple activity systems interact with and influence each other and challenge researchers to examine the central activity system within a network of other activity systems.

Contradictions rarely occur in isolation and are often connected to other forms of contradiction, which will be exemplified in my analysis in Chapter 4.

3.b.v The Cyclical Nature of Transformation

According to Argyris and Schön (1978), there are two qualitatively different ways organizations can react to conflicts and contradictions: single-loop and double-loop learning. Single-loop learning results when the organization pursues order by adapting organizational practices within the current framework of norms of performance. Double-loop learning, however, takes place when organizations question and reform their norms of performance. The difference between single-loop and double-loop learning is a distinction between adaptive and innovative organizational learning (Engeström, 2008, 35).

When contradictions are aggravated, participants begin to question and challenge their norms and habits. Often, this questioning will lead only to adaptive, single-loop learning. But every so often, tension escalates to a point where participants feel that an altogether new trajectory is necessary, and they begin to collaborate to break with the past and redesign their activity system. Innovation – a deliberate departure from past organizational structures – becomes possible, and may even include a transformation of the system's purpose. This is referred to as an expansive transformation and it "is accomplished when the object and motive of the activity are reconceptualized to embrace a radically wider horizon of possibilities than in the previous mode of the activity" (Engeström, 2001, 137).

Expansive transformation of the object and motive requires a process of expansive learning, through which an activity system or organization resolves its internal contradictions by assembling a qualitatively new way of functioning for itself (Engeström, 2012, 24). Participants critique their current practices, tools, and values in order to restructure their work, and in so doing enter into an expansive learning cycle that

progresses over six phases, which are illustrated in the figure below (Engeström, 2008, 130):

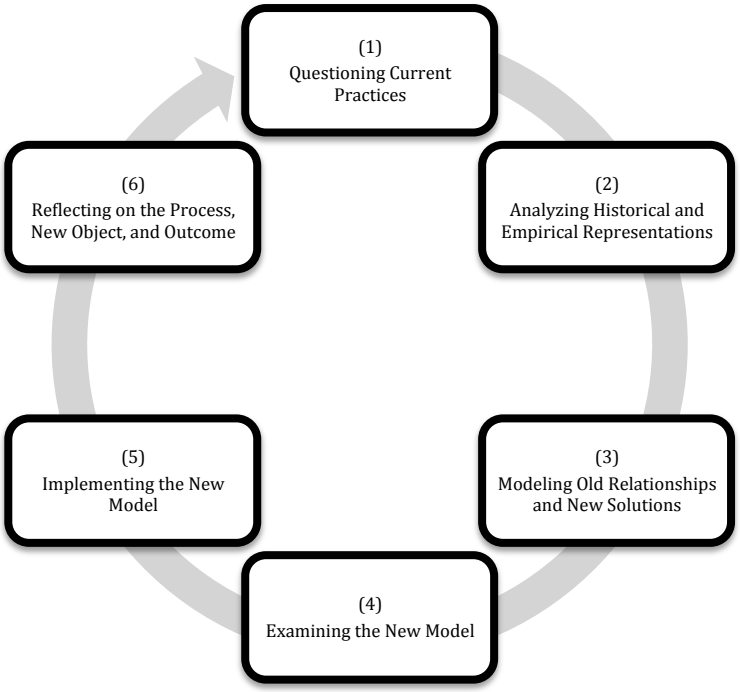

Figure 3.3: The sequence of actions in an expansive learning cycle.

The expansive cycle begins with individual subjects *questioning*, rejecting, or criticizing standard practices or ideas. Second, participants (often with the help of consulting researchers) start *analyzing* current tensions and troubles. With their analysis they seek to discover the origins of the contradiction and explain its current state. To do this they trace its historical evolution and create an empirical representation of the condition and its systemic relations. Third, subjects engage in *modeling* these findings for the community – through diagrams, images, or anecdotes – so that they can simplify the condition and present it to the group. This phase also involves offering a possible

solution to the problem as modeled. The fourth action is the community *examining the model* and experimenting with it in order to comprehend its potentials and limitations. The fifth step is *implementing* the model, updating old rules, tools, and routines to align with the new model. Finally, subjects complete the cycle by *reflecting* on the new model and its object and outcomes, evaluating the change process, and consolidating innovations into stable forms of practice. This final phase can launch a new wave of expansive learning, creating a spiraling pattern of development.

3.c HEALTHY MINDS HEALTHY BODIES AS AN ACTIVITY SYSTEM

As I have shown, cultural-historical activity theory offers a variety of conceptual tools that can be used to analyze and redesign organizational activity. I will now map some of these constructs onto the features of HMHB, so that we can begin to look at HMHB through the lens of CHAT.

Taking HMHB as the *central activity* for analysis, we could draw various representations of it as an activity system, depending on the historical and subjective perspective we chose to adopt. Figure 3.4 below shows HMHB as an activity system from the perspective of students in Cohort 1 during its implementation phase.

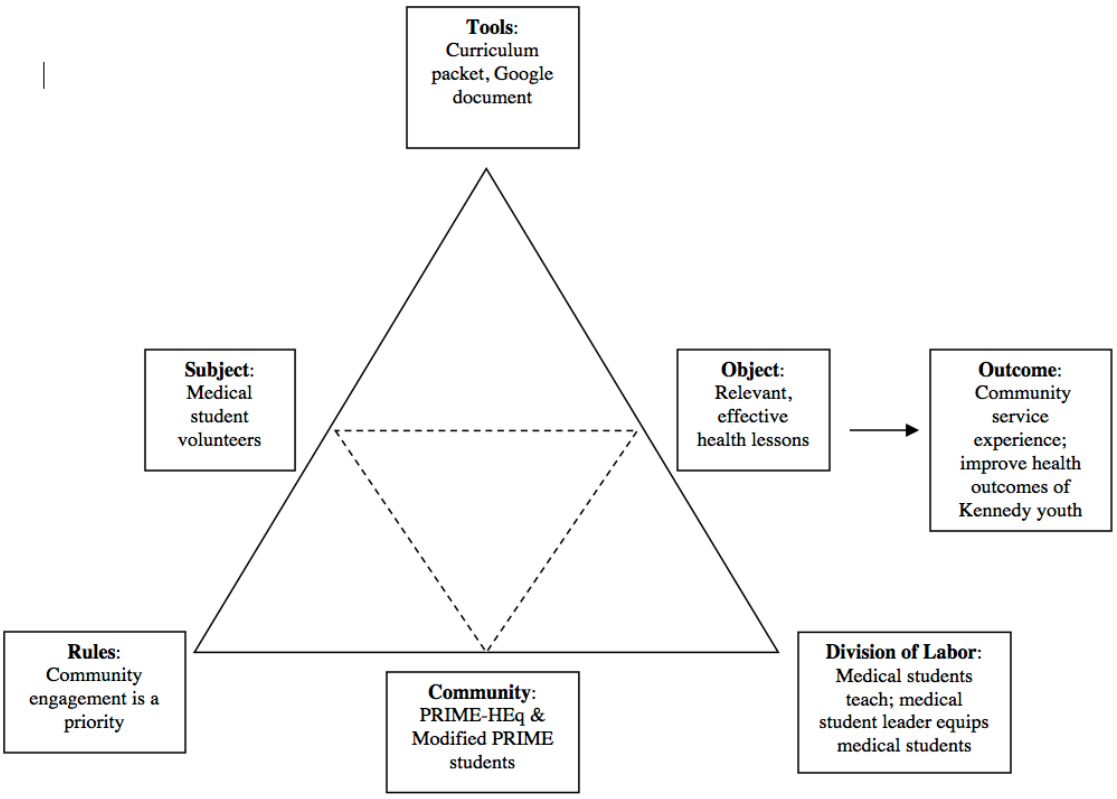

Figure 3.4: A model of HMHB training sessions as an activity system when it was first implemented as a volunteer-based program.

In this configuration of an early version of the HMHB activity system, first- and second-year PRIME and Modified PRIME medical students were the subjects working together to produce training sessions and materials that would aid them in delivering relevant, effective, health lessons for Kennedy students, who would otherwise not receive health curriculum. The hopeful outcome for these lessons was they would impact the Kennedy students' health decisions and lead to more equitable health outcomes for Kennedy youth.

The majority of the participants in HMHB were also part of the PRIME-HEq community, which cultivated several important values and attitudes for the organization of HMHB, such as: equitable access to health care and information, medical-student leadership, and service through outreach. This community also had a shared agreement that community engagement was to be a priority, as being an active member of PRIME meant making sacrifices to balance academics and outreach. In the words of Fiona, a PRIME student from Cohort 3:

> *"*PRIME is a sub-community within our medical school class. And that's nice because we have very different experiences but we have very similar goals in the long run…We have a baseline set of expectations that is higher than the rest of the medical school class just because we have certain electives we have to take which I think add up to more elective units than the rest of the people have to take at all…Then also just this culture I guess of contributing while we're still learning, instead of going through medical school to learn skills and then contributing after the fact, but, keeping up that contribution while we're still studying. And just sort of encouraging each other to keep involved in outreach and service throughout med school rather than starting when you get done."[10]

Another rule, which aligned with a value of PRIME and was born of the circumstance that PRIME-HEq did not have a steady director when it began, was that HMHB was student-led and more informal than many of the other activities that took place in classrooms at the School of Medicine. The interactional environment was playful and open to interjection.

The HMHB curriculum packet, email listserv, teaching props, exit slips, and Google documents were all important tools that students utilized to prepare for and conduct health lessons. But as we saw at the end of Chapter 2, there were a lot of issues

[10] PRIME-Fiona-A-030712-1-11:10-12:50

bubbling up about these tools. When should exit slips be graded? Was it necessary to grade and analyze them collectively? Should the group use Powerpoint presentations in training sessions and teaching sessions? Participants are in the process of repurposing and redefining these artifacts and so the answers to these questions are still pending.

It seems no coincidence that debates about tool use, as well as those about division of labor and rules, cropped up as HMHB's institutional role transitioned from a volunteer program, then to an elective, then to a required class. But to really dive into this connection and get to the point where we can explore the tensions described in Chapter 2 as contradictions, we need to look more closely at how the activity system is evolving and how its relationships with other activity systems are reorganizing.

3.d ORGANIZATIONAL TRANSFORMATION AND STABILITY: TRACING CONTRADICTIONS

As described earlier, activity systems are composed of an array of participants, layers of artifacts, rules, and patterns of division of labor, all of which have the potential to morph over time. At times, transitions may go unnoticed; other times development feels disjointed and conflictive as the system cycles through the processes of organizational learning.

In his article, "Development as Breaking Away and Opening Up: A Challenge to Vygotsky and Piaget," Engeström (1996, ¶ 33) described how the concept of development – as applied to both individuals and organizations – is generally described as a continuous, step-by-step climbing upward, as if one is ascending the rungs of a

ladder from immaturity and incompetence toward maturity and competency. Engestöm challenged such a linear account of developmental movement – especially when thinking about how organizations develop, since they involve collective as well as individual transformation – and suggested that sometimes development looks like a step-backward or side-ways. Developmental motion is not always vertical or horizontal in trajectory but rather a winding trail that is at times cyclical and at other times linear. In this fashion, "development emerges as everyday creation or construction of the new in zones of uncertainty riddled with contradictions and surprises and heavily dependent on re-mediation by cultural artifacts" (Engeström, 1996, ¶ 61).

Acknowledging this notion that development often involves tension and uncertainty, in the next chapter I engage in a historical analysis of the contradictions that emerged for HMHB. The point of this historical analysis is to assist HMHB stakeholders in the first three steps of the expansive learning cycle – questioning current practices and examining the origins of contradictions, and modeling possibilities for change.

Numerous researchers have used cultural-historical activity theory and the concepts of contradiction and the expansive learning cycle as a practical tool for working with organizations to transform contradictions (Foot, 2001; Miettinen & Virkkunen, 2005; Mukute & Lotz-Sisitka, 2012; Turner & Turner, 2001). Ellis (2011, 183), for example, worked with English teachers to identify contradictions in their current work practices and mirrored these contradictions back to them through ethnographic data. The teachers then worked together to develop new ideas and ways of working with the intention of making a qualitative improvement to their teaching practices. The project was designed as a participatory, formative intervention within the cultural-historical

tradition, and drew from Engeström's work on expansive learning.

It is my intention that this dissertation will initiate the first three phases of the expansive learning cycle and help students and faculty continue to innovate HMHB. My analysis in Chapter 4 will look at specific tensions and how they reveal contradictions in the system. Chapter 5 will connect these contradictions to broader institutional changes and offer some considerations for the future of HMHB.

3.e DATA COLLECTION AND ANALYSIS METHODS

The data described in this dissertation were collected from March 2009 to April 2012 via participant observation, fieldnote writing, video and audio-recording, artifact collection, and unstructured and semi-structured interviewing.

3.e.i Data Collection

The main events I observed (and at times participated in) during this time frame were HMHB training and teaching sessions; I attended twenty-two of thirty training sessions and a handful of teaching sessions. I also attended formal and informal planning meetings, some of which included: early brainstorming meetings at students' homes; the statewide PRIME conference on underserved medical education in 2010 and 2012; and PRIME-HEq class of 2015's PRIME orientation and community driving tour around

southeastern San Diego. I wrote fieldnotes for all of these events and recorded audio and video[11] when appropriate.

I collected relevant artifacts (such as curriculum packets, meeting agendas, etc.) from training sessions and group meetings throughout the three-and-a-half years of study. I also asked the students to carbon copy me on organizational emails, which I archived and searched using Gmail.

I occasionally assisted with preparatory, planning, and organizational tasks via email and Skype and documented these interactions via fieldnotes and audio recordings.

I also conducted 1-hour (or longer), semi-structured interviews with 14 students who were part of the first, second, or third HMHB cohorts, as well as the director of the PRIME program. I conducted interviews both in person and over Skype, depending on participants' preferences. I recorded Skype audio-visual interviews to .mov files using Call Recorder.

In Appendix A I identify, by pseudonym[12], which students, from the total roster of all HMHB participants, participated in the survey and also designate students' roles.

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[11] Videos were recorded from the back of the classroom using an on-camera mic and a separate digital audio recording device at the front of the classroom. I later synced the two audio sources for data analysis, hoping this stereoscopic input would make it easier to decipher statements from around the room.

[12] All informants' names have been altered to protect their privacy. All subjects interviewed were given an IRB form that included audio and video releases. These forms were given to students in person at the time of their interview (if the interview was conducted face-to-face) or before the interview via email (if the interview was conducted on Skype, in which case the signed IRB form was returned by airmail). Some students asked for their faces to be blurred when presented, and therefore some images have been altered.

While designing my interview schedules I themetized questions according to the eight components of an activity system described by Engeström (1987). I also asked participants questions about other interacting activity systems, such as PRIME-HEq, the UCSD School of Medicine, UC-PRIME programs (statewide and at UCSD), underserved medicine as a discipline, etc.

3.e.ii Data Analysis

Because historical analysis is essential to the application of cultural-historical activity theory to research on organizational change, I used fieldnotes to anchor my interpretive practices.

Throughout three years of HMHB's development, I wrote notes that chronicled the events I observed and recorded how I responded to or felt about these events. Each note was unique, and constrained by the information I had available at that time. Throughout the course of research I reviewed my notes. When I completed my data collection I returned to my notes to reinterpret them in light of a longer period of time and analysis.

History looks different depending on where you are standing on the timeline, so I found it important to consider the developmental history of HMHB from multiple time scales and levels of interaction (Cole, 1995).

This mode of inquiry allowed me to "look at history from both ends" (Cole, 1995). By documenting how the activity unfolded, and how my interpretation of these

events morphed over time, I was able to fashion my "final" analysis as a holistic compilation of my past, present, and forecasting experiences.

For my analysis of video data I drew inspiration from a number of theoretical and methodological traditions for video-based ethnographic investigation, such as: conversational, interactional, and discourse analysis.

3.e.iii Interview Analysis

When I began my ethnographic study of HMHB I did not anticipate the extent to which I would end up utilizing interviews as a data collection method. I entered graduate school strongly biased toward naturalistic, micro-analytic observation of interaction and somewhat skeptical of the empirical validity of formal and semi-structured interview methods[13]. However, as my project evolved and my questions changed, I realized that I needed to look closely at the origination of HMHB, and that interviews would be necessary for such retrospective analysis.

Seeking to reconcile this ambivalence, I read Steinar Kvale's (1996) *InterViews: An Introduction to Qualitative Research Interviewing*. This text helped me to conclude that my previous bias against formal interviews was not because of the technique itself, but because of common treatment of interview data as univocal answers rather than a

[13] By which I mean interviews that are planned and scheduled, as opposed to informal interviews that take place during fieldwork, which I understood to serve a different function.

dialogic conversation. Kvale (1996) described this issue and a possible resolution as follows:

> There may be a belief in the neutral observational access to an objective social reality independent of the investigator, implying that an interviewer collects verbal responses like botanists collects plants in nature or a miner unearths precious buried metals. In an alternative view, which follows from a postmodern perspective on knowledge construction, the interview is a conversation in which the data arise in an interpersonal relationship, coauthored and coproduced by interviewer and interviewee. The decisive issue is then not whether to lead or not to lead, but where the interview questions should lead, and whether they will lead in important directions, producing new, trustworthy, and interesting knowledge. (ibid, 159)

As seen above, Kvale understands the creation of knowledge through interviews as a coauthored conversation. Interviews are not instances of investigators mining for objective, stand-alone statements, but rather to explore possible interpretations of relevant events with informants. This is why I decided to adopt semi-structured interviews as my interview format, which gave me the structure to explore certain themes with informants but also the flexibility to follow or lead the conversation in unanticipated directions. It is also why I have included my medical student interview schedule in Appendix B, and why the majority of the transcripts in this dissertation show my questions, remarks, and back-channeling[14]. At times a gloss of my or other's speech and actions was necessary for the flow of the data analysis narrative, but I have tried not to edit my voice out of interview transcripts.

[14] Back-channels not exceeding more than one phoneme to indicate that the interviewee should continue talking (e.g., mhmm) are not necessarily included in transcripts for ease of reading.

The notion of interview as conversation also guided my selection of interview analysis methods. I used four primary interview data analysis methods, as described by Lee (1999, 90) and Kvale (1996, 192): 1) meaning condensation; 2) narrative structuring; 3) meaning interpretation; 4) re-interviewing.

I used *meaning condensation* to abstract and articulate the most important themes from the interview's text into shorter formulations. To do this I completed five steps: 1) creating and reading transcripts; 2) identifying "natural meaning units" or portions of the text that relate to an identifiable theme; 3) defining and articulating the theme of the natural meaning unit; 4) connecting the meaning unit to the specific purpose of the study; and 5) bringing multiple natural meaning units into a coherent and non-redundant structure.

I used *narrative structuring* to identify and reconstruct interview texts into cohesive stories by extracting and rearranging relevant text into "a more continuous coherent, integrative, and engaging single story" (Lee, 1999, 92). Narrative structuring allowed me to be both a "narrative finder" and a "narrative creator" through the following three processes: 1) reviewing transcribed interviews as a whole; 2) identifying a plot in the text; 3) rearranging interview text to offer a more compelling narrative. Narrative structuring usually stays within the subject's vernacular.

Meaning interpretation allowed me to go beyond restructuring manifest meanings of a text to deeper interpretations of what was said via a specific conceptual framework. "Interpretation recontextualizes the statements within broader frames of

reference…provided by the entire interview or by a theory" (Kvale, 1996, 193), which in this project was cultural-historical activity theory.

Finally, *re-interviewing* was a good analytic compliment to meaning interpretation, as it enabled me to test interpretations by interviewing a subject again after analysis had begun. I conducted several rounds of re-interviewing with Jessie and Dr. Collins-Morales, and one round with other students as needed. During re-interviews I would: 1) share initial interpretations with the subject; 2) ask the subject to remark on the interpretation(s) and to elaborate on their original statements; 3) continue to review and analyze both interviews using meaning interpretation.

In the following chapter, I integrate the data analysis techniques described above to look closely at the evolution of the contradictions described in Chapter 2 so that in Chapter 5 I can discuss how these contradictions are relevant to the future of HMHB and to multicultural medical education.

CHAPTER 4

EXAMINING TENSIONS AND CONTRADICTIONS IN HEALTHY MINDS HEALTHY BODIES

As described in Chapter 2, when I returned to observe the training sessions in HMHB's third year of adaptation, I found the atmosphere of the training sessions felt different – more formal, less interactive, more hurried. There was an increased attention toward assessment practices and grading, decreased utilization of the simulation framework, and students seemed more concerned that training sessions run efficiently. These changes appeared to me as significant departures from some of the initial routines, patterns of interaction, and uses of artifacts established during the first year, and puzzled me more and more as the third year progressed.

In this chapter I engage in a closer analysis of these shifts in order to demonstrate how they point to emerging contradictions, both within the HMHB activity system and in coordination with neighboring activity systems such as the UCSD School of Medicine and PRIME-HEq. I find that the shifts in the atmosphere of, and attitudes, toward the training sessions of HMHB – which became more evaluation focused, less simulation-based, and more crunched for time – were connected to evolving (and at times conflicting) tools, rules, subjects, division of labor, community, and objectives for HMHB as it became a newly-required course in PRIME's curriculum.

To guide us from lived, up-close examples of this shift to a more abstract, theoretical interpretation of these developments, I have organized this chapter into four sections. The first three sections examine emerging "issues" or tensions in the HMHB

activity system and are similarly arranged. I begin each by describing the tension in question and then illustrating its development over three years with detailed snapshots of relevant interactions in the form of transcripts[15], narratives compiled from field notes, snippets from emails, and still images from video data. Following this, I offer dialogue from meetings and interviews in which these contradictions were articulated as issues, analyzing participants' statements through the filter of my experiences as a participant-observer and through the application of meaning interpretation and meaning condensation approaches to interview analysis (Kvale, 1996, 188). In the fourth section I apply the lens of cultural-historical activity theory to reframe these tensions as contradictions and to highlight their conflicting elements.

In the final chapter I will step back from this close analysis to examine institutional arrangements involved in these contradictions and reflect on future possibilities for HMHB.

4.a MODIFICATIONS IN ASSESSMENT AND GRADING

[15] In this chapter, datum from audio and video recordings are transcribed to read similarly to dialogue in a novel. Instead of adopting common micro-analytic transcription conventions, such as Sacks, Schegloff, and Jefferson (1974) and DuBois (1993), I try to use more widely familiar conventions. Please see Appendix C for an explanation of transcription conventions.

Each transcript is preceded by an introductory paragraph and followed by a narrative description, which references line numbers from the transcript.

Transcripts also include a file number with the date and duration of the interaction. Each file number has a footnote, which include explanations of the initials used to designate participants, as well as participants' roles and relationships, and any other relevant information for readers.

As described in Chapter 2, when HMHB began, Jessie and the first cohort developed an evaluation plan, which included having Kennedy students complete exit slips at the conclusion of each teaching session, which the medical students would grade at the end of the next training session. The idea was to complete grading before the medical students taught again at Kennedy so that this information could be used by medical student teachers to improve their efforts at Kennedy. There was also talk of using the overall scores to make claims about the efficacy of the program.

During the first year, medical students were moderately consistent and prompt in grading exit slips, however, they never created a system for sharing and comparing classrooms' grades in order to determine trends. Consequently medical students did not have the opportunity to reflect intentionally on the data they collected and as a result this practice did not actively feed back into their teaching strategies.

As the first year went on, grading consistency diminished. During the second year grading continued to decline to the point where Ida became frustrated and overwhelmed with trying to manage it. In response to the rapid slump in grading participation in the second year, the student leaders for the third year, Matt and Gloria, altered some of the grading and data collection routines. They moved grading time to the beginning of class and allotted more time for the task, and they also reminded students frequently to grade exit slips on time in order to encourage students to turn in graded materials quickly and regularly.

4.a.i The Evolution of Grading Practices

In what follows, I present snapshots from each of the three years of HMHB to show what this shift in grading practices looked like "on the ground." I include transcripts of classroom conversations, text from an email on the HMHB listserv, and photos of classroom interactions to compliment my narrative description of events.

4.a.i.1 Cohort 1

At the first training session for the first cohort of HMHB on October 8th, 2009, Jessie introduced exit slips and pre- and post-tests. She described exit slips as a tool with two uses: 1) to determine if Kennedy students are comprehending the health lessons and to reflect on how to improve teaching techniques, and 2) to demonstrate the effectiveness and worthiness of their outreach efforts to the School of Medicine and thereby earn the administration's support via funding. The following excerpt offers her words to describe this dual purpose:

Figure 4.1: Jessie describes exit slips as a tool for improving teaching methods and demonstrating the worthiness of HMHB to the School of Medicine.

PRIME-V-100809-1-09:25-10:05[16]

Jess: So the next thing is, so what? We go and we teach but how do we know if we're doing a good job? So it's really important that we know that they're understanding what we're teaching, so we could teach it better. And that we can prove that, if we want to get money for this next year, that look here's how much they knew at the beginning, here's how much they know now. So at the end of every lesson they will get a small little exit slip ((Figure 4.1)), I'm gonna show you that in a sec, and then the other thing we're going to do is give them a pre-test and a post-test. And I'll explain that in a sec. So we're going to see the growth that is happening. And all this is explained in detail in here ((points to curriculum handouts)), the qualitative and the quantitative, and then how to measure it. Okay? This is- I'm not going to go over it in detail right now.

We see here that Jessie expressed the importance of knowing that students understand lessons (lines 3-4) and connected this to efforts to improve the program. Second is the point that having evidence demonstrating students' growth (lines 4-7) could be advantageous if the medical students want to raise funds for the program (which later conversations revealed would be from the School of Medicine to supplement costs for the Doc-for-a-Day). Regular measurement, according to Jessie's plan, could aid both efforts.

Later in the session Jessie described in more detail how the exit slips can be used as a tool to inform teaching practices:

PRIME-V-100809-24:15-25:00[17]

Jess: ((Jessie posts a slide of an empty lesson plan, which shows the format of each lesson plan in the packet)) So this is a template, this is not your lesson plan. This is what every single lesson plan will look like. We're going to go over

[16] Jess: Jessie, Cohort 1 HMHB student leader.

[17] Jess: Jessie, Cohort 1 HMHB student leader; Lisa: Lisa, Cohort 1; Cody: Cody, Cohort 1; Ida: Ida; Cohort 1 and Cohort 2 student leader.

5 the main points.
…
6 Jess: Assessment, always there's a what, Lisa?
7 Lisa: There's an exit slip.
8 Jess: Exactly and our goal is that they get eighty percent on
9 every single objective. So let's say your class bombs. You
10 give them their exit slips, they got fifty percent. What do
11 you think you should do the next lesson?
12 Cody: Review.
13 Ida: Go over it.
14 Jess: Go over it, review it, reteach it. Make up a five-minute
15 game. Something, you can talk to me about that. If they
16 bomb it that means you have to redo it.

Here Jessie detailed how she envisioned medical student teachers would use exit slips to check for Kennedy students' understanding of new material and to determine if the class needed to review. She described how low scores on exit slips – class averages below eighty percent – should be interpreted as indicating insufficient comprehension (lines 8-11), and prompt medical students to come back to that material during the next session using a different approach (lines 14-16).

After the first training session, the medical students went to Kennedy and taught for the first time. During this first teaching session the medical students administered the pre-test. Some of the classes did not complete the pre-test because they ran out of time after the introductory activity. The medical students entered into 50-minute high school classes for the first time in several years and many of them forgot how quickly this time passes.

When the medical students came back from their second training session several of them said it was difficult to gauge the reliability of the pre-tests since some classes ran out of time and many of the Kennedy students seemed disinterested in the test. When

they collected exit slips for the first time, some of the same concerns emerged, but they pressed on with the task. They came to training sessions with exit slips to grade and stayed after the training simulation to complete and turn them into Jessie, who compiled all of the scores in a spreadsheet. Unfortunately, Jessie did not have a system for sharing comparative data with the other medical students; she created a spreadsheet with formulas for calculating trends and averages, but she was the only one who had access to it. Without a collective custom for reflecting on grades, the students did not hold each other accountable in using data as a reflective tool. Medical students could determine how well their individual classes scored, but there was not a sense of shared responsibility for using grades to inform teaching.

As the year progressed medical students' commitment to this routine diminished. Students started leaving the group grading sessions earlier and saying that they would complete grading at home, which they often did not. Weeks before the conclusion of the year, Jessie sent an email around to the medical student teachers to encourage them to make sure they turned in their graded exit slips:

> From: Jessie Patterson
> To: HMHB listserv
> Date: Mon, Jul 5, 2010 at 1:27 PM
> Subject: Re: Missing Documents and Materials: HEALTHY MINDS HEALTHY BODIES. Respond ASAP
>
> FINISH YOUR EXIT SLIPS AND POST-TESTS. Unfortunately, It is WORTHLESS if we can't prove that there was growth from the first to last lesson.
>
> THANK YOU.

In this email Jessie appealed to what she later described to me as the secondary motivation for grading: using data to prove HMHB effectiveness. This email – combined with informal discussions Jessie had at this time with her classmates about how she would like to use the assessment data from HMHB for a research project – elevated the sense of urgency surrounding grading. Nonetheless, some medical students still failed to turn in all of their assessment data. Despite the fact that the data set was incomplete at the end of the year, the reasoning used in this email to make a final appeal to medical students to turn in their classes' results became an increasingly important discourse surrounding grading as the years progressed.

4.a.i.2 Cohort 2

When Jessie met with Ida to prepare her to lead the second year of HMHB, Jessie expressed the importance of grading and how it had not been optimized during the first year.

They created a way for students to upload scores into a Google doc spreadsheet so that Ida did not have to compile all the grades. Now, a new student, Nolan – who took on the role of "data manager" – was the only one who had access to the averages, instead of Jessie. By the middle of the second year students were rarely turning in grades on time. Ida asked Nolan to tell the class the results, perhaps as a way to remind them of their responsibility to submit scores, but Nolan did not come into the training session the day she planned for him to visit. She expressed her disappointment to the group:

Figure 4.2: Ida explaining to the class that they were not going to look at grades on the Google document.

PRIME-V-01/04/11-08:10-08:30[18]

Ida: Nolan isn't here so we can't really share class averages, which I was hoping we could do ((Figure 4.2)). Make sure you put your grades on, so once you grade, go ahead and, uh, upload them in the Google doc.

Nolan, due to other demands on his time, did not meet Jessie and Ida's expectations for his participation, and since Ida could not use the class averages to inspire the medical students to complete their grading, she did her best to use a smile and emphatic tone to urge students to maintain the rules of turning in scores even though they had yet to see the data.

This plea was not very effective. Ida continued to experience difficulty trying to organize students' graded materials and students were slow to turn in exit slips. This disappointed Ida and she felt as though she and the class were letting Jessie down. By the

[18] Ida: Ida, Cohort 1 HMHB student leader

end of the year, all of the students were aware that the stress of grading had taken a toll on Ida, yet they continued to act inconsistently.

4.a.i.3 Cohort 3

Ida's anxiety affected the third year leaders, who were medical student teachers in the second cohort. Gloria and Matt were determined to get grading back up to speed when they inherited the program. When Gloria and Matt introduced grading procedures to the incoming medical student teachers during the first training session of the third year, they explained the grading practices in the following way:

PRIME-T-09/20/11-35:35-36:40[19]

Glor: Grading was an issue last year but I don't think it will be an issue this year because we're going to do it differently. Last time, we kinda would finish an hour early and then go, and it wouldn't get done. So that's why we're kind of doing it in a two-hour block. Which some people says is a good idea ((looks over at Matt)), I think it makes you go- And it's nice because you can talk to each other. There should be more consistency in the grading.

Matt: And the reason why we give tests, is to kind of, give us a better indication of how what we're doing- you know, how what we're teaching- Um so it gets a little competitive, we're going to be competing against each other, see which class has the highest percentage of points. But yeah it's for research purposes to see how well the Healthy Minds Healthy Bodies class is working.

[19] Glor: Gloria, Cohort 1 HMHB student leader; Matt: Matt, Cohort 1 HMHB student leader

One of the changes that Gloria and Matt implemented – which she stated was aimed to alleviate the issues, or inconsistencies, with grading (lines 1-2, 8) – was to make the training sessions longer. A training session would now be a two-hour block (line 5) rather than one hour of training and an undefined amount of time for grading. Gloria was hesitant to make this change, which comes through in her talk when she states that "some people" say the change is a good idea (lines 5-6). Gloria and Matt had different opinions about this change, but she stopped herself from sharing her opinion (line 6) and said instead that it will be nice for the students to talk together about grading and that the change will bring more consistency (line 8).

Matt joined in to comment on the rationale behind grading and did so in a slightly jumbled way. He concluded by saying that grading is for "research purposes to see how well the Healthy Minds Healthy Bodies class is working" (lines 14-15).

At the next training session, Phil – a participant in HMHB the previous year who agreed to take on the role of data manager for the third cohort – came into the training session to show students how to use a new-and-improved version of the Google document. Unlike in previous years, the new Google document allowed students to enter their own class' scores *and* view the other classes' scores in one place. During this Google doc training, as questions arose about uploading procedures, Matt said that he would have to ask Jessie what she wanted, since this data was going to be used for her research project.

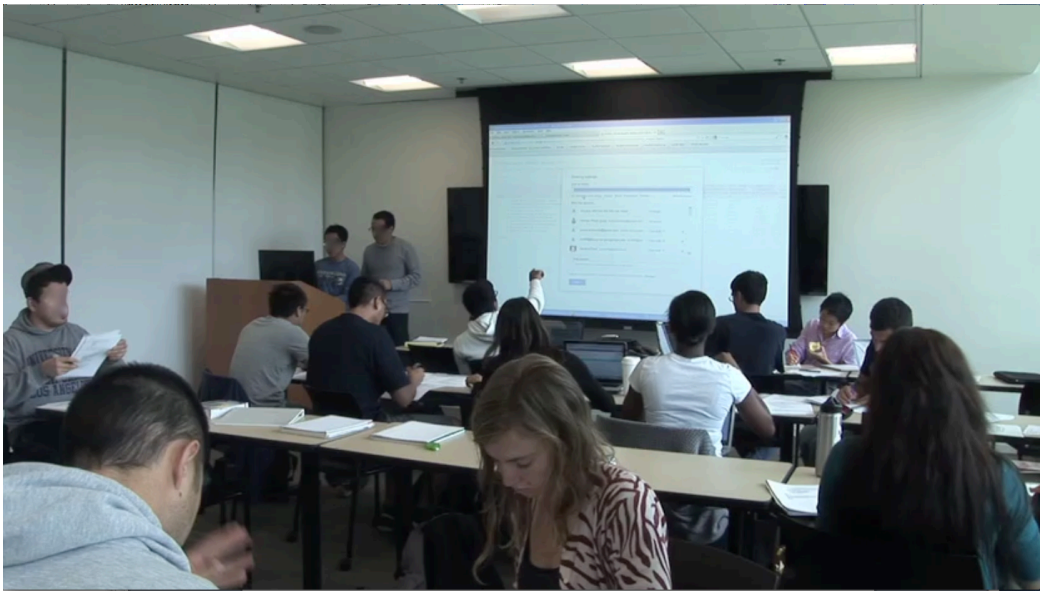

Figure 4.3: Matt and Phil answer questions about how to use the new Google document.

As the third year went on, some grading inconsistencies persisted (though far more students were submitting grades than the year before), which vexed Gloria and Matt. Because of this, halfway through the year Gloria and Matt decided to move grading to the beginning of the training session. For the fourth training session, grading took place during the first half of the meeting, and the lesson followed. Ironically, for the second session that grading was to happen first, several of the medical students forgot their exit slips, so Matt went ahead and started the lesson and told the students to do their grading at home.

For the remainder of the year grading was handled differently each meeting – it was moved to the beginning once again, then to the end after some debate about the change, and for the last couple of sessions students were dismissed early and only a few

stayed to grade. Inconsistency in grade reporting was met with an inconsistency in attempts to address the problem.

4.a.ii Talking about the Grading Issue

When Gloria and Matt first decided to move grading, I mentioned the proposal during a research meeting with Dr. Collins-Morales and expressed concern about this idea. We decided to talk with the current student leaders – Matt and Gloria – to get their thoughts. We gathered together in Dr. Collins-Morales' office on November 15th, 2012, halfway through the third year of HMHB.

Over the course of the forty-minute meeting we talked about several topics. To begin the meeting Dr. Collins-Morales asked the student leaders how they thought things were going. Gloria and Matt began by reporting positive developments, such as the incoming first-year medical students enthusiasm and students' efforts to build on curriculum delivery methods by creating PowerPoint presentations for the beginning of lessons and by bringing extra teaching props and adding hands-on activities.

Gloria then highlighted that this third cohort of medical students were more consistent than the second cohort about grading exit slips and posting grades onto the shared grading Google document. Gloria seemed pleased with this result and emphasized it as one of the primary improvements taking place.

At this time Matt commented that I had a unique perspective as someone who had seen every training session that year, prompting Dr. Collins-Morales to ask me to share some of the changes I had observed as HMHB evolved. I began by saying that I had also

noticed some differences in grading practices. Matt, Gloria, and I had discussed this topic a few weeks prior, and this previous discussion centered on whether or not moving grading to the beginning of the training session was a prudent adjustment. From Gloria and Matt's perspective moving the time allocated for grading to the beginning of class encouraged students to complete the task, but as I expressed earlier, moving grading seemed to be affecting the atmosphere of the classroom and the medical students' attention to other components of the training session. Though this concerned Gloria and Matt, they were equally (if not more) concerned about making sure that all the exit slips were accounted for, so that the assessment data set would be complete. In our meeting with Dr. Collins-Morales, Gloria expressed again that she wanted to be sure that all of the grading was completed and explained why, based on her past experience, she thought that grading would not get done if it was not required at the beginning of the training sessions:

HMHB-A-111512-1-09:39[20]

TP: I know last time Matt put it at the end because some people didn't come and I thought it kind of worked well that way. And I don't know how you guys- I know Gloria you were thinking you kind of want to keep it at the front.

Glor: I don't know how the lesson went, I just know when I looked yesterday to see if any grades were in and no grades were in.

TP: Yeah.

Glor: So. But at the same time they had an exam too.

Matt: They had an exam last Monday, so.

TP: Right.

Matt: They were all rushed to get home and study.

Glor: And so, that's the only- that's what we found last year was that when we did do it at the end people you know, leave early, or, yeah would people leave early last time or?

[20] TP: Tamara Powell; Glor: Gloria, Cohort 3 HMHB student co-leader; Matt: Matt, Cohort 3 HMHB student co-leader; Dr. Collins-Morales, Director of PRIME Program

Matt: Yeah they'd just leave after the lecture.
Glor: Yeah.
Matt: They'd say they'd done it at home.
Glor: And they haven't done it at home. So that's exactly what happened last year.
DCM: Mmmm.
Glor: And then- so we'd actually- as of right now I don't know how much results we have from last year? Um.
DCM: What if we did it- what do you guys think about this. How about if you simply said to the group – if we think that it does work better at the end and it kinda doesn't, interfere with some of the other goals of you know the training stuff? – what if you said to them they have to stay? I mean how would that be received do you think?
Glor: Um?

Here we see that Gloria offered examples from her experience (lines 5-7; 13-15; and 19-20) as evidence that when grading time was scheduled at the end of training sessions the students did not finish the task, since in past years the students would leave early. She gave an explanation for why she thinks this happened, which is that students wanted to leave early to study (line 9-10), and Matt confirmed that he thought that students were rushing home to prepare for their exam (lines 9). We also learn that Gloria's concern was not just that grading was being done late, but that it was not being done at all, as seen when she expressed that she was not sure how much data was collected by the previous cohort (line 23). Dr. Collins-Morales then entered in with a suggestion for addressing the issue of incomplete grading without "interfer[ing] with some of the other goals" for the training sessions (lines 26-27), which was for Matt and Gloria to use their position as the HMHB student leaders to tell students that they have to stay (line 28). Dr. Collins-Morales followed her suggestion with the question – "How would that be received do you think?" (line 29).

At this point the conversation took a temporary detour, but not before Gloria uttered a tentative "um," which I interpreted during the interaction as an indication that she did not feel entirely comfortable requiring students to stay. After the detour Gloria came back to say, "It's hard to tell medical students that you have to stay," due to the demands on their time and that students seemed to leave regardless of leaders' requests. Gloria seemed hesitant to make such a request, as it could seem unsympathetic coming from a peer.

The discussion continued, and the issue remained that moving grading to the beginning seemed to be compromising some of the other goals for the training sessions – such as having time for group reflection and discussion, executing the simulation, and creating a relaxed and engaging environment. Matt commented, "I definitely see the change because when we do the grading first they leave their laptops up the whole day" and added later that he remembered that "one of the times when I was teaching they had not finished grading so they continued all through the lecture plan." He concluded that when computers were left out, "You don't really know if they're engaging."

We continued to wrestle with how to address this tension and what factors were involved. During this discussion the importance of recording outcomes was addressed (but not how grading was also to be used as feedback for teaching methods) and at what cost this priority should come:

HMHB-A-111512-1-12:15 to 13:14[21]

Glor: And last year we didn't do grading first
because Inga and Inga had her time constraints and she
needed to be out of there.
TP: Uh huh.
Glor: And so that's the way we did it…She would do the lesson
plan and then grading would be at home. Or sometimes
people would grade while we were waiting for her to set up
the lesson plan.
DCM: And do things.
Glor: Yah, yah. And so we just had an, issue, with the grading.
DCM: How cumbersome is the grading because I see all of the
different points because obviously, you know, to really
measure, outcomes, some degree of outcomes its
important right?
Glor: Yah.
DCM: But then we're kind of left with, well gosh we really want
to maintain some sort of the integrity of what you guys
are trying to ensure that the students are all getting.
Glor: Exactly.

We see here that Gloria continued to illustrate the issue by referencing the past, adding that the leaders from previous years wanted to do grading first but did not for their own reasons (lines 1-3). Dr. Collins-Morales was sympathetic to Gloria's concerns because, after all, measuring Kennedy students' learning outcomes is considered important. But the question remained whether or not prioritizing grading was having a negative impact on some of the other aims of the training sessions (line 16-18). Through her utterances, Dr. Collins-Morales articulated this dilemma as two concerns bumping up against each other by using a "but" structure (line 6), which is typical of reflection on contradictions in talk (Billig, Condor, Edwards, Gane, Middleton, & Radley, 1987).

[21] TP: Tamara Powell; Glor: Gloria, Cohort 3 HMHB student co-leader; Matt: Matt, Cohort 3 HMHB student co-leader; DCM: Dr. Collins-Morales, Director of PRIME-HEq Program

The issue was not resolved in this meeting and grading continued to be placed at different times during the remaining training sessions, depending on which student leader ran the training session and what was happening on the medical campus that week. The schedule of training sessions continued in a more or less reactive pattern rather than according to a clear plan for when grading should be done, for how long, and why.

4.a.iii What is the Point of Grading?

When the third year of HMHB concluded, I talked with Jessie about her perspective on grading exit slips – what the data was for, if it was being used in the way she originally imagined, and what she thought grading should look like in the future for HMHB. In this interview she reviewed her original dual-purpose design for the exit slips and her frustration that the first purpose – as a reflective tool for teaching – was not being accomplished, even though the archival system used for grading practices had been revamped such that the medical students could look comparatively and collectively at the grading results:

HMHB-A-032012-1-59:10[22]

Jess: This year they were much better. Gloria had help with Matt and Phil[23] doing the data. And Matt, no Phil, [was] awesome. The Google doc where you enter stuff, he made it so that when you entered it it automatically went into my spreadsheet[24]. And showed the data. But here's the part that

[22] TP: Tamara Powell; J: Jessie, Cohort 1 HMHB student leader.
[23] A student from the second cohort of HMHB who was assigned the role of Data Manager

6		kills me, is like- so he figured it out right? So apparently
7		you could have looked and seen what your scores were at
8		the end of the session, but it was never shared. So I talked
9		to the new group about the power of that. But the beauty is
10		that they're all Teach For America so they get it.
11	TP:	Mhm.
12	Jess:	I felt like I was speaking the same language to the three that
13		are taking over next year more than any- more than Inga
14		more than Gloria. Because they don't know what I'm
15		talking about and they don't know where I was coming
16		from when I wrote it because they weren't there with me,
17		Inga was.
18	TP:	Right.
19	J:	But Inga was the only one who took it when I taught it. So.
20		I think they get the value of that. They're like "oh right
21		then you can see what went well. You know what you're
22		scores are, you can share them with the kids, you can get
23		them motivated."
24	TP:	Mhm.
25	J:	I was like "thank you yes that's what I was thinking."
26		That's why you do the exit slips. What the heck is the
27		point – there is no point – if you're not going to look at the
28		data. Don't do it.
29	TP:	Yah.
30	J:	It's not just supposed to be a worksheet for someone to fill
31		out and get graded.
32	TP:	Yah.

At the start of the excerpt from our interview, Jessie describes how Phil created a Google document that all members of the third Cohort of HMHB could use to enter their students' scores (lines 1-3). But this was not all that Phil did; he also made it so that these scores transferred automatically into another spreadsheet that Jessie started during the first year of HMHB for calculating average scores from the pre-exam, post-exam, and exit slips (lines 4-5). With this technological adaptation, students now had the ability to

[24] During the first year of HMHB Jessie made a spreadsheet for calculating average scores from the pre-exam, post-exam, and exit slips, but she was the only one that had access to this document.

not only post their classes' scores for the whole group to see, but also to easily compare their class to other classes (lines 7-8), which she thought could be helpful feedback for the medical student instructors and organizers (lines 20-21) and a tool for motivating the Kennedy students (lines 22-23).

Jessie described how the leaders of the third cohort did not seem to understand this rationale since they did not participate in the first cohort of HMHB when Jessie designed exit slips (lines 15-17). Jessie looked forward to seeing what the incoming student leaders would do, as she felt they understood her original intention for the tools since they had also been trained by Teach for America, which she expressed in the segment shown above (lines 8-10, 12) and later in the interview.

Jessie expressed her relief that the new leaders of the fourth cohort saw the tool as useful in the way she intended (lines 25). Perhaps their perspective would convince them to fix the pattern of using the Google document spreadsheet to log their scores, but not sharing the Google doc spreadsheet with all the participants so that all medical student teachers could compare scores (lines 6-8). The issue was that even though students had the capacity to use exit exams as interactive feedback, they were not, and this frustrated Jessie because "what the heck is the point- there is no point- if you're not going to look at the data" in a way that can benefit your teaching practice (lines 26-28)? The exit slips were not "supposed to be a worksheet" (line 30).

Immediately following this statement, Jessie continued to discuss her take on the grading issue:

33	J:	Never- but it's funny how med students can mundanely be
34		like, "oh another test." Because nobody tells them "here's

your test here's what you did well on, here's what you didn't do well, here's what you need to work on."

TP: Mhm.

J: And then they don't hear their teacher say, "wow the whole class bombed this question" so instead of throwing it out like we know they do – like question 12a gets thrown out – instead it should be like "look we need to revisit this concept because you guys didn't get it and it's my job to teach you that." And med students have never had that- medical school does not have that dialogue with formative assessments they just know they have to get tested all the time and they don't know why and they don't know what it means. They never know if they're better or worse for it. Right? You have no idea.

TP: Mhm.

J: So, and I think that's really interesting- that's an interesting side note because they're very fine to like test these kids, these ninth graders, give them tests not really knowing why. To grade them. Not get anything out of it. And then do it again the next week. And not ask any questions. ((Laughs)) I don't know maybe they do! Maybe they complain! And I hope they do because like, what is the point if you're not- what is the point of a test? And I think that's like a whole other conversation. Right?

TP: Mhm. Yah Interesting. So would you say your group [the first year of HMHB] used the exit slips to kind of-?

J: No.

TP: So nobody's really done it.

J: That was my goal but I wasn't able to do it all myself. So my hope was that when Phil said "as soon as you enter it in you can see how you're class did" that they'd just project that and put it up there.

TP: Mhm.

J: And in ten seconds every classroom can know what their percentages are and they can know who's the best and who's the worst and who needs help and that should spur some dialogue. Like "well the way it was written to be taught was like this but we actually found that it was better to do this."

TP: Mhm.

J: That's the important stuff to be shared and to influence the curriculum next year. I wasn't able to- occasionally I was able to spark dialogue while they we're grading them and they're like comparing what people thought.

TP: That's fine.

80 J: That was something I wanted to be able to do but didn't get
81 done. So I hope that next year they understand it and they
82 use it otherwise there's no point they should just keep
83 teaching for an extra hour.

For the first two years, Jessie was the only one who had access to this document, presumably because she did not have time or was not as savvy with Google documents as Phil (line 63, 80-81), but she hoped that the Google document would become a useful tool (lines 80-83).

However, as we saw in Jessie's previous segment, this was not happening. She intended exit slips to provide practical data that could influence how curriculum is delivered in the future (lines 68-70, 71-75).

Jessie went on to say how it was all too easy for the medical students to collect data for data's sake, because that was how they experienced data collection in medical school (lines 33-36; lines 43-47); they did not receive any information about how assessment measures were being used to influence teaching and therefore did not have an issue with testing the Kennedy students without knowing the purpose of the data (lines 51-54). Jessie gets a bit worked up as she describes this state of affairs as a waste, asking "what is the point of a test" (line 57) if not to give feedback to learners and educators? But, she concludes, this is a "whole other conversation" (line 58), which I interpreted as an expression of her frustration with a measurement-heavy medical education model that necessitated more concerted critique than we might want to engage in during in our interview.

While our conversation seemed to imply that the medical students were just following orders to test the Kennedy students without any knowledge of an underlying

purpose, the idea also emerged that the third cohort students thought the data was not for their own self reflection, but for Jessie to prove the effectiveness of the program through the research project she was working on for the School of Medicine on HMHB:

PRIME-A-032012-1-01:00:00:01:00:30[25]

TP: [I] feel like this group of med students as a whole- I got the sense maybe they thought it was just like something they had to do because it was for your [independent study project][26]?
Jess: Yah.
TP: So…
Jess: That's why they were like- we're not sure what you use them for? And I was like, "Ah! They're not for me." I mean they are for me but I don't- I mean my ISP is done, I'm not-
TP: Well maybe not ISP but for the med school to show their scores?
Jess: Right, they're growth or-
TP: Kind of like you said it's- they just sort of accepted that of course we collect data and of course we test them.
Jess: And someone must be analyzing the data.
TP: Because that's just what med students do.
Jess: And somebody must be analyzing the data. I'm not analyzing the data. I should be, but I haven't. I haven't looked at Inga's or at this group's.
TP: Mhm.
Jess: Someday. In a few years.

As we see here, though Jessie's independent study project was about HMHB, she did not use the data from the exit slips, pre- or post-exams as her primary data source. She intended to initially, and may have told students this, but she was not actively "analyzing the data" (line 18) at the time of the interview, which was the same time she was writing up her project. She stated that someday, "in a few years" (line 21) she

[25] TP: Tamara Powell; J: Jessie, Cohort 1 HMHB student leader
[26] Independent study project (ISP). All UCSD medical students are required to complete some form of original research project before graduating.

wanted to analyze the data, which I interpreted as an allusion that she will not have time to do so until mid-way through her medical residency program (which would be in two years), at which point she will need to begin another academic research project in order to meet requirements for completing her residency.

A large amount of the medical students' efforts to complete grading, to reform grading practices, and to enforce collection methods, had to do with assumptions about what would be done with the data that were (at least at that time) inaccurate. Jessie built formative assessment into HMHB assuming medical students would use it to inform their work, and future participants routinely grade exit slips assuming that the data is being used to demonstrate the efficacy of the program.

4.b MOVING FROM A SIMULATION- TO LECTURE-BASED FRAMEWORK

We transition now to consider another tension the emerged in HMHB. By the end of the third year, some of the medical student participants told me that they were not sure if the training sessions were "helpful." While all of the students I talked with felt that they learned a great deal from teaching at Kennedy, not all of them had the same thing to say about the training sessions. This was not the case with the first cohort of medical students, all of which described the training sessions as very helpful. So what happened?

Though there are, no doubt, a number of factors that students consider when they weigh the benefits of training sessions, one feature that students referenced was the inconsistency of the use of simulation. From my perspective I saw diminishing use of

simulation in the training sessions from the first to third year, and a move toward using a lecture-based framework. In the simulation framework, student leaders acted as though they were the medical student teacher and the medical students would take on the roles of the Kennedy students in order to produce an enactment of that lesson. But as the years progressed, the student leaders initiated simulation sequences less frequently and smoothly, and instead turned to the familiar structure of a lecture-based presentation of information. As this happened the training sessions became less interactive, playful, and engaging. But perhaps more importantly, students were not getting to experience what the lessons felt like from the student perspective. Several students reported that they were unsure if they were "getting anything out of the training sessions."

4.b.i Evolution of the Training Framework

I will again present snapshots of this issue as seen in interaction. In the first excerpt from the first cohort we find Jessie leading a simulation of the beginning of the lesson, whereas in the example from the third cohort, we find Matt (one of the two student leaders) telling rather than showing how the lesson should proceed.

4.b.i.1 Cohort 1

When Jessie led the very first HMHB training session, she began by telling the group she planned to "model" the lessons in order to give students an idea of some of the

instructional strategies they could use in "high energy" classrooms, like those at Kennedy:

PRIME-V-10/08/09-1_00:06:00-00:07:13[27]

Jessie: So disclaimer, I'm going to talk to you like you're students for a lot of this to model. So those of you, Nolan, Milo, Mindy, David, and Ida, you didn't do this last year, um, and these girls that are walking in. We worked with this school last year at Kennedy and it went really well. It's a different demographic so it's a higher energy type of school so we did come up with some, not issues, but you need to have classroom management skills or you will loose your voice, you will get talked over, and kids will be slightly inappropriate because you're talking about topics that are hard to talk about. So I'm going to model- one of the things we asked for last year was to model how to do that. So if you are a bad student today I'm going to, I'm going to model how to take care of you through this process. Does that make sense? Yes? Nod your heads. Yes. Also, check for understanding, so- I'm not trying to talk down to you, I'm trying to give you- and I'm going to talk to you like I'm talking with kids. Okay? And sometimes I'll talk to you like adults. Okay.

She described Kennedy as having a "different demographic" (lines 5-6) of students that would require teachers to use particular strategies to successfully orchestrate lessons (lines 8-11) and that she would model these strategies, switching between talking to the medical students as kids and as adults (lines 18-19). Jessie led training sessions from a simulated framework the majority of the time, interacting with the medical students as though they were high school students. She occasionally came out of the simulation to discuss other relevant information.

[27] Jess: Jessie, HMHB student leader Cohort 1

Students found this simulation framework especially engaging during a training lesson on sexual reproduction. For this lesson, the objectives for Kennedy students was that by the end of the lesson they would be able to:

1) Identify five of the male (and female) reproductive parts on the image.
2) Explain in detail how a girl becomes pregnant, beginning with sex.
3) Define sex, oral sex, and anal sex.

Jessie began the training session with announcements and talked with the students about the Doc-for-a-Day event. During this discussion time Jessie sat on a desk at the front of the class, talking casually in a low volume with her classmates. After this discussion she transitioned into the simulated lesson by straightening her posture, exaggerating her enunciation, raising her voice, and moving to stand in the middle of the classroom:

Figure 4.4: Jessie at the whiteboard modeling how to introduce a lesson on sexual reproduction and anatomy.

PRIME-V-022212-13:17-14:30[28]

Jess: Okay. So we're going to talk about sex. So nice to see you guys.
…
Jess: Alright so, who can tell me what we're going to talk about today? What's our first objective please?
Cody: Identify five of the male and female reproductive parts on the image.
Jess: Awesome. So we're going to look at pictures of females and males and you're going to have to tell me five parts of the body that are part of the reproductive system. What's the next thing you're going to learn today? This side of the room. ((Points to the right side of the room))
Cody: Explain in detail how a girl becomes pregnant beginning with sex.
Jess: *How* does a girl become pregnant starting with sex. And you are going to have to explain *all* the way through to the development of a baby. Okay? So that by the end of today when you walk out that door you're going to be able to tell me that. A lot of you know a lot of it. We're going to fill in all the gaps. And the third thing you're going to be able to do Lisa?
Lisa: Uh define sex, oral sex, and anal sex.
Jess: Okay! So sex is a loaded word. A lot of times people use it and they don't know what it means? And they don't know exactly what, it implies? So up here I have written the word sex really big so I want you guys to think back to songs that you've heard and I want you to tell me any song that you know that talks about sex in it. Any song that you know that either says the word sex or is referring to sex, they're implying sex. I'm going to give you a second to think and I want at least three.

After this, the class suggested songs that are (or have been) popular on the radio – like "I Want to Make Love in the Club," and "Let's Talk About Sex" – and laughed as they sang the lyrics out loud.

[28] Jess: Jessie, Cohort 1 HMHB student leader; Cody: Cody, Cohort 1; Lisa: Lisa, Cohort 1.

We see in this excerpt that Jessie talked to the students as if they were learners (line 14) not teachers. She initiates a question, which the medical students answered as Kennedy students, and evaluated and added onto these replies. This sequential pattern – initiation, reply, evaluation – is typical of social organization in K-12 classrooms (Mehan, 1979).

She walked the students through the icebreaker activity – identifying common ways of talking about sex that youth encounter via mass media – as if the group was more naïve about this topic than a medical student would be (lines 20-23, 26-28). Jessie rarely came out of the simulation framework and cued to the medical students that she was speaking to them as Kennedy students by saying "what we're going to talk about" (line 7). Marjorie Harness Goodwin (1990, 191) has demonstrated how language can be used to configure occasion-specific roles for participants as well as a set of relevant actions for these participants to perform. Goodwin has also shown how pronouns in particular can be used to invoke particular frameworks that make specific types of action relevant (ibid, 244). Her use of first- and third-person reference markers, raised volume, and spatial positioning clue students into which interactional arrangement the group is currently in.

4.b.i.2 Cohort 3

Two years later, Gloria led the third cohort's training session on the same lesson. Like Jessie, she taught the medical students to use songs that talk about sex as an introduction to the lesson. However, in this iteration the simulation framework does not hold together as well:

Figure 4.5: Gloria describing how to do the introduction to the lesson on sexual reproduction.

PRIME-V-010312-18:25-21:25[29]

Glor: Um, so okay. So you get into the class, what's the first thing you guys do?
((three seconds of silence))
Teag: Introduce yourself.
Glor: Introduce yourself, very good. Remind them of your names, they might forget you. What's the second thing you do?
Uni: Review
Glor: Review. So there's not going to be any review this time because we're not going to talk about nutrition. So instead? We're going to?
Viv: Introduce the topic?
Glor: Introduce the topic. There's usually a beautiful bright poster that we have, our health agreements. ((laughs)) Okay. So hopefully, if you have the time, go over your health agreements, right. H.E.AL.T.H. Why are we here? Remind them why you're here. And this is even more important especially, on a day like today. You want to remind them why you're here. That we're not here to tell

[29] Glor: Gloria, Cohort 3 HMHB student leader; Teag: Teagan, Cohort 3; Viv: Viviana, Cohort 3; Uni: unidentified speaker.

you what to do. We're not here to tell you what's right or wrong. We're here to give you information, so that you can empower yourself, and make choices based on information that you have. Okay? Without making a choice without having, you know, information. Um. So yeah. That's an important part. Um. And then you're going to start off the day by ((erases white board as if preparing to write on it, and instead goes over to computer, and writes "SEX" on a blank page of a drawing program))

All: ((chuckles))

Glor: So you write that on the board right? And you basically introduce the topic and you're going to say "okay so this is a very common topic you hear about it in the media, you hear about it in the newspaper, you hear about it on the radio, you hear about it on TV and there's actually a lot of songs that, um, you hear about this." And so you're going to say, "I know you guys all know this, *so*, we're going to start talking about what different songs can you think of that mention or talk about sex. Can somebody give me a song?

After this the students offered up examples of songs, but Gloria seemed to have more difficulty than Jessie in getting three examples. The main difference we see when we compare the same snippet of the lesson from the first- and third-year training session is that Gloria was telling rather than showing medical students how to introduce the lesson. She used directives that referenced Kennedy students as "them" rather than "you," such as "remind them of your name," "remind them why you are here" (lines 5 and 17). Again the student leader's use of pronouns – particularly "you" versus "they" – are important for signaling to the medical students if the leader was addressing them (and therefore expecting them to act) as medical students or as Kennedy students. We also see that Gloria prefaced each attempted entry into a simulation framework with "and then you say" (lines 31 and 35-36).

This lead-in felt clunky, especially given that students already had the script for what they were supposed to say in their curriculum packet, which they had out on their desks, the talking points in italics and other instructions in normal font. For this introductory activity, students saw the following:

> Write SEX in BIG letters on the board. *Who can think of a song with lyrics about sex?* Have students share out a few songs, build energy and a little anxiety about a sex discussion. *There are a lot of songs, movies, magazines, and TV shows that reference sex. Many give misinformation or turn it into a joke. It is important to understand the details of SEX, sexually transmitted diseases and pregnancy as you become adults faced with making serious choices about your bodies…* (Peterson, 2011, 55, italics in original)

Gloria did work to establish a simulation at times, but she quickly returned from her medical student teacher persona to medical student leader once she finished reading the scripted components of the lesson plan.

The lessons that Matt led looked similar to Gloria's. Interestingly, at the first session he led he referred to the training format as a "role-play" but transitioned to calling it a "lecture" by his third session. To begin a session just after the winter break he started by saying "this is going to be a fairly short lecture."

4.b.ii Talking about the Training Framework Issue

At the end of the third year I talked with several of the participating medical student teachers about what they thought was and was not working for HMHB. In my interview with Fiona, a first-year medical student, she got a little flustered when I asked

her about the training sessions. Fiona, who was generally imperturbable, spoke more pointedly than usual:

PRIME-Fiona-A-030712-1-22:15[30]

1 TP: What did you think of the training sessions?
2 Fiona: I think the training sessions, um. I've been thinking about
3 this a lot, because I think there could be a more effective
4 means to do the training sessions. Um. Because the
5 lessons were modeled, but sometimes they were modeled
6 more accurately than other times, and sometimes they were
7 just, 'Oh now you do this,' instead of modeling it. So I
8 think modeling it all the way through is the way to do it, if
9 that's the approach you want to take.
10 TP: So it seemed like the approach to getting you guys ready
11 for teaching was to model the lessons, but it didn't really
12 seem like it was being modeled all the time. So you
13 think, if that's the strategy to really stick with it and do it
14 in a more faithful kind of way? Did you feel like you
15 weren't really encouraged to actually sort of be the student,
16 or how was it sort of not exactly playing out all the way?
17 Fiona: It was just this kind of awkward in between where
18 sometimes we were expected to be the students, and other
19 times we were not expected to be the students, and it's kind
20 of awkward to be the student when you're trying to learn
21 how to teach it? So I don't know if that's the most
22 effective way to teach the lesson plan? I haven't done
23 much- I haven't done any teaching outside of this, so I'm
24 not sure.

Here we see Fiona expressed frustration about how the lessons were sometimes modeled more "accurately" (line 6) than at other times. She noted, as I demonstrated earlier, that the leaders often dictated the components of the lesson rather than modeling them (lines 6-7), and Fiona would have preferred a more consistent commitment to the simulation framework (line 8). I spoke back to Fiona my interpretation of her

[30] TP: Tamara Powell; Fiona: Fiona, Cohort 3 HMHB participant.

observation and opinion (lines 10-14) and then asked her say more about what made her feel that the framework was inconsistent (lines 14-16). She replied that she experienced the training segments as an "awkward in between where sometimes [they] were expected to be the students, and other times [they] were not expected to be the students" (lines 17-19). She went on to consider if perhaps modeling is too confusing for medical students who are trying to learn how to teach the material for the first time (lines 20-21) and concluded that she was not sure of the best way to teach the lessons plan (lines 20-24).

When I asked students from cohort three why they thought that the simulations were not maintained, they generally concluded it had to do with concerns about time – that it was faster not to role-play. We'll discuss how concerns about time are important in the next section.

I again approached Jessie to learn about her original intentions when selecting a simulation-based framework for HMHB teacher training. She replied that she structured the training sessions similarly to those she participated in during her time at the Teach-for-America Summer Institute[31]. She hoped that simulating the lessons would not only show medical student teachers classroom management strategies, but also that the

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[31] Before Teach for America corps members begin teaching, "each new corps member attends an intensive five-week summer training institute in one of nine locations. During institute, the most important thing corps members do is teach summer school for four of five weeks and help their students master critical content for the fall. To that end, coursework is designed to help corps members learn essential teaching frameworks, curricula and lesson planning skills. Corps members work with experienced teachers who observe and coach them to improve their skills quickly throughout the summer. By the end of institute, corps members have developed the knowledge, skills, and mindsets needed to be effective beginning teachers, made an immediate impact on students, and built relationships that will support them throughout their corps experience" (Teach for America, 2012).

students would teach differently if they viewed the material from a students' perspective first:

PRIME-I-032911[32]

TP: How did you decide the structure for the training sessions? How did you decide your approach?

Jess: I think that my goal- I basically assumed that everybody didn't have teaching experience and one of the best ways to learn skills is to have it modeled for you. Content wasn't an issue and really I wanted them to be as effective as possible the first day they walked in, so if they don't have any training or experience. I was almost certain that they were going to struggle because they were going to talk to those students like it was a lecture and not meet the kids at their development states, or culturally, or just as teens. It's like the medicine saying "see one do one teach one" that that would work. They would first see me, what to do – the tone the excitement the clarity. How to present it and then what it was like to receive it…For me, another part was for them to give me feedback. Like if I was a 9th grader I would not know what you were saying. To give me feedback on the lesson.

TP: So this was a concerted effort – something you wanted to happen. How did you think of it?

Jess: It came from the training I got at Teach for America at the Summer Institute. You teach in the morning and then in the afternoon you have session. Instead of saying to teach literacy you can do these things, instead they showed us what it's supposed to look like…We got to see what it felt like and then see the relevance and buy in. The teach for America undergrads would see how well it worked to learn something and do it in their class…

In this conversation Jessie expressed that she chose to use a simulation framework because based on her experience training to teach with Teach for America (lines 21-23) she thought that "one of the best ways to learn skills is to have it modeled for you" (lines

[32] TP: Tamara Powell; Jess: Jessie, Cohort 1 HMHB student leader

4-5). At Teach for America's Summer Institute she was trained through simulation, which allowed her to experience and "see what it felt like" to be within a lesson (lines 25-26). She argues that this experience – feeling "what it was like to receive [the lesson]" (line 15) – not only gives inexperienced teachers an example to imitate when they get in front of a class (lines 13-15) but also allows them to: 1) appraise the pedagogical approach being demonstrated (lines 16-18), and 2) "buy into" (line 26) a method of teaching if they feel, from the perspective of the learner, that it is an effective approach (lines 25-29).

Next, I asked Jessie to tell me more about her thoughts on role-play and learning:

PRIME-I-032911[33]

TP: In your experience in role-play and simulation exercises – with Teach for America or PRIME or in med school – what does role-play do? What do you think it provides?

Jess: Yeah, it enables people who don't have experience with the topic- what I think it does is allow people who don't know how to teach to pretend that they do so that they can learn as they go… I think it's like a bridge that allows you to put yourself out there until you can develop your own skills… It's like scaffolding. You know?

TP: Hey, Vygotsky!

Jess: Yah! I tried to make an effort to read Vygotsky when I was an Education minor.

TP: Do you think play helps adults learn too?

Jess: Uh, yeah- sorta, well- for sure. In such a stale place as medical school, it's so black and white. There's no creativity and I think it's especially powerful for them to get that outlet. Role-play it's very powerful…

TP: Any role-plays that stand out to you looking back?

Jess: The nutrition lesson was awesome. It was so fun to watch them fully immerse themselves into the topic. They were pretending to read the nutrition facts and really pretending

[33] TP: Tamara Powell; Jess: Jessie, Cohort 1 HMHB student leader.

22 like they didn't understand. They felt conflicted with the
23 topic. We should do it this way or that way? Reading a
24 label, as a teen, and picking lunch is really hard.

Here we find that Jessie incorporated two Vygotskian perspectives on play into her decision to use role-play in HMHB. Jessie believed that "role-play is very powerful" (line 58) not just because she thought it provides "scaffolding" (line 46) for neophytes to "learn as they go" (line 38) but also because play creates an enjoyable and creative learning environment (lines 14-17). In a "stale" context such as medical school (line 14) this is especially powerful and refreshing (line 17). She concludes by recounting a particular role-play in which the medical students became so invested in their role as Kennedy students that they "felt conflicted" (lines 22) in the same way a teen might when faced with difficult health decisions.

When I talked with members of the first cohort trained by Jessie in a simulation framework, they agreed that role-play was an engaging and practical pedagogical approach. I asked Amber her opinion of the training sessions and she immediately described the experiential format as fun and insightful:

PRIME-V-02/28/12- Amber -40:00[34]

1 TP: What did you think of the training sessions that you guys
2 did on campus to get ready for, teaching at Kennedy? How
3 did those go for you?
4 Amb: I thought those were great because we would go in and a
5 lot of the times you'd get to do the activities ourselves
6 and so I think that it's the most fun way to learn about
7 the activity but you also realize what the students are
8 going to be thinking. And sometimes you're surprised

[34] TP: Tamara Powell; Amb: Amber, Cohort 1 HMHB student leader.

that the activities aren't always that easy. They're still pretty, yeah. It could be hard to really, for example, understand all the different contraceptive methods and how they're different and that kind of thing, so. Put yourself in the students' shoes.

Amber's answer supports Jessie's statements. Amber enjoyed learning through role-play (lines 6-7) and when she entered into the activity from the students' perspective (lines 7-8, 12-13) she found how challenging it might be for the Kennedy students to take in new information from the lesson. Lisa, who was part of Cohort 1 with Amber, alluded to some of the same ideas when I talked with her about the training sessions:

PRIME-V-Lisa-02/03/12-1-29:10[35]

TP: Can you describe any activities or instances that you remember really well from the training sessions- was there anything interesting that happened that you remember well from that time? Stands out in your mind?

Lisa: I mean I remember it being fun, because we normally did the activities we were going to do with the kids. They're very hands on, and I think we even had fun doing them, so. I have this like general memory of it being fun. And like, kind of enjoying a little bit bickering over the answers…I remember looking over and laughing about teaching these things to kids with Mindy and, just its fun to engage with your classmates in a way where you're doing something together and um, like working on a project together, um. And even just anticipating what the kids would say about things

TP: You guys were just sort of having a good time with it and making the activity fun?

Lisa: Yeah, totally, and like, maybe in a conscious way I think Jessie would encourage us sometimes to like, "Okay, what's a student going to say about that?"…She was always trying to model what you would want your own teaching session to look like with the kids and I think that was good. And effective because there's like dual layers of

[35] TP: Tamara Powell; Lisa: Lisa, Cohort 1 HMHB participant

> teaching within that. Um, so like even things like reminding people to be on task. And, it helped you to take it more seriously because of the way she did that. And in modeling it she tried to move around and be energetic and vocal.

We see Lisa also emphasized how fun and engaging training was within a simulation framework (lines 5, 8, 9, 10, 11). She too noted trying to think as a Kennedy student and "anticipat[e] what the kids would say" (line 14). This not only made training sessions enjoyable for Lisa but also effective (line 23) since they allowed her to think about the lesson in two ways: one as a teacher and one as a student. Lisa referred to this as "dual layers of teaching" (lines 23-24) – being shown how to engage in classroom instruction, but also getting to feel what the lesson would be like and have this experience feed back into instructional decision making.

When we contrast these sentiments from first cohort members Amber and Lisa with the opening quote from Fiona – in which we saw that Fiona was confused about the reason for role-play since it was executed in a way that was rushed and less committed – we find that simulation was well received when it was performed in a way that felt creative and committed.

4.c AN INTENSIFYING EMPHASIS ON EFFECIENCY

As we saw with the fade out of role-play in training sessions, concerns about time and maximizing the efficiency of HMHB activities became increasingly influential as the program matured. While the first cohort dedicated out-of-school time to conduct HMHB,

the third cohort often seemed to try to make HMHB as streamlined as possible so that they would have more time for other priorities, particularly studying.

4.c.i Evolution of the Time Crunch

Once more, the following sections provide glimpses into the evolution of the tension in question. I present how students from the first cohort worked through a decision about HMHB activities that would impact their time to study and contrast with statements from students in the third cohort who strategized how to cut down the time requirements for training sessions.

4.c.i.1 Cohort 1

During announcements at the beginning of a training session halfway through the first year, Jessie told the group that she had been working to secure sponsorship money to pay for the expenses of running Doc-for-a-Day (which included things like materials for activities and pay for part of the bus rental fees to bring Kennedy students to La Jolla). She learned that the School of Medicine would give the PRIME program more money for the event if they hosted it during April because it was Cesar Chavez month and there were more funds available for community outreach events during this time. Jessie asked the group to take a poll to decide whether to do the event in May, as they planned, or move it earlier to April to get more funding, which spurred the following discussion:

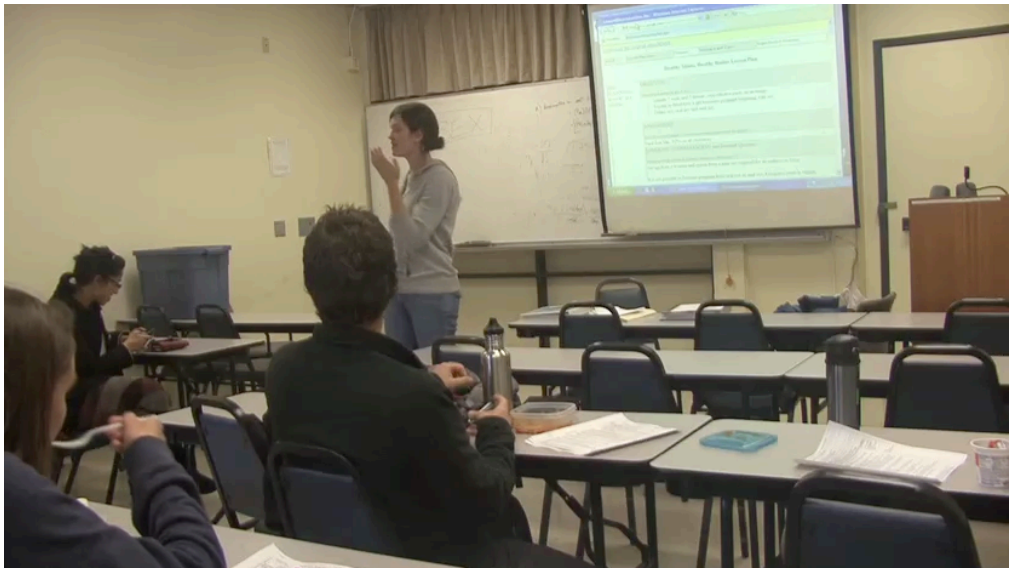

Figure 4.6: Jessie talks with students, who eat their lunches quickly during the beginning of the session in order to have time to meet, about when to schedule Doc-for-a-Day.

PRIME-V-022210-07:30-9:50[36]

Lesl: So they'll give us more money for a different day?
Jess: It's- so there's a bunch of events going on and apparently second look week[37] is one and Ralph doesn't want us to do it then and doesn't want us to do it, um, during Easter break because people might now- Easter people might not be here.
Lesl: What day of the week is it?
Jess: It's a Saturday. So it's all day, eight thirty to three thirty. You'll be the chaperone with your kids. Um. But it won't really work if we don't have all of you there. So if you want to check and get back to me that'd be awesome.
Uni: It's just during that one day?
Jess: It's just for the day on Saturday.
Lesl: Is there a test that week?
Zac: There's a pathology test exam on the nineteenth.

[36] Lesl: Leslie, Cohort 1; Jess: Jessie, Cohort 1 HMHB student leader; Zac: Zack, Cohort 1; Cody: Cody, Cohort 1; Mind: Mindy, Cohort 1; Lisa: Lisa, Cohort 1; Joel: Joel, Cohort 1; Amb: Amber; Cohort 1; Uni: unidentified speaker.

[37] Second look week is when applicants who have completed interviews and been accepted to the School of Medicine can come to campus to give the school a "second look" before committing to a medical education program. This is a busy weekend for students, staff (such as Ralph, Director of Student Life for the School of Medicine), and faculty.

16 Jess: Oh there is one on the nineteenth?
17 Zac: Yeah.
18 Cody: It's the fourth one!
19 Zac: Fourth one yeah.
20 Mind: That's okay.
21 Cody: That's okay!
22 Lisa: Yeah that's fine.
23 Uni: Yeah.
24 Joel: We've got all day Sunday.
25 All: ((laughter))
26 Jess: And the week before.
27 Amb: Yeah ((laughs)) start now!
28 Jess: Are you okay with that? Are we okay with that?
29 Lisa: I'm okay with it.
30 Jess: Will you come?
31 Lisa: I'll come.

In this segment we find the group a bit torn about when to host Doc-for-a-Day. They learn that moving the date will make more funds available for the Kennedy students (line 1), but they also discover that the new potential date is the Saturday before a unit exam (line 15). Mindy, Cody, Lisa, and Unidentified express their consent to reschedule even though the exam could add stress, and Cody pokes fun at Zack and Leslie, who seem more apprehensive, by saying "it's the fourth one" as if to say this test is just one of many tests (the fourth for this class alone) that medical students have to take. Joel adds that they have "all day Sunday" (line 24) to study, which is true, and this is also taken as a joke and met with laughter (line 25) because all of the students know that it will take more than a day to study for this test. Jessie and Amber add that everyone can study before the weekend to make sure they can be there for Doc-for-a-Day (lines 26 and 27).

After the excerpt above, the group continued for another half minute to discuss alternatives, but the debate was eventually put to rest by Cody and Joel, who exclaimed "Seventeenth it is!" and "It's all about the kids!" laying down that everyone needed to

stop fretting about their own schedule because the new date would allow more Kennedy students to come visit campus.

This segment exemplifies the "Sí Se Puede" mentality (as described in Chapter 2) that the first-year students shared as part of their collective identity. If they were going to make HMHB and PRIME-HEq into a program that had an impact in the community, was recognized as significant by the UCSD SOM, and was accepted as a valuable addition to the PRIME network, they were going to have to accept the inconvenience. Sacrifice – of time, GPAs, sleep, social lives – was a badge of honor and a sign of commitment.

4.c.i.2 Cohort 3

At the first training session – or first day of "class" as it was now called – for HMHB during the third year, Gloria and Matt used a Powerpoint presentation to introduce new students to HMHB. After showing slides titled "the purpose of the course," "an intro to Kennedy High School," "what you will be doing," the "teaching and training schedules," and "activities involved in the Doc-for-a-Day field trip," Gloria told the group what was expected of student participants and how these expectations were warranted given the number of elective units the medical students were receiving:

Figure 4.7: Gloria and Matt show incoming students pictures from the previous Doc-for-a-Day.

PRIME-V-09/20/11-33:41-35:35[38]

Glor: As you can see you're getting a lot of credits, ten credits, um and there's not a lot of outside work, so the question is why is it so many credits? Because you are going to be coming to elective when the other electives are done. I think they finish November 11th, November 10th, and we still have two classes after that. And then again um during the winter it's pretty- we might even- actually I think in the winter we finish earlier than some of the other electives and then we do go into the spring for that one day Doc-for-a-Day. So it'll- I think that'll be nice because some of them will actually have electives during your mind and brain week. ((Looks over at Matt)) Do they have electives that week? But um, you don't want to be going to electives during your mind and brain week. So you won't have to be here. But we do need each and every one of you available. ((Laughs and looks over at Matt.)) Okay um. ((Looks down at notes)) Okay yeah so, I guess we can, um, wait let me make sure I went through everything. Okay, so what do

[38] Glor: Gloria, Cohort 3 HMHB student leader

19 we expect from our teachers?...Um so, as far as absences
20 go, if you are in free clinic, you do get- you can take a
21 Tuesday- you can take a *training* day, if you need to, off
22 from here. You just have to let us know in advance what
23 training day it is. So you can't miss your day at Kennedy
24 High but you can miss your training day if you need to.
25 Um, any other absences have to go through me Matt or Dr.
26 Collins-Morales. Um let's see, and then yeah, just be on
27 time…

Gloria stressed that participation earned the students a large number of elective credits (line 1) but did not require a lot of work outside of the teaching and training sessions (line 2). She also included that HMHB teachers would finish their requirements for the elective earlier than other students in winter quarter electives (lines 7-8), which was convenient timing since the first-year medical students had a mini-block (one week of intense course work on a single topic) on the mind and brain at that time; not having "to be here" – that is, come to campus for an elective class – would free up more time for studying (lines 10-15). But, even though they did not have to come for class during this mini-block, Gloria stressed that they needed "each and every one of you available" for Doc-for-a-Day (line 15). She talked about other expectations for participating in HMHB for elective credit (line 19), particularly minimizing absences and getting approval from the student leaders or PRIME program director if they need to miss a training session (lines 19 and 25-26).

Before HMHB was an official elective, these kinds of rules could not be hard and fast – there was no promise of course credit to leverage for consistent participation. And yet, it is interesting how Gloria still talked as though there was the potential for students to miss, as when she said that they needed everyone available for Doc-for-a-Day. Such

an expression is reminiscent of days when participation was optional, making her juxtaposition of requirements and requests seem peculiar.

4.c.ii Talking about the Efficiency Issue

Halfway through the third-year training session meetings were only lasting about 55 minutes of the 120 minutes allotted. Students started packing up at the hour even if the student leaders were not finished covering the material in the lesson, and in one session Matt asked the group: "Do you want to do it again or do you want to go since I know you have an exam. Or two exams?"

When I talked with Hayley, a second-year medical student in cohort three[39] about improvements she would like to see for the future of HMHB, she described how she felt that the sessions could have offered more direct instruction on the scientific concepts. She felt that getting the "background information" would be a more "productive" use of time than simulating the lesson, concluding with: "We're all stressed out students, and if it's not going to be- I guess I'm at the point where I need high yield periods of time."[40]

Lora, a member of the third cohort, shared similar sentiments about her experience participating in HMHB and this issue of feeling crunched for time surfaced very early on in our discussion:

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[39] Most of the students in cohort three were first-year medical students. There were a few second years who opted not to take the course during their first year, but now that the course had been added to the PRIME core curriculum they took it at a later time.
[40] PRIME-A-Hayley-022412-17:35; Hayley, Cohort 3

PRIME-I-02/26/12-14:10-17:15[41]

TP: How did the training sessions go for you?

Lora: Um, the training sessions I think have generally been- been- helpful, um, in giving like an example of what you need to do. I don't know whether there's necessarily a more efficient way to do it. Um. But- I'm not really a teacher, so I don't really know what would be the best way to do it,

TP: Mhm.

Lora: I know sometimes I don't concentrate as much as I should ((chuckles)). Like sometimes I have so many other things to do so I don't necessarily take it as seriously as I should, so maybe I'm on my computer - I see also other people are on their computer doing other things at the same time, but kind of half listening too. Um, so, they've been generally like okay and there are particular sessions where it's been very helpful, um especially the ones on more sensitive topics, to sit and talk and then also, um, have class input…

TP: So you mentioned before that you wonder if there might be a more efficient way to do it. Do you think- was there a sense among the students that they would have liked the time to go quicker or that they would have wanted something different out of the time, or how do you feel it could have been different?

Lora: I think maybe some people would have liked it to go, um, to go quicker? Ah, but I think that's also a function of everyone's so busy and so like sometimes when we're going over examples we go through like every single example that might not necessarily be the best way to do it. Um but equally I think that I do like also having um like having, uh like, having an example- like being able to see examples of what we're supposed to do. And also I think, them like acting out what we're supposed to do gives us an opportunity to comment on things that will work and won't work, but, I don't know if it can be done in a more condensed time or not. Like I mean sometimes we get out after an hour, which is great. Sometimes we stay for like two hours which isn't great. So I think it's just more a sense of restlessness due to work that needs to be done post class, as opposed to anything else.

[41] TP: Tamara Powell; Lora: Lora, Cohort 3

Lora expressed that some of the students would have liked the training sessions to be quicker (lines 24-25) and more efficient (line 5). She also confessed that she and her classmates often used simulation time to multitask on their computers (lines 10-12). Lora reflected that she was not sure what the best way to conduct training may be (lines 5-6) but that she had mixed feelings about walking through the whole lesson, which was at times too slow for her taste (lines 27-28) and at other times helpful – particularly when they were "acting out" and "see[ing] examples of what we're supposed to do" (lines 29-31). She added that this was helpful because it brought opportunities to comment on instructional techniques (line 33), but returned to her concern about condensing the amount of time spent preparing (line 35). Her ambivalent response seemed to be, as she said earlier, "a function of everyone's so busy" (line 26) and "restlessness due to work that needs to be done post class" (line 38-39).

Lora commented that sometimes the sessions were fast (only one hour long) and other times too slow (two hours long) (lines 35-37), and seemed unaware that the reason the sessions were slated for two hours was because time for grading and group reflection on sociocultural determinants of health disparities was supposed to be added into the sessions this year. Instead, many students oriented toward the class time as something to be completed as quickly as possible.

When I talked with Mani he also seemed to want to make training sessions more efficient, unaware of the logic behind the two-hour class time:

PRIME-I-Mani-02212-47:00[42]

TP: What did you think of the training sessions? How did they go for you. The on-campus work.

Mani: I think they were okay. I think they could probably um be less time. I think in general that's- that's sort of my one, the one thing that's really hard about HMHB is it's a lot of time. It's a lot of time to not be studying? Ah. I mean I feel like we can grade our- grade papers on our own.

TP: Mhm.

Mani: And- and we can grade them fast, too. I mean I think. It's good to go over the lessons together. Um. I wonder if we could go over a bunch of them at once. Or something or. I don't know.

TP: You're more of just feeling crunched for time.

Mani: Yeah I mean that- I think in general weekday afternoons are big

TP: Mhm

Mani: In terms of- obviously we need to go down there and teach. So that takes up a lot of time. I wonder if we could, I don't know, get together over break or some thing like that or maybe some weekend and be like "let's go over these five lessons" and then let's have another session where we go over these five lessons. Do your grading on your own, and then we have our weekday afternoons free. Um. Yah.

TP: What do you think you're supposed to get out of the training sessions? What do you think their purpose is?

Mani: I think just to know how the lesson should go. Yeah. I think it's sort of like a walk through or a dry run.

Mani, like Lora and Hayley, implied that he would have liked the training sessions to take less time (lines 3-4), and that HMHB activities as a whole take time away from studying (lines 4-6). He suggested ways to cut down the time requirements, such as grading outside of class time (line 7 and 22) and condensing several lesson preps into one weekend meeting (line 20-22). These suggestions build from Mani's understanding of grading as something that just needs to get done and training sessions as for the purpose of solely learning "how the lesson should go" (line 26) and creating a "walk through or

[42] TP: Tamara Powell; Mani: Mani, Cohort 3

dry run" (line 27) of the lesson. And interestingly, Mani talked as though the on-campus work of HMHB is something that can be done outside of "school time" during the weekend (line 22), not an elective course that meets during the school week and serves a particular function within a curricular track.

4.d TENSIONS AS CONTRADICTIONS IN THE HEALTHY MINDS HEALTHY BODIES ACTIVITY SYSTEM

When we step back from these vignettes and conversations, we see several complex and at times conflicting patterns, ideas, and orientations developed within the HMHB activity system.

First, grading transitioned from a tool intended to guide teaching practice to a somewhat mystified rule for the activity. Grading was presumed to prove the program's effectiveness – but to whom? The building concern about grading was ironically synchronized with an edging out of reflection on teaching practices and medical student learning.

Second, the playful simulation framework originally established for training sessions gave way to a more directive and routine mode of preparation, accompanied by a qualitative decline in engagement and enjoyment. Given that the PRIME program director purposefully sustained HMHB as student-led when it became an official elective with the hope that this would maintain students' enthusiasm for and sense of ownership of HMHB, this was an unfavorable divergence.

Third, when HMHB was an unrequired service project, students encouraged each other to sacrifice study time in order to make the program a reality; yet when students received elective credit for their participation, they wanted to streamline their efforts and cut down on the time commitments involved.

4.d.i Applying Cultural-Historical Activity Theory to Analyze Contradictions

When we apply the lens of cultural-historical activity theory, we can view each of these tensions as indicating secondary, tertiary, and quaternary contradictions in the HMHB activity system. To review, secondary contradictions occur when elements within an activity system clash; tertiary contradictions take place when there is tension between a more advanced version of an activity system and a previous version of the activity system; and quaternary contradictions occur when the central activity clashes with a neighboring activity system.

In each of the cases described above, we see that the tools, rules, division of labor, and subjects of HMHB have changed in ways that at times run counter to previous procedures or objectives for the HMHB training sessions. We also see that these changes are connected to other activity systems such as the UCSD School of Medicine, PRIME-HEq, and UC-PRIME.

4.d.i.1 The Grading Issue as a Tertiary and Quaternary Contradiction

As summarized in Table 4.1, in the case of the first tension, also known as the "grading issue," exit slips were designed with two purposes in mind: 1) to represent Kennedy students' comprehension of lesson material, encouraging medical students to reflect on teaching experiences in such a way as to make them better educators, and 2) to quantify and "prove" the efficacy of the program. However, the rules and division of labor involved in grading were not established in such a way as to render the tool optimal for reflection. Responsibility for maintaining and sharing the Google document was either unclear or unmet and the rules for when to grade, how to turn in scores, and when to review the collective scores were also inconsistent yet highly emphasized. Participants tried to change the division of labor by recruiting a specific participant to serve as "data manager," but this role was never carried out. Ultimately, exit slips became a rule rather than a tool as grading gained unexplained priority over other practices and evaluation became this mystified requirement. As Jessie pointed out, a grading tool became a grading rule within the culture of assessment that pervades medical schooling. These alterations also conflicted with how grading mediated the original object of HMHB training sessions: reflecting on classroom instruction in such a way as to encourage effective teaching as well as medical students' development as educators. The newer version of the training sessions' tools, rules, and division of labor did not foster an atmosphere or method for reflection, and so we find an emerging tertiary contradiction. This is confused further by a quaternary contradiction, since exit slip scores have yet to be used to make claims about Kennedy student learning, creating a disconnection between how this tool is imagined to communicate with another neighboring activity system, the School of Medicine.

Table 4.1: Tensions, Contradictions, and Elements Involved in the Grading Issue

Tension	*Contradiction Type*	*Elements Involved*
Exit slips were designed as teaching reflection tools but not being used as such	Tertiary contradiction between a more advanced version of the activity system and a previous version of the activity system	In the *new version* of the HMHB *activity system*, the old *object* of creating relevant, effective health lessons was not helped by a new adaptation of an old *tool* – the Google document – nor the *rules* that prioritized grading over reflection, nor an inconsistent *division of labor* for data maintenance
Students imagined exit slips communicated the program's efficacy but they were not being used in this way and may even have distracted from other forms of reflection	Quaternary contradiction between the central activity and a neighboring activity system	A new *tool* – class-wide grading scores – were not being analyzed to report results to an important *neighboring activity system* – the UCSD School of Medicine

Cultural-historical activity theorists often represent contradictions in and between activity systems using triangular models of the activity system and lightning bolts between elements to represent contradictions. Figure 4.8 includes a diagram of this nature for the tertiary and quaternary contradictions related to grading:

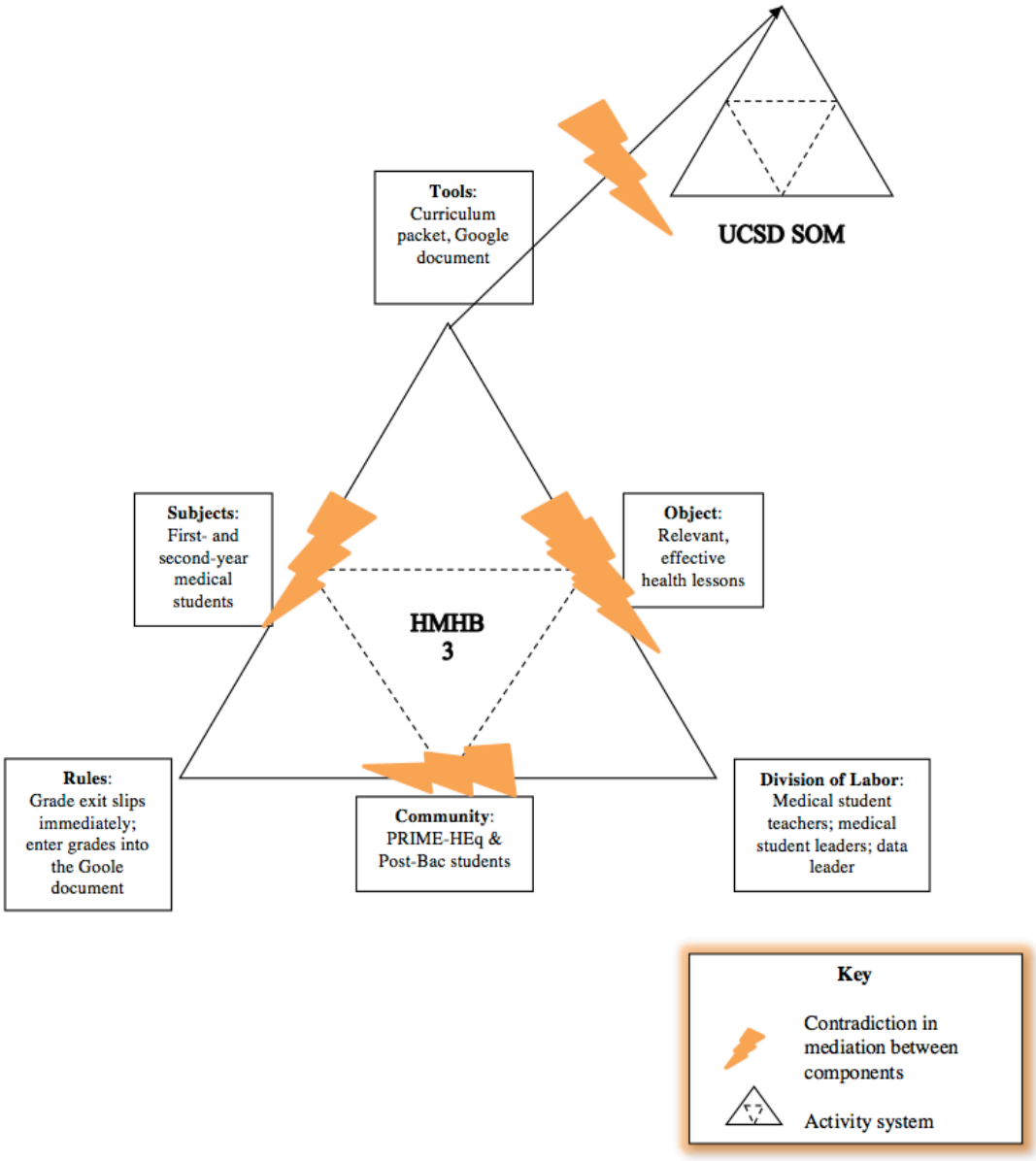

Figure 4.8: A diagram of the tertiary contradictions between elements of the newer and older versions of HMHB. A new grading tool impacted grading rules and the division of labor. Also modeled is the quaternary contradiction between grading tools and the UCSD School of Medicine as a neighboring activity system.

4.d.i.2 The Training Framework Issue as a Secondary Contradiction

With the second tension involving the training session framework, Jessie originally used a simulation framework, which she selected because she thought it would engage medical students and draw them into the training by allowing them to *see* instructional techniques and to *feel* what lessons were like for Kennedy students. Again, a newer form of the activity system emerged – which may have been related to the changes in grading practices, the increasing time crunch, the inexperience of the successive student leaders, etcetera – and medical student engagement waned. In this newer system, the instructional method – a pedagogical tool – shifted from simulation to lecture, falling back to familiar lecture-based scripts and rules for interaction characteristic of higher education. This was visible in the shift in interactional patterns – person reference, IRE sequences, vocal volume fluctuations all morphed with this reversal; and the medical student subjects' adoption of a double role – as both student and teacher – during the simulation also declined as they oriented to the activity as a lecture. Students in the third cohort started multitasking on laptops and expressed confusion about or annoyance with the training sessions, whereas the first cohort of students found the training sessions to be very enjoyable and insightful. Thus, I observed a tertiary contradiction between a new tool, division of labor, interactional rules, and subjects' engagement, as described in Table 4.2.

Table 4.2: Tensions, Contradictions, and Elements Involved in the Training Framework Issue

Tension	*Contradiction Type*	*Elements Involved*
Training sessions shifted from a simulation framework to a less engaging lecture format	Secondary contradiction between elements within an activity system	The emergence of a new instructional *tool* – using lectures to conduct training sessions – *divided labor* as lecturers and listeners, and corresponded with a shift in interactional *rules* – those familiar to lecture-based classroom interactions in higher education; *subjects* seemed less engaged

Figure 4.9 below models the secondary contradictions related to the training framework:

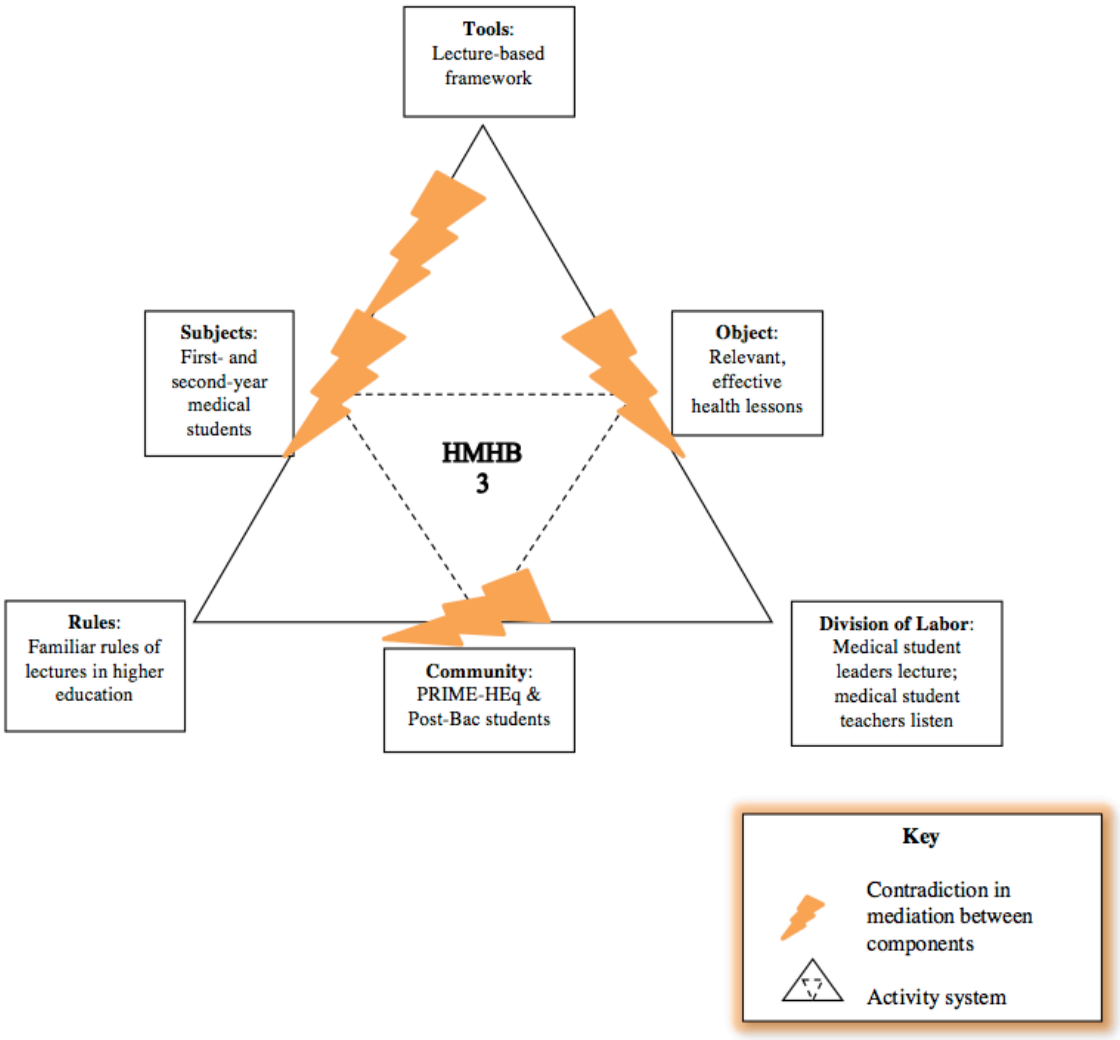

Figure 4.9: A model of secondary contradictions between the new tool of using lectures to conduct training sessions, the familiar rules of lecture-based interaction, the subjects who became less engaged, the new division of labor that was less interactive and engaging.

4.d.i.3 The Push for Efficiency as a Tertiary Contradiction

The third tension, the increasing push for efficiency for HMHB training sessions, emerged as students began to try to make HMHB take less time even though it became a

for-credit class with particular time requirements. The contradiction was visible through several subjects' requests and efforts to change old rules for the training sessions to make sessions shorter and more streamlined. These changes, however, could take away from HMHB's ability to incorporate new practices to align with the emerging object of HMHB as part of UCSD SOM's multicultural medical education – such as allowing time for group discussion and reflection and coaching in instructional techniques other than classroom management. The clash, therefore, occurred between the subjects, old rules, and an evolving object, as summarized in Table 4.3.

Table 4.3: Tensions, Contradictions, and Elements Involved in the Efficiency Issue

Tension	*Contradiction Type*	*Elements Involved*
Students wanted to complete training sessions as quickly as possible and even to cut out some intentional features of the sessions to make time to study for other classes	Tertiary contradiction between a more advanced version of the activity system and a previous version of the activity system	An emerging *object* for HMHB as a part of the multicultural medical education curriculum conflicts with some *subjects*' desires to make *rules* to limit seemingly inefficient reflective activities

Figure 4.10 depicts this the secondary contradictions related to efficiency:

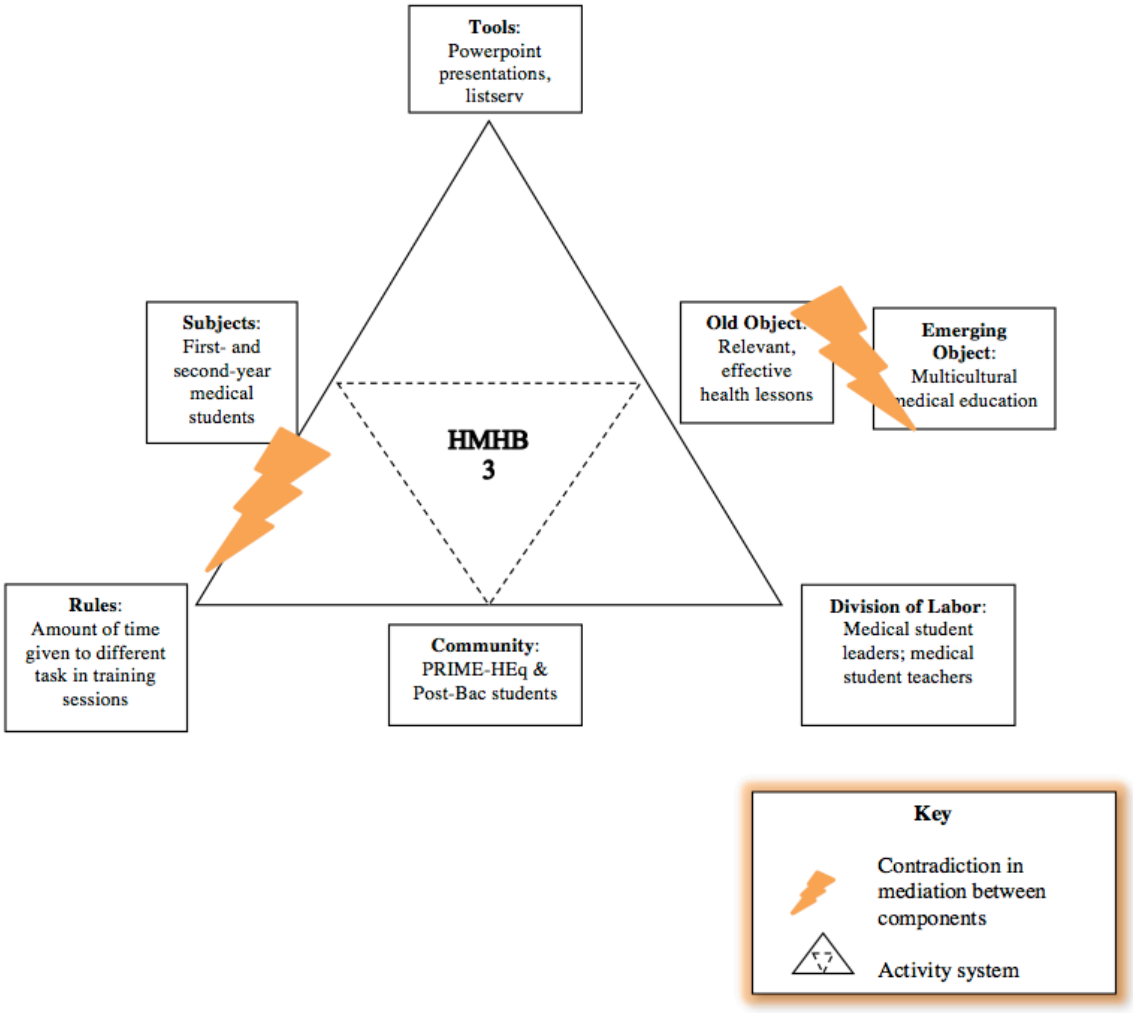

Figure 4.10: A model of tertiary contradictions between the old and an emerging object of HMHB, as well as between subjects and how they organized the rules of activity in relation to this shifting object.

4.d.ii A Quaternary Contradiction Connecting the Previous Contradictions that Calls for Further Investigation

The last contradiction is particularly interesting because it involved a clash between an old and an emerging way of thinking about HMHB. As a new object for

HMHB as a course emerged, students continued to hold onto an older object for HMHB as volunteer service. This created a quaternary contradiction, as HMHB as volunteerism clashed with the goals of neighboring activity systems such as the School of Medicine, PRIME-HEq, and UC PRIME, which operate to structure and sustain educational programs.

The medical students' continuing orientation to HMHB as volunteer service in light of its emerging status as part of the PRIME curriculum is perhaps the most consequential contradiction facing HMHB. It reveals that HMHB is in the process of redefining its object as more subjects, organizations, communities, and interests come into play. Efforts to analyze the evolution of HMHB's object could guide attempts to confront the other contradictions, and therefore is an apt place to begin to imagine new futures for HMHB. This will be the aim of the next chapter.

CHAPTER 5

THE EVOLVING OBJECT OF HEALTHY MINDS HEALTHY BODIES: ATTENDING TO CONTRADICTIONS BY EXPANDING THE MOTIVATING OBJECT

In Chapter 2 I documented how over the course of three-and-a-half years HMHB transitioned from a student-led, volunteer-based health education service project to a required course for first-year PRIME-HEq medical students. In Chapter 4 I applied cultural-historical activity theory to show how this transition of purpose and institutional status was accompanied by other unforeseen changes in, and contradictions, between the practices, tools, and procedures that medical students used in the operations of HMHB. I concluded by suggesting that these contradictions are connected to the varied and conflicting orientations toward HMHB that evolved over time.

In this chapter I look more closely at this contradiction – the contradiction between HMHB as service and as a required course – as this tension impacts the other contradictions and offers a good starting point for thinking about possibilities for change-oriented, expansive transformation for the program. In what follows I show how a residual orientation toward HMHB as volunteer service bumped up against an emerging notion of HMHB as experiential education, which reveals ambiguity about the object of HMHB. As larger organizations such as PRIME-HEq, the UCSD School of Medicine, UC-PRIME, and Kennedy High School embraced HMHB to promote their mission and vision, HMHB was embedded in a matrix of activity systems and interests. Now, HMHB, as a form of activity, has to address the troubles that appear – at both the micro

and macro levels – when it is on different trajectories within its various organizational configurations. The original object of HMHB was community *service* in the form of health education and a new object for HMHB is emerging in the form of experiential *learning*. Separately, these are competing interests without a shared object to tie them together; however, if we examine the contradictions between these two objects, it is possible to imagine a synthesis in the form of service-learning.

HMHB as service-learning provides a boundary object that is interpretable and favorable across domains. I explore some possibilities for expanding the notion of the motivating object of HMHB into service-learning and how this might play out in practice. I conclude by discussing how the insights gleaned through this case study might also be relevant to other scholars and practitioners of multicultural medical education.

5.a REEXAMINING THE MOTIVATING OBJECT OF HEALTHY MINDS HEALTHY BODIES

Let us begin by looking at examples of how the first cohort talked about the motivating object of HMHB as confronting a community need, configuring HMHB as community service. Then we will hear how the PRIME-HEq director came to view HMHB as providing a unique experiential learning opportunity for medical students. Finally I will observe how a narrative of service that developed during the first year of HMHB was inherited by future cohorts and is now intersecting with the emerging orientation toward HMHB as educational for both PRIME and Kennedy students.

5.a.i An Initial Object: Healthy Minds Healthy Bodies as Service

When it began, HMHB was a student outreach project not formed as a PRIME-HEq program per se, but still created by a majority of PRIME or "PRIME-minded" students and therefore associated with this organization. The originators were an autonomous team of medical students united by their shared motive to provide health education for a high school in an underserved neighborhood and by teamwork built in the absence of organizational structure and leadership.

During the first year of implementation, when HMHB was a nascent student-led, voluntary outreach opportunity, students signed up to participate largely because of Jessie's ability to communicate its merit to her peers. She effectively championed the need for HMHB and tapped into PRIME students' identity as the sub-set of medical students who cared the most about issues of health (and other related forms of) inequity. For example, during the first training session, she described the importance of the service that HMHB provides in the following way:

PRIME-V-10/08/09-1-08:50

Jess: So just so you know that what we're doing is good, when you look at the very bottom[43] it says prioritized standards. These are the required health standards for every ninth grader in the state of California. Right now Kennedy High is receiving zero, none. So what we're trying to do is give them a crash course in the standards that they're supposed to be getting. So basically it's a crime that they're not getting these taught, like it's illegal to not teach the standards, so we're filling that gap for them. So what

[43] Jessie references text at the bottom of a page in the curriculum packet, which describes the California State health education standard with which a given lesson corresponds.

10 you're doing is really important, and we're not just like
11 randomly saying "we should talk about sex because it's
12 fun." We're talking about it because it's required by the
13 state that these kids have a sex ed class. And they're not
14 getting it. Got it?

Here we see that Jessie described an educational need that was not being met (lines 4-5) and how "it's a crime" against Kennedy students that they're not receiving health curriculum (lines 7-9). She then explains the medical students activity in HMHB as "filling that gap for them" (line 9) and extremely important for this reason (line 10). Notably, at this time there was no discussion of the benefits for medical students for participating, which were many. Medical students gained the opportunity: to improve their confidence speaking as health experts, gain experience as health educators and public advocates, learn about population-based educational interventions, and mentor and inspire young people. This is not to say that medical students were completely unaware of how they benefited from the experience, but it was not part of the dominant rhetoric used to promote HMHB's purpose.

The participant evaluations from the Cohort 1 of HMHB in 2009 revealed that students were compelled to take part in HMHB before it was certain if they would receive elective credit because they felt that service was important to who they were as future physicians. When asked, "Why did you join this elective course?" responses from all 14 medical students who participated in the survey mentioned valuing outreach, service, and community impact as primary motivators, as seen in these abbreviations of some of the replies:

- "Because giving back to younger generations is important to me…"
- "I believe in the importance of education and thought it would be a good chance to do some good for kids who need it."
- "I wanted to teach high school students and make an impact in my community."
- "Because outreach is important to me."
- "To teach and to make a difference…"
- "A great way to get involved in the community…"

Though PRIME-HEq did not have an official statement of purpose during HMHB's first year, service was an important value for PRIME students, who were both recruited for, and active in, fostering this value in their close-knit community. Conversations about the role of PRIME-HEq in serving underserved neighborhoods in San Diego were paramount during Sí Se Puede meetings and informal discussions in the halls of the School of Medicine.

5.a.ii A Defining Moment: "Requiring" Service

When Dr. Collins-Morales was selected to direct PRIME-HEq, she was impressed by the initiative taken by students to create HMHB. In order to sustain the program, students wanted to make it an official elective and Dr. Collins-Morales supported this leadership effort by working with students to think about how to continue the program in years to come. She heard stories from participants about formative experiences they had while teaching at Kennedy High School and enthusiastically supported Jessie and her

classmates as they petitioned for elective credit. After the second year, in which Ida struggled at first to recruit new students and enrollment fluctuated between quarters, conversations began about whether or not HMHB should be a required course. Almost all of the students supported this idea, but a few objected, saying that it would be odd to require participation in a service project. Here we hear from Joel, who remembered Susanna's objection as follows:

PRIME-V-Joel-111512-00:10-01:00

Joel: If I remember correctly I think Susanna was one that when we first had the discussion as far as whether to institutionalize it and make it required, I think she was the one that was pretty much against it? Because for her, this wasn't her interest, right? She was like "why are you going to make it required because then every student that comes in, that's saying that they want to do this? I didn't want to do this. And so I would hate to have come in and have this be required, well not hate, but, you know…I wouldn't have wanted to do it." So.

Here we learn that Susanna – whose professional interests were in health policy, not health education or promotion – felt that requiring students to enroll in HMHB as a class implied that all PRIME-HEq students should or would want to teach at Kennedy (line 7) when they may prefer to devote their time to other activities. While Susanna had a point that all students might not share a passion for health education, her objection demonstrates the common attitude towards HMHB as volunteerism, something that students should have the choice to participate in.

5.a.iii An Emerging Object: Healthy Minds Healthy Bodies as Experiential Learning

Despite small dissent, most students agreed that making HMHB part of PRIME-HEq's core curriculum would guarantee a constant stream of new participants and aid its sustainability. Dr. Collins-Morales was pleased with the program thus far and felt that making HMHB a required course for first-year PRIME-HEq students in the subsequent years would ensure a critical mass to run it while also affording students the educational benefits of "getting out into the community."

PRIME-HEq students were already required to participate in an elective in which they worked in one of several student-run free clinics across San Diego, and she felt that just as that gave students clinical exposure, HMHB offered students a unique set of experiences and opportunities to develop relevant skills and was therefore beneficial for all PRIME-HEq students. When I talked with her about what she felt these unique experiences were during an interview, she stated the following:

PRIME-I-Dr.CollinsMorales-2:00-4:25

DCM: [HMHB] is an entirely different facet to the life of the physician. In student-run free clinic, I think it's a fabulous clinic and they do get to do some advocacy and etcetera, but, there's something very unique about, that whole concept as you mentioned of health promotion and learning that skill set. And in that setting also recognizing some of the potential barriers to doing the things you need to do in the clinic setting, which I don't think you necessarily fully appreciate when you're in a clinical setting?

TP: Yeah.

DCM: So it- you know from my end I think it's always important to see children where children spend a lot of time?

TP: Mhm.

DCM: Because in so doing you really get a very good insight into, what it is that they're bringing to the table, to the clinical table if you will.

TP: Right.

DCM: What are the barriers, and there are numerous that, you

might not even have the opportunity or the time to explore in a clinical setting. So I do think it enhances how you view…These [students] can potentially see this cohort for, you know, it's almost of year.

TP: Yeah.

DCM: And beyond if they choose to do more in the way of leadership in the subsequent year. So I think there is a skill set that's beneficial to clinicians, but we've always tried to teach in a clinical setting, but it really is nice to be able to have students – and even our own pediatrics residents – go out to community, because you have to see people in their own environment to really have any degree of appreciation…The clinical setting simply doesn't let it unfold in that way unless you have a relationship with families for a long long time. Which, that's what we all endeavor to do as primary care doctors, but I'm talking about just from a training perspective. I think it's hard to train and understand that stuff without being there.

Dr. Collins-Morales' description of the unique learning affordances of HMHB involved multiple points. While the free-clinic elective offers students a chance to observe and practice clinical skills (line 2), HMHB lets them engage in health advocacy and promotion (line 5). Advocacy and promotion are population- rather than individual-based interventions, and therefore require a different set of skills than one-on-one patient education (line 6). This is not to say that experiences in HMHB are irrelevant to clinical encounters (line 26), as she also sees HMHB as a way for students to learn about some of the "potential barriers" to patient compliance that they might run into in a clinical setting (lines 6-8) – such as geographical factors or socio-cultural dispositions that might inhibit or sway patients from following the doctor's orders. "From [her] end" (line 11) as an educator, she saw it as necessary to see children where children spend their time (line 12) – to "go out to community, because you have to see people in their own environment to really have any degree of appreciation" (lines 29-30) or insight (line 14) into the social

circumstances that impact health (line 18). In addition to contextual observation, learning about what patients "bring to the clinical table" (lines 15-16) takes sustained interaction, which primary care physicians acquire through relationships with families over time (lines 32-34). From a medical education training perspective (line 35), "it's hard to understand this without being there" (line 36).

The main thing we can draw from above is that Dr. Collins-Morales saw benefits for HMHB teachers that transcended beyond community service. Students were both serving and learning – developing diverse and highly relevant skills for both clinical patient interactions and population-based health promotion.

5.a.iv Multivoicedness of Participants: HMHB as Service, Required Service, and Service-Learning

However, despite this budding motive for HMHB as an educational experience, not all participants adopted this new motive. At the end of the third year multiple narratives and opinions circulated concerning HMHB's object. The narrative of HMHB as service and its outcome as health education remained significant and was woven into the program's origin story, which many medical students learned and retold similarly.

For example, when Gloria introduced the objective of HMHB to the third cohort at the first training session of 2011, she told a story very similar Jessie's, two years prior, about HMHB's purpose:

PRIME-V-09/20/11-21:00-21:30

Glor: Um, so very quickly, basically the main purpose of the course is the fact that Kennedy High School does not have a health curriculum. So many of you may have taken – maybe like in tenth grade in California – taken a health education course for a semester? Most of these students will not take that course, will not get any health education unless they get it from you, or if they already have a symptom and they go to a clinic and go get like a ten or fifteen minute, you know, brief introduction. Um, so that's basically the main purpose of the course.

Gloria's introduction echoed Jessie's even though HMHB was now a part of the required PRIME-HEq curriculum and becoming a form of medical education. Gloria stated that Kennedy did not have a health curriculum (lines 2-3), and again we find a discourse of service, without mention of what role the course might play in the medical students' professional development.

However, some students from the third year recognized that HMHB "filled a gap" for PRIME-HEq and for medical students. Lora, a participant in Cohort 3, showed this awareness in her interview, which took place when she was only six months into her schooling:

PRIME-lora-V-022612-10:15-10:40

TP: Do you know how HMHB got started?

Lora: Ah my understanding is that it was started by Jessie Patterson what four years ago or three years ago, three or four years ago and um, that- She had been a TFA alum and it was her ISP[44] project. And coincidently Kennedy High school lost their health and sex ed funding at that time and um, then also maybe PRIME was looking to develop relationships in SESD[45] around the same time. Um, so it was

[44] Independent study project, a requirement for all UCSD SOM students.
[45] An abbreviation for southeastern San Diego

9 sort of a confluence of events that seemed to be a win win
10 win for everybody. And uh, yah.

Lora described HMHB as a "win win win" (line 9). It not only provided health and sex education at Kennedy (lines 5-6), but also a research opportunity for Jessie (lines 2-5) that combined her former experiences with her new professional interests, and a community partnership for PRIME-HEq with an organization in southeastern San Diego (lines 7-8) – a historically underserved neighborhood.

At another point in her interview Lora further demonstrated a sense of HMHB as bringing together multiple motives, objects, and outcomes:

PRIME-I-Lora-022612- 10:10-11:45
1 TP: How would you describe HMHB to someone who's never
2 been- never knew anything about it?
3 Lora: Okay, ha, so, haha okay. So HMHB is essentially, um. I
4 think it's two things. It's an opportunity for personal
5 development as a teacher and as a mentor, ah, to
6 underserved high school children. And also as a way of, an
7 educational means in health and wellness for high school
8 children. So we basically go- we as a teacher learn the
9 topic we're going to teach the kids one week and the next
10 week go into class and actually teach the kids, um, various
11 topics from nutrition, to um, contraceptives and birth
12 control, and it challenges you. For me it was very
13 challenging having to stand up in front of high school kids
14 and talk about certain things like female anatomy.

This time Lora points to HMHB as "two things": 1) an opportunity for "personal development" for medical students as teachers and leaders (lines 4-5) and, 2) an educational program for high schoolers (lines 5-6). Lora continued after this to talk about

her professional development through HMHB, highlighting how her confidence and public speaking skills improved dramatically over the course of her participation as a teacher.

Lora was not the only who spoke about professional development in addition to service. In fact, two thirds of the students I interviewed from the third cohort shared that they wished the training sessions included more direction in instructional strategies, public speaking, and presentation skills. Only one student from the first cohort shared this sentiment, which implies that students from the third cohort recognized there were skills they might hone during the experience, even though they simultaneously talked about the class as a service project. Again, we can see the contradiction between these two orientations, yet understand that one perspective is historical and the other is emergent.

When I conducted a reinterview with Amber, one of the girls who worked closely with Jessie to begin HMHB, I told Amber how I found the simultaneity of HMHB as a service project and as a core course to be an interesting combination. Amber replied in a way that surprised me:

TP: It's interesting, because Healthy Minds Healthy Bodies started as a volunteer effort, but it's now a class. But it seems to me like students still think of HMHB as volunteer work, which is interesting since it is also part of PRIME's required curriculum now.

Amb: Yeah, but it kind of is still volunteering because by the time you finish your second year as a PRIME student, you've completed way more elective units than you have to. So it's kinda like extra.

Amber's rationale illuminates well how students could still think about HMHB as a service project, even in its new institutional function, because PRIME-HEq students are involved in so many other electives and they go above and beyond other medical students in their efforts to contribute to community engagement.

It is important to note that almost all of the students who participated in HMHB during the third year, even if only because it was a new requirement, reported that ultimately they were glad to have been part of it. One student even shared that she was initially frustrated she had to take the course, yet after the year was over she fully supported the decision to make it part of PRIME-HEq's curriculum. Faculty and staff unanimously agreed that having HMHB as part of the core courses for the first time was advantageous from an educational perspective.

Even though there was diversity a ideas about the purpose and promise of HMHB, the multivocal conversation among stakeholders sounded to me to be developing in the direction of continuing to integrate HMHB into the UCSD SOM's curriculum.

5.a.v The Common Object Problem

What we see when we look at the last two sections together is that the service narrative from the first year survived among subjects, despite the program's new institutional position and its growing understanding as contributing toward multicultural medical education curriculum.

Igira and Aanestad (2009, 210) have also observed how residual ways of talking, thinking, and acting often survive organizational shifts in activity systems as the tertiary

contradiction between new and old forms of activity systems are worked through. In their study of ongoing transformations in the healthcare sector in Zanzibar, Tanzania, Igira and Aanestad showed how participants often take preexisting historical resources from one social situation to the next during developmental transformation. Drawing on the concept of an "installed base" from studies on information infrastructure (Star, 1999, 382), they argued that the initial technological tools developed for work within an activity system impact future cycles of organizational change; all innovation is "built on an installed base" of infrastructure that underlies interactions and underpins activities, yet remains hidden from our attention (Star, 1999, 381). This inherited history can push back against transformation, or as Star would say: growth requires "wrestl[ing] with the inertia of the installed base" (1999, 382). Igira and Aanestad also noted that the concept of an installed base of preexisting historical resources can include "past technologies, actions, and contexts that impact the process" of change (Igira & Aanestad, 2009, 227), but they focus mainly on technological bases.

Engeström (1993) and Viv Ellis (2011) have also described how elements of an older version of an activity system can survive to impact the future, referring to these remains as "sediments." Perhaps this term is better suited here, as I have observed that initial attitudes toward work and ideas about the objective of an activity can also survive as a residual orientation and become a source of tension in the future. As Blacker (1995) has noted, actors may not share the same motivations or conceptions, despite their coordinated participation in the same activity.

Meyers (2007) has written about this kind of "trouble" – which surfaces when new ways of thinking or doing come in conflict with existing ways of thinking and doing

– in his analysis of high school library systems in the midst of structural and pedagogical reform. Meyers found a contradiction between how the librarians and teachers viewed library research: librarians viewed the research process as valuable for students, who benefit from the process of searching for reliable information; teachers, on the other hand, viewed research as a means of analyzing and synthesizing data, in which case searching at the library was a slow, messy process. This, according to Meyers, created ambiguity regarding the object of library practices. As the relationship between the teachers' and the librarians' work shifted due to structural reorganization, a disparity emerged between how they understood the shared objective of the two domains of work, what Hakkarainen (1999) has called the "common object problem."

In order to better understand this common object problem, it is helpful to return to Bronfenbrenner's metaphor for context as concentric circles discussed in Chapter 3. Applying activity theory to this metaphor, we can think of context as embedded activity systems, or concentric triangles, as modeled in Figure 5.1. This image helps to depict HMHB's institutional embeddedness and how it has became part of a larger social and professional ecology that influences its objectives, motives, outcomes, and practices, as well as the conditions it must meet in order to be sustainable.

In the figure below, the inner most triangle contains the interactions of individual medical students as they work to create a health education program. At the next level of context we see HMHB as one program within the larger institutional structure of the PRIME-HEq, and therefore involved in forwarding the objectives of this group, particularly multicultural medical education and fostering student leadership. PRIME-

HEq is also active in promoting the aims of the UCSD School of Medicine as one of five medical educational institutions within the network of the University of California to educated future physicians – and the more specific but related purpose of UC PRIME – to equip culturally-competent, diverse physician-leaders to address shortages in underserved medicine in California. The multiple layers of this ecology of organizations have repercussions for the activity of HMHB, which seep all the way down into the individual interactions between participants as they produce HMHB.

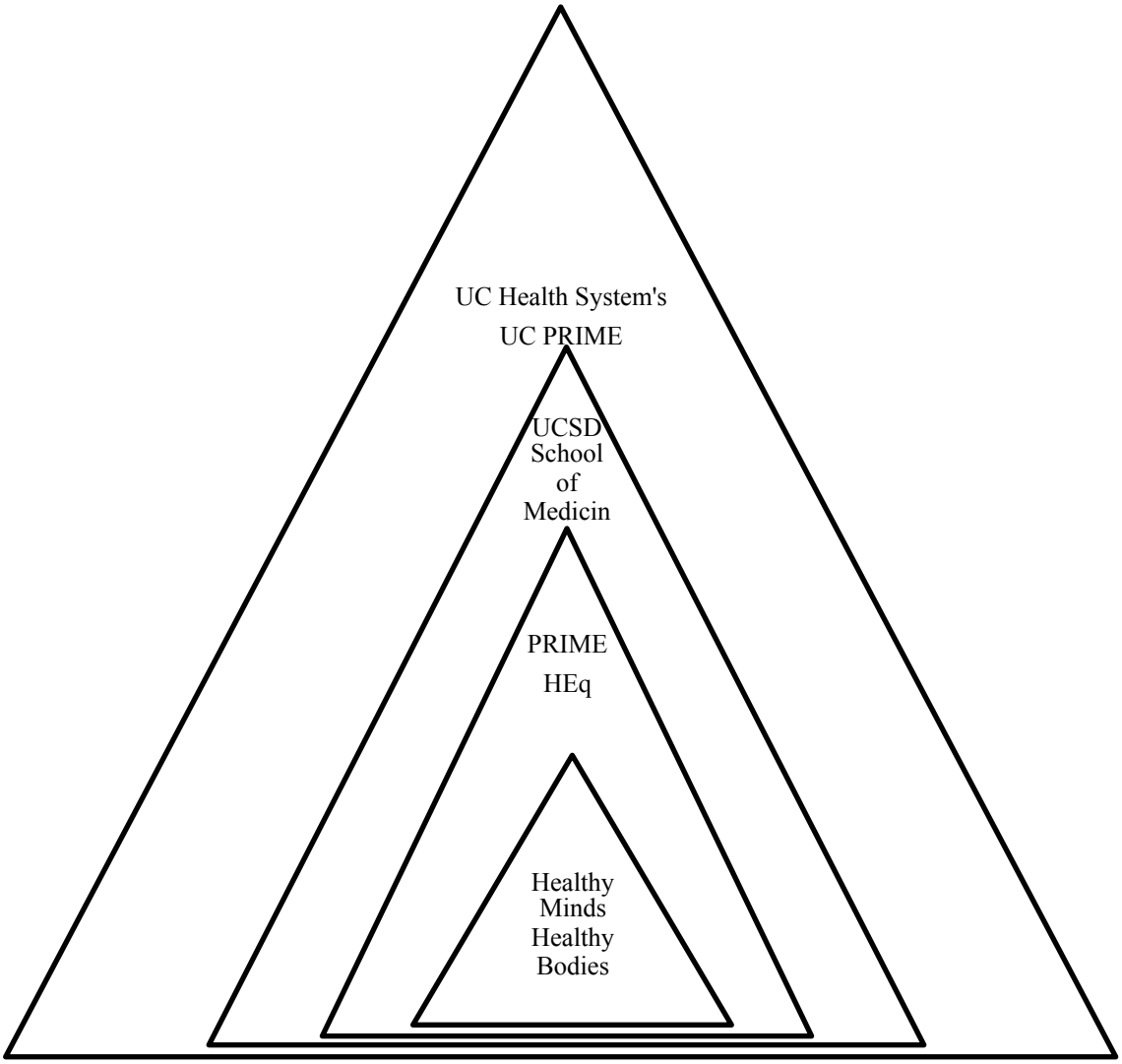

Figure 5.1: Healthy Minds Healthy Bodies situated within related activity systems.

As HMHB has been integrated into this network of activity systems and organizations, its object has evolved as various participants within these systems try to craft a coordinating common object. When HMHB was created, its organizing objective

was to provide health education at Kennedy. Individual participants later brought various goals and ideas for the future of HMHB – it could provide elective credit for medical students, it could help the medical students and the medical school be active "in the community," it could serve as a research project or resume builder, it could bring notoriety to UCSD PRIME – but the shared, explicit object was one of outreach.

As HMHB was brought into PRIME's official curriculum, new goals emerged: the PRIME director hoped HMHB would give students an inside look into the lives of adolescents, spark their interest in health promotion, and help recruit medical students to UCSD; and newer students start to want HMHB to run smoothly (since it's a class after all) and efficiently (since it's also thought of as volunteer work and takes time away from studying) – a problematic mix of aspirations.

So what *is* the objective of HMHB? Is it to serve San Diego's youth by teaching health information or is it to provide pre-clinical medical students with a glimpse into the lives of urban adolescents and allow them to experientially develop skills as health educators? Is HMHB about improving Kennedy students' health outcomes or training medical students to work with underserved populations? Is HMHB service or learning? And is it possible that it could become a synthesis of these things: service-learning?

Service-learning could be a potential "emerging object of activity" (Thompson, 2004, 583) for HMHB, as service-learning "integrates meaningful community service with instruction and reflection to enrich the learning experience" (NSLC, 2012, ¶1). However, in order to expand the object, HMHB stakeholders will have to ask once again: what should the object of HMHB be and how will practices need to be reshaped in light

of this emerging object? The product of such a conversation could be very fruitful and lead to the kind of expansive transformation described by Engeström (2001) and discussed in Chapter 3.

5.b EXPANSIVE ORGANIZATIONAL LEARNING FOR HMHB

As described in Chapter 3, expansive organizational learning takes place when the object and motive of an activity are "reconceptualized to embrace a radically wider horizon of possibilities than in the previous mode of the activity" (Engeström, 2001, 137). Expansive learning goes beyond adaptation and leads to innovation – a deliberate departure from past organizational structures – that open up new trajectories for the system's future.

Configuring HMHB as service-learning will require restructuring some of its tools, rules, and practices. It is my intention that this research will function as mirror data that "traces the roots of current trouble by mirroring experiences from the past and … enable[ing] the participants to focus their transformation efforts on essential sources of trouble" (Engeström, 2007b, 372). Perhaps this research will spark conversations among stakeholders about how to do this and thereby set in motion a cycle of expansive learning.[46]

[46] This conversation about transitioning HMHB to be more aligned with service-learning has already begun during planning meetings for the 2012-2013 year and will hopefully continue as participants have a chance to read this dissertation.

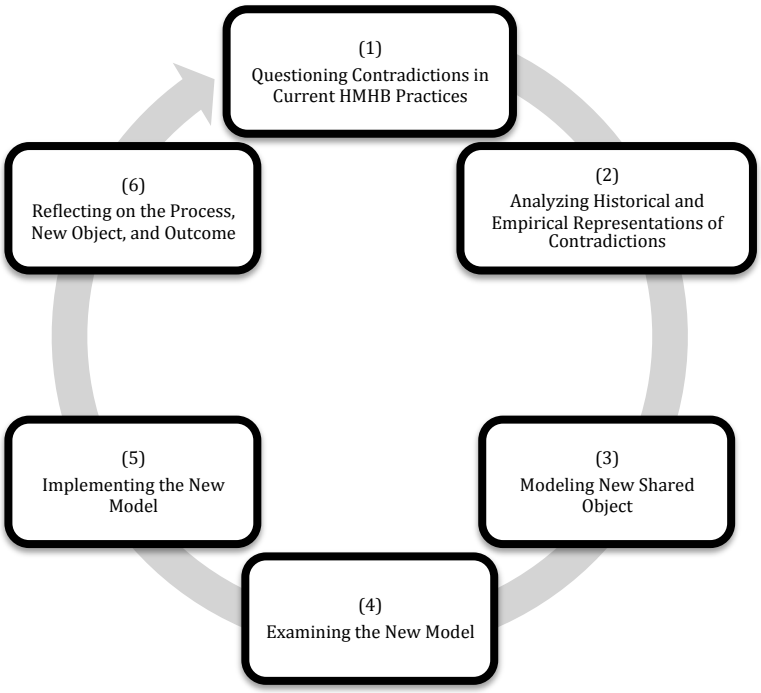

Figure 5.2: The sequence of actions in an expansive learning cycle for HMHB.

In Chapter 4 and the first sections of this chapter, I offered data that address the first and second phases of the expansive learning cycle. First, I questioned current practices by identifying tensions and contradictions in the everyday operations of HMHB. Second, I analyzed these contradictions by tracing their development, pointing out the tensions they generate, and creating representations for reflection on HMHB as an evolving activity system. I came to the conclusion that the most pervasive contradiction facing HMHB is between its old motive as service and its emerging motive as multicultural medical education.

I now propose that a synthesis of these orientations – embracing HMHB as service-learning – could be a fitting new model for HMHB. I examine this model and

map out some of the ways it could translate into the practices, tools, division of labor, and productive processes of HMHB.

I have already shared some of these ideas with PRIME faculty, staff, and student leaders during planning meetings for the 2012-2013 year of HMHB, which took place after the completion of my data collection. I present them again here in a more expanded and coherent way.

5.b.i A Model of Service-Learning as a Shared Object

In Figure 5.3 below I have paraphrased statements of purpose or vision from the various activity systems that interact with HMHB, which I take as a statement of the object of these systems. UC-PRIME's focus, as a state-level organization, is to create physician leaders to provide equitable care to an increasingly diverse state population (Nation, Gerstenberger, & Bullard, 2007). The UCSD School of Medicine takes a broader focus – to provide state of the art, scientifically astute, and compassionate care to patients (UCSD SOM, 2012e) – and is not specifically focused on meeting the needs of underserved populations – and also emphasizes being ahead of the curve when compared to other schools. This makes its embrace of HMHB as a class commonsensical, since HMHB can be interpreted as experiential learning, which is gaining in popularity in medical schools across the nation. PRIME-HEq, as a branch of UC-PRIME, shares a similar goal to its mother organization, but its approach and emphasis are unique. It

promotes diversity, scholarship, and community engagement (Willies-Jacobo, 2011) but specifically around topics that are disciplinarily connected to "health equality" in medicine. HMHB's object has become two fold: 1) its purpose is to serve San Diego community through health education; 2) its also about equipping students to be educators, advocates, and clinicians. Finally, according to Kennedy's official mission and vision statement, the school's purpose is to provide students with knowledge and skills they can apply to real-life problems and scenarios, which is why Kennedy administrators were interested in partnering with UCSD to teach students about health concepts and behaviors.

When we reflect on the collective motives of these activity systems, service-learning appears as a potential point of intersection because it offers students educational and leadership opportunities that can aid in their development as physicians and health advocates.

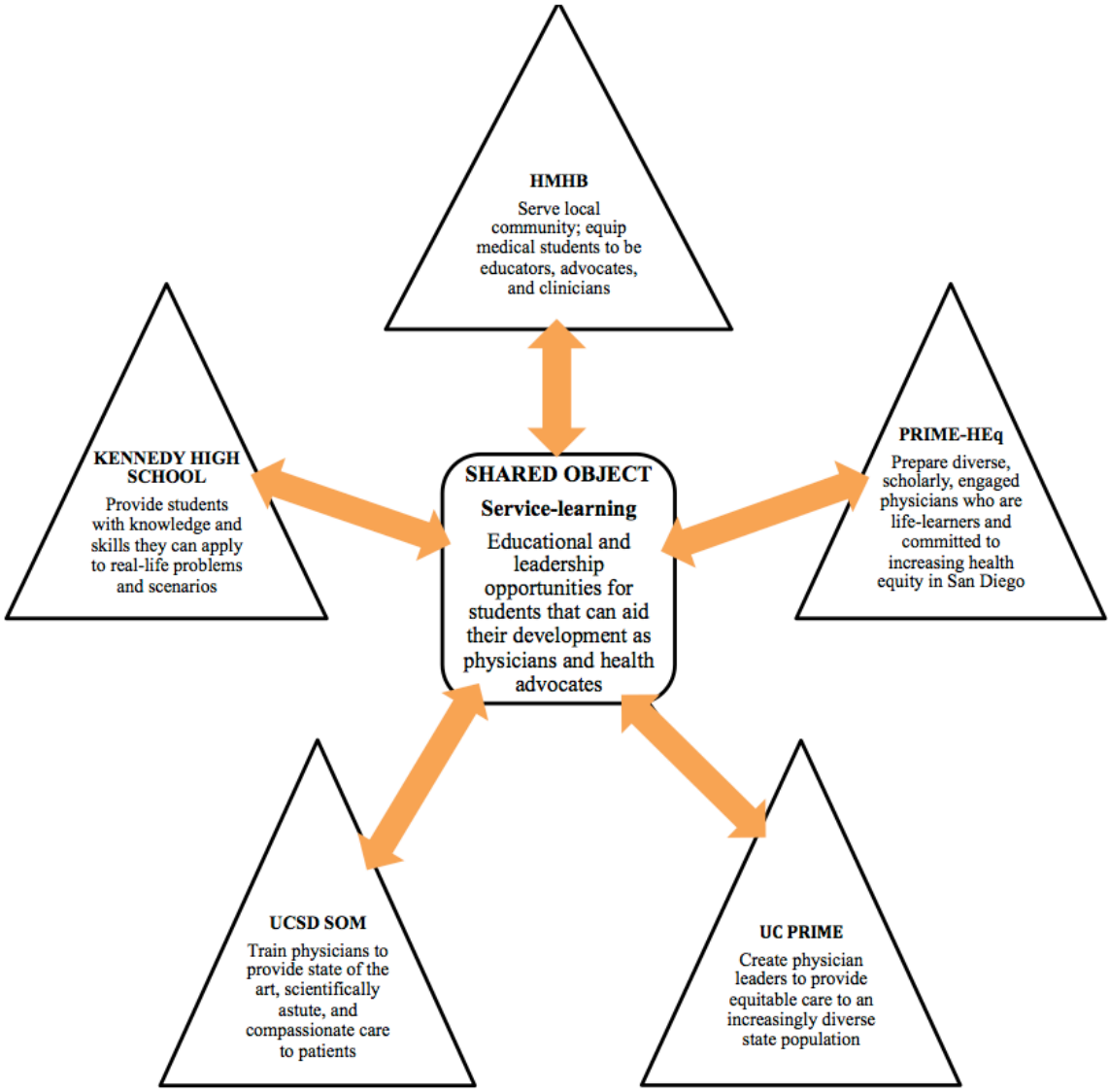

Figure 5.3: Objects of the interconnected activity systems and a possible shared object.

Service-learning is a pedagogical tool well suited to align these converging motives. It is a boundary object that multiple systems can understand, value, and rally around. As mentioned in Chapter 3, a boundary object does not have to mean exactly the same thing to and in every system. However, when its structure is common enough to

more than one system to make it identifiable across settings, a boundary object is central in developing and maintaining coherence across intersecting social worlds (Star, 1989, 393). Service-learning, as a concept and practice, may mean something different within each of the organizations, yet it is robust enough to maintain a common sense of commitment across UC-PRIME, UCSD SOM, PRIME-HEq, and Kennedy High.

5.b.ii Reconsidering Best Practices for Service-Learning and How They Might Apply to HMHB

I return now to some of the important features of service-learning outlined in Chapter 1, particularly those that apply to objectives for multicultural medical education, such as fostering reflective practitioners and life-long learners. I suggest practices for HMHB that could be implemented or altered to align with these features.

5.b.ii.1 Curricular Integration

As discussed earlier, Breunig (2005, 15) contends that service-learning must go beyond volunteerism and integrate with academic curriculum with service experiences. Service-learning incorporates structured learning (Seifer & Conners, 2007, 5) while still allowing students to spearhead projects and work with community partners to define the course of action.

Curricular integration necessitates a clear understanding of how the service project and experiences relate to specific training outcomes so that facilitators can guide

classroom conversations and activities to link up with these outcomes. Identifying outcomes and objectives is not only helpful for students and teachers, but also for administrators, who need to conceptualize how the course fits into the broader curriculum. Seifer and Conners (2007, 6) clearly define that the mission and goals of service-learning can assist the higher education institutions to build institutional capacity around the program.

For the second and third year of HMHB, a course description was developed for the program, but some of the features of this description have yet to be implemented. It might be time to revamp this description. Also, it could be helpful to develop a "Students Will Be Able To" statement – similar to those that HMHB teachers use when teaching at Kennedy – that outlines the desired outcomes of the course and how these outcomes connect to PRIME-HEq's and the UCSD SOM's curriculum.

Based on my observations, students, faculty, and administrators are most interested in the following learning outcomes for HMHB: 1) cultural humility, 2) public speaking and presentation skills, 3) health instruction strategies, and 4) familiarity with socio-cultural-geographical barriers to health for urban adolescents. My sense is that faculty see how these characteristics can be developed through participation in HMHB very clearly, but that students do not always recognize and consciously consider these potential outcomes. Keeping these outcomes at the fore of students' minds might bring clarity when they are making leadership decisions about how to prioritize and structure certain activities. For example, over the years students spent an increasing amount of time talking about classroom management skills rather than instructional and presentational techniques. While classroom management is difficult to learn, it is not the

most relevant skill that students can hone through participating in HMHB for clinical interaction nor health promotion, and thus it may not be the most advantageous focus.

Sharing a statement of purpose for HMHB, well as the desired learning outcomes during the first training session might also help students to orient their activity toward these goals. This could also help in transitioning students perception of HMHB as service to service-learning. It could also help students understand how a simulation framework for training sessions contributes to creating an experiential learning environment and help clarify the logic behind this format.

Also, identifying links between experiences in HMHB and concepts covered in other core courses could further strengthen curricular integration. An effective technique for this could be reflective writing and in-class discussions, the next topic for consideration.

5.b.ii.2 Guided Reflective Practices

Another essential element of service-learning is that it incorporates reflection to enrich the learning experience (Kolb, 1984; The National Service-Learning Clearinghouse, 2012, ¶1).

Students benefit from dedicating time to individual reflection as well as participating in group discussion that facilitate connections between service experiences and their professional relevance. Some of the popular methods service-learning instructors use to incorporate classroom discussions are: directed writing, analytic papers, journaling, portfolios, and group presentations.

Reflection allows students to synthesize new knowledge gleaned through service activities with formal knowledge obtained in class. It also aids instructors in analyzing the experiential learning that occurs at Kennedy High.

Reflection in service-learning entails analyzing emotional and intellectual responses to service experiences and according to McPherson (1995) the benefits can include:

- Helping students understand the limitations and opportunities of the service site or community setting
- Encouraging students to cultivate a "spirit" of civic-responsibility and mindfulness
- Creating a habit of introspection and self assessment
- Improving the quality of service activities as participants consider ways to refine their efforts
- Reviving enthusiasm and emotional investment

As described in earlier chapters, during planning meetings for the third year of HMHB, Jessie, Dr. Collins-Morales, and I proposed incorporating reflection and discussion into each training session, but this idea proved difficult to implement. The student leaders felt unsure about how to lead these conversations and therefore the idea was not systematized. While the medical student leaders brought a lot of strengths to the program, this could be their weakness, especially if they do not have prior teaching experience.

I see a few potential routes for implementing reflection in HMHB. First, it could be advantageous to add a short bi-weekly journaling assignment or to ask students to complete a final writing assignment at the end of the semester. Second, monthly and concluding group discussions could also be fruitful.

Making reflection a regular part of training sessions might make Jessie's original idea for grading – to serve as a reflective tool for medical student teachers – feasible. Reviewing collective scores and interpreting data as a group is a new practice that could be built into discussion time. This might still require some technical adaptations to the Google document (tool to ensure that all students can manipulate and access the cumulative scores) and adjustments in rules about grading deadlines. It might also help to inform students that at this time, as far as I can tell, HMHB is being assessed by the School of Medicine more so based on course evaluations that medical students fill out at the end of the academic quarter than Kennedy students' scores on exit slips.

5.b.ii.3 Reciprocal Learning Relationship

Orientations to service-learning can range from charitable to civic, however, service-learning in its most enriching form is not as one-sided as volunteering and focuses on collective as well as individual development (Seifer & Conners, 2007, 6). Service-learning highlights the fact that students also gain from services acts, and that their partners are their teachers. Reciprocity and partnership is a founding value for PRIME statewide, yet at times students' schemas for community engagement seem to slip into volunteerism.

So many of PRIME's other programs and activities successfully emphasize and promote recognition of reciprocity, but based on my observations, this conversation could carry over more effectively into HMHB. It could prove beneficial to incorporate this topic into reflective activities, which would hopefully reinforce this value and attune students to certain behaviors or ways of talking that seem contradictory. This also provides a point of possible curricular integration.

5.c CONCLUSION

In this dissertation I conducted a multi-level organizational case study in building and sustaining a new multicultural medical education. I observed how over the course of three-and-a-half years HMHB transitioned from a student-led, volunteer-based health education service project to a required course for first-year PRIME-HEq medical students. With this transition of purpose and institutional status came other unforeseen changes in, and contradictions between, the practices, tools, and procedures that medical students used to carry out the operation of HMHB. This also coordinated with a shift in the atmosphere of the training sessions, which became more formal, less interactive, more evaluation-focused, and less simulation-based. These changes were connected to evolving and at times conflicting expectations, goals, and objectives for HMHB.

I argued that applying cultural-historical activity theory to analyze organizational contradictions not only offers insight into the origins of tensions, but also provides tools for imagining future trajectories for activities such as HMHB. I argue that the original objective of the program was volunteer community *service* and that experiential *learning*

emerged as a new objective for HMHB. Separately, these were competing interests without a common object to tie them together; however, it might be possible to synthesize these orientations in the form of service-learning. Reframing the program's motivating object as service-learning could create synergy and coherence for the multiple actors and systems involved, as well as help to address contradictions within the program. I also offered initial considerations for how to expand HMHB into service-learning.

5.c.i Returning to Research Questions

I return now to reply to the research questions for this dissertation. First, is HMHB a program that can be an effective and sustainable form of experiential, multicultural medical education that encourages students to be life-long learners and reflective practitioners?

I have outlined both the ways in which HMHB is already a creative form of experiential education, and potential ways in which it can innovate to be even more relevant for multicultural medical education. Working through the expansive learning cycle to transform HMHB into a form of service-learning could also improve the program's chances for sustainability because it would provide a common object around which the various participants and organizations involved can coordinate.

Second, how can cultural-historical activity theory help us think about the future of HMHB in light of its past and as situated in a network of organizational relationships?

Cultural-historical activity theory proved a helpful conceptual framework for tracing the origins of contradictions in HMHB and locating it in a network of organizations that impact its development. The concepts of expansive learning and shared objects also helped configure my recommendations for the future.

5.c.ii (Re)building the Plane While Its Flying

To close, I would like recall Dr. Mark Servis' (2012) speech at the 2012 PRIME conference quoted in the introduction:

> From an organizational perspective, PRIME is a med school within a med school. When we initiated PRIME, it wasn't all worked out – we had to build it as we went. I like to use the metaphor of building a plane as we fly it to describe PRIME. We launched it, we're running it, but it's a work in progress. This is the structural, organizational challenge of making PRIME as we go. (Servis, 2012)

The learning challenge for UC PRIME continues to be to create and implement innovative, sustainable programs that offer students educational experiences that will encourage their development as underserved practitioners, and to do so "while the plane is flying."

All of the PRIME programs are attempting to do this by building unique training opportunities for students, initiated by students, yet sustained by institutions, and therefore may run into similar tensions and contradictions as did HMHB. As we saw with HMHB, institutionalization of informal programs into the formal operations of a major medical school can introduce the mores and motive systems of traditional higher

education into the system, which manifest in shifts in the practices and orientations that originally made these programs favorable and unique. This does not mean that institutionalization is harmful, but rather that changes in practices have to be analyzed, evaluated, and retooled.

Taking time to examine these evolutionary processes – as I have done here – not only sheds light on the origins of tensions, but also offers insight for possible futures. It is my hope that Servis' metaphor – that the organizational development of PRIME is like building a plane while it's flying – is even more illustrative in light of my close analysis, and that my proposals for future activity will contribute to keeping PRIME up in the air.

APPENDIX A

PARTICIPANTS: CODED NAMES, COHORT MEMBERSHIP, AND INTERVIEW PARTICIPATION

Informants by Cohort. Students with a º sign were student leaders during that year. Students with a * sign also participated in a semi-structured interview.

Pilot	*Cohort 1*	*Cohort 2*	*Cohort 3*
Jessie	Jessieº*	Idaº*	Gloriaº*
Mindy	Ida*	Gloria*	Mattº*
Amber	Mindy	Matt*	Hayley*
Carly	Amber*	Linus	Viviana
Lisa	Leslie	Molly	Jennifer
	Zahrah	Penny	Brittany
	Zack*	Christy	Lora*
	David	Phil	Mani*
	Jeff	Jordan	Peter*
	Milo	Scott	Sukhleen
	Nolan	Eva	Prabhav
	Lisa*	Timothy	Sam*
	Joel*	Xenia	Nicole
	Carly	Matt	Leilah
		Rupert	Veronica
		Trevor	Teagan
		Imagen	Aeneas
		Casey	Fiona
		Juan	Emma*
			Hanh
			Becky
			Josh

APPENDIX B

MEDICAL STUDENT INTERVIEW SCHEDULE

A. Framing and IRB

1) Explanation of Interview's Purpose and Overview of Topics
    a. Learn more about your experiences in HMHB and PRIME and you thoughts on these programs for the future.
    b. Your past and future motivations for practicing medicine.
    c. Study to contribute to improving HMHB for the future.
2) Consent: IRB, Recording, Data Storage, Representation
    a. IRB consent form

B. Intro Convo

1) Where are you in your schooling now?
2) What area of medicine do you hope to practice?
    a. Underserved medicine?
3) What lead you to medicine?
    a. What were some of the formative experiences that influenced you?
4) Background. Where did you grow up?
    a. Urban, suburban, rural area?
    b. Family education and means?
5) Part of UCSD PRIME?
    a. When join?
    b. How did you learn about PRIME?
        i. First impression of purpose.
        ii. Now impression of purpose.
    c. Why PRIME?
    d. PRIME's core values?
        i. How did these become PRIME's core values?
        ii. How did you learn these core values?

C. Community

1) How is the PRIME experience different than the regular medical student experience?
    a. How is your curriculum different?
    b. How are your attitudes or values different?
    c. Is PRIME-HEq unique compared to other UC PRIME programs?

D. Activity and Objective

1) Why did you decide to participate in HMHB?
    a. Are you glad you did?
    b. What things worked for you what things didn't.
        i. Best and worst experience?
2) How would you describe HMHB to someone who knew nothing about it?
3) How did HMHBs get started?
    a. How did you learn about HMHB?
4) What did you think of the training sessions?
    a. What did you want to get out of this time?
    b. What would have needed to change for your goal to have been met?
5) Can you describe for me any activity or instance that you remember well from the training sessions?
    a. Why was this activity/instance so memorable?
    b. What did you learn through it?
    c. Better at teaching complex health concepts to youth
6) Describe the medical student leader(s)' method for leading the training sessions?
7) How did the teaching sessions at Lincoln go for you?
    a. How well did the training sessions prepare you for the teaching
    b. What did you want to get out of this time?
8) What do you think HMHB is all about? Purpose?
    a. For medical students?
    b. For Lincoln students?
    c. From Dr. WJ/faculty perspective?
9) Any unanticipated benefits for you?
10) What was the most challenging aspect of HMHB for you?
    a. Time? Other classes? Other commitments?
    b. How did you juggle responsibilities?
        i. How did you prioritize these activities?

E. Rules/Norms/Traditions, Division of Labor, Artifacts

1) What was your role in HMHB in 2011-2012?
    a. Teaching partner?
    b. Mike Vanessa's role?
    c. Other classmates?
    d. Dr. WJ
    e. Transition to 2011-2012
2) What would you change for next year?
3) Lot of discussion about the exit slips. I'm curious, how did you perceive their purpose?
    a. Important that they be collected and graded consistently?

F. Perception of Changes in Activity System and Other Systems

1) Have you talked to any past participants in HMHB?

    a. Is HMHB any different?
2) What do you think the main objective of HMHB *should* be?
    a. For medical students? of themselves, if their curious about medicine and science to foster
    b. For faculty?
    c. For community partners?
3) Curriculum changes taking place at the SOM? How does HMHB fit into this?

G. Proleptic Subject

1) Do you feel better prepared to practice with underserved populations?
    a. What experiences have made you feel prepared or unprepared?
2) Describe to me what you would like your medical practice to look like in 10 and 20 years?
    a. What are the most important components of this vision for you?
    b. How did your experiences in HMHB influence this vision?

H. Framing of Interview for Interviewee

I have no further questions. Do you have anything more you want to bring up or ask about, before we finish?

APPENDIX C

TRANSCRIPTION CONVENTIONS

Data are transcribed to ready similarly to dialogue in a novel.

1. *Emphasis and Raised Volume or Pitch*: Italics indicate a rise in volume or pitch.
2. *Ending Intonation*: Punctuation marks are used to show intonations changes. A comma indicates a falling-rising contour. A period is used to show falling contour. A question mark designates raising contour.
3. *Stopped Speech*: A dash shows when a speaker stops abruptly without a change in contour.
4. *Passing of Time*: Ellipsis (three period marks in a row) designate that the next line in the transcript did not immediately follow the previous line.
5. *Comments*: Double parentheses contain comments that are not part of the talk being transcribed but might be meaningful for interpretation.

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