## THE ADULT EDUCATION OF HAWAII: RETROFIT THE EXISTING MCKINLEY COMMUNITY ADULT SCHOOL FACILITY

# A THESIS SUBMITTED TO THE GRADUATE DIVISION OF THE UNIVERSITY OF HAWAII AT MĀNOA IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF

DOCTOR OF ARCHITECTURE

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KEYWORDS: ADULT EDUCATION, COMMUNITY, SOCIAL DEVELOPMENT, ADULT LITERACY



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## **ABSTRACT**

The American Economy's Cities Index indicates that immigrants worldwide comprise 18% of Hawaii's population, or roughly 255,000 immigrants settling on the tropical paradise in 2018<sup>1</sup>. Of the total immigrants, more than 110,550 are not naturalized as US citizens, which means limited access to jobs and business leadership opportunities. Regardless of the level of formal education, fluent English is necessary for all business communication and for preparing legal business-related documentation.

US census in 2021 reported that the average median household income in Hawaii is USD 96,000; hence if taking 255,000 and dividing by four as an average household number and multiple by the average median household income, Hawaii is losing about taking about lost in about 6.12 billion dollars annually<sup>2</sup>. Furthermore, the lost revenue would contribute up to a substantial 6.7% of the Hawaii GDP, USD 91 billion in the same year, as the Department of Business, Economic Development & Tourism (DBEDT) reported. Every year as the immigration rate rises in Hawaii, the loss of taxable income also increases as immigrants must learn the language and the culture they migrated to. The sizeable monetary change in taxable income is not only limited to immigrants but also includes at-risk adults ages 16-24 who did not complete secondary education, adults who do not equip with literacy qualifications for white-collar positions, and elderlies that couldn't follow the trends of the current technologies causing them to lose access of the retirement benefits they deserved.

Hence, proposing an architectural landmark expressing the need for proper attention to adult education in Hawaii for all adults so they can adequately transition into the workforce will be the focus of this thesis. First, to discuss the existing adult education program available in Hawaii and identify a site that can be a converging point for all the adult students to come together and unlock their potential to create a difference. Secondly, this research will also look at what andragogy places the effect of adult education on the teacher and the student and derive critical decisions to be made with designing an adult education facility that might differ from a K-12 campus. Lastly, this research will identify architectural language that can help visitors, students, and faculty understand that school is more than a place of lectures—also a place to come together and appreciate Honolulu's rapid urban development.

The problem of current awareness of the need for adult education should be mentioned in the K-12 programs, even as the community adult schools are also part of the system. Perhaps the primary goal of DOE is to place substantial emphasis on children's education, which is crucial as they are the next future leaders of the world. However, adult students should also be recognized as they can take leadership roles if proper knowledge can be distilled in their conscious minds to communicate their needs and dreams to others effectively.

<sup>&</sup>lt;sup>1</sup> New American Economy. "Immigrants and Migrants in Hawai'i: Essential Contributors to the State's Workforce and Economy." New American Economy Research Fund, May 24, 2021.

<sup>&</sup>lt;sup>2</sup> "U.S. Census Bureau Quickfacts: Honolulu County, Hawaii." QuickFacts Honolulu County, Hawaii: Income. United State Census Bureau, 2021.

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I want to thank my parents, who support my career choice as they work their lives off to ensure I have the best environment to learn and practice architecture. I want to thank my professional mentors, Linda, and Tony, who taught me all the knowledge of practical use of material, design methods, and creative thinking; those are the critical skill set that will benefit me for this research thesis and in my architecture professional career.

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## **ADULT EDUCATION IN HAWAII**

#### 1.1 INTRODUCTION TO CURRENT ADULT EDUCATION IN HAWAII

Low literacy has prevented millions of Americans from fully immersing into society and the economy, mainly adults needing more formal education. The US Department of Education (DOE) remarks that more than 54% of US adults between 16 and 74, or about 130 million individuals, need more academic proficiency than a 6th grader. Adult education continues to expand, and lack of literacy costs the US economy two trillion dollars annually. People who reach level three per Programme for the International Assessment of Adult Competencies (PIACC) qualified individuals will earn \$23,979 more than level 1 literacy individuals, according to an economic study conducted in 2020<sup>3</sup>.

The adult school serves as a transitional platform between post-secondary education and career, mainly for immigrants or high school dropouts between the age of 16 and 24, who are also known as an atrisk group facing challenges ranging from not meeting the academic requirements to going to college to not fulfilling the literacy requirements for being hired into a decent paying job. Adult students are pre-tested to locate their academic performance level based on national General Education Diploma (GED) requirements standards. The passing score of 145 on the GED indicates that the examinee satisfies the minimum number of required university liberal arts classes. Hence, a high-caliber student possesses the reading and writing level necessary to be an employee in a white-collar position.

In 2019, 1 out of 6 adults in Hawaii was illiterate, as remarked by the PIACC. Fifteen percent of the group had literacy lower than level one, translating to about 3.5 billion dollars in losses annually for Honolulu due to poor adult education. The existing adult education system utilizes the K-12 teaching method of the traditional classroom; teachers conduct a lecture-based curriculum via a whiteboard. Most community adult school classes often convene in a high school classroom setting to reduce costs in administration and maintenance; occupying empty high school classrooms in the evening is the most cost-effective solution. DOE statistics show more than 1,500 students were enrolled in 2020-2021 statewide; at that time, there was increased demand for classes offered at different times. Other than evening classes, some students prefer classes during the morning or noon; therefore, adult schools will need facilities to host learning programs during K-12 class time. Therefore, the DOE created two primary McKinley Community Schools for Adults and

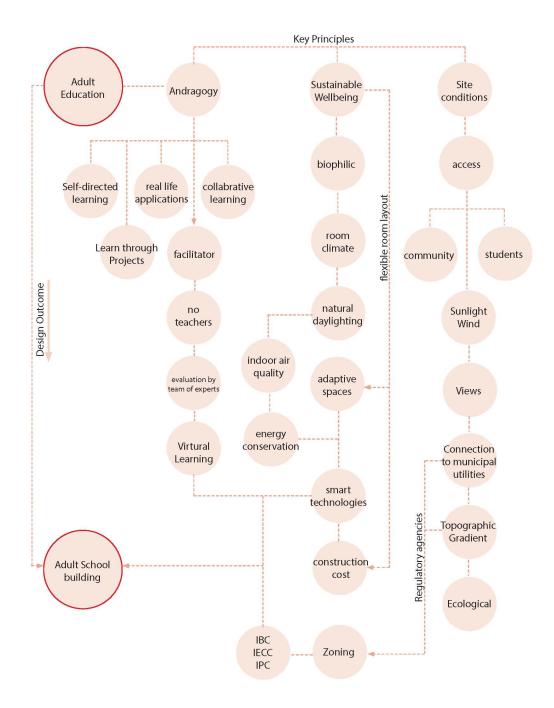
<sup>&</sup>lt;sup>3</sup> "Hawaii-State-Literacy-Plan\_WEB.Pdf," 12, accessed November 23, 2022, https://www.hawaiip20.org/wpcontent/uploads/2020/10/Hawaii-State-Literacy-Plan\_WEB.pdf.

Waipahu Community School for Adults, each with independent facilities for teachers to host morning, noon, and evening classes<sup>4</sup>.

This research will explore the possibilities of combining pedagogies and andrology into adult educational curriculums, defined by the learning experience of a growing community. First, study the existing adult school system that follows the basic model of the K-12 curriculum system that revolves around preparation for colleges or career-based education courses such as Mathematics, English Reading, Writing, Applied Science, and Social Study. Secondly, having a firm understanding of where funding and resources are allocated to adult education programs in Hawaii will better direct the design proposal. Although schools should be designed to provide a better platform for adult student learning, the school would only be functional if a teacher is present. Hence, reviewing a few flourishing phycological works of literature behind adult learning and the relevance of home also search precedents of various scale similar learning facilities to understand the essential architectural elements that define successful adult education system practices. Additionally, conducting field research on existing adult schools to understand student interaction with existing adult learning facilities affects their attitude toward improving their literacy level.

The outcome of this design proposal hopes to introduce a homey sensation in an academic setting respecting unique cultural influences within Hawaii's adult schools to share knowledge to improve learning openly. While leaving a minimum architectural footprint, retrofitting existing adult education facilities will better implement new technologies to enhance student learning. Additionally, teachers and other staff will adapt to the retrofitted environment much faster because their previous memory of the building reduces the time required to learn the layout of an entirely new structure. Lastly, monetary funding would be financially wiser to allocate from the legislation because it is imperative to fund a retrofit project than a new build.

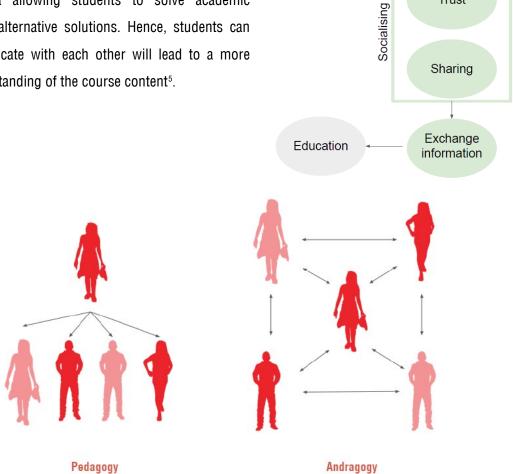
<sup>&</sup>lt;sup>4</sup> "Hawaii-State-Literacy-Plan\_WEB.Pdf."



1.1.1 GENERAL OVERVIEW OF THE RESEARCH

The introduction diagram shows the design portion of this design proposal will look at three main key factors: the andragogy, sustainable-wellbeing, and the existing site condition leading to retrofit of the existing McKinley Community Adult School building.

Opinion on pedagogy, a commonly known education practice for K-12, andragogy focuses more on interpersonal learning between students, with the teacher only serving as facilitator. In analogy to a university-like setting, professors often encourage students to conduct self-directed learning-based curricula allowing students to solve academic problems with alternative solutions. Hence, students can better communicate with each other will lead to a more complex understanding of the course content<sup>5</sup>.



1.1.2 ADULT LEARNING METHOD

#### 1.1.3 PEDAGOGY VERSUS ANDRAGOGY KNOWLEDGE CYCLE

The teacher's sustainable well-being is crucial as users interact with the building. Classes are hosted in the McKinley building from morning to night; different students enter the classrooms. However, teachers must be in the school outside of class periods. Looking into the various devices to introduce more natural

Comfort

Needs

Trust

Adult

<sup>&</sup>lt;sup>5</sup> Dr. Willeke, Andragogy: The Modern Learning Framework

elements, such as wind and daylight, into the classrooms will help teachers stay comfortable when preparing future class material.

Understanding the site conditions helps implement different design strategies to improve classroom lifestyles. Knowing the direction of the wind and seasonal rain allows the façade of the building to be open for more effective ventilation in classrooms and faculty offices. Furthermore, studying sun direction and viewpoint opens ideas for outdoor classes and proper identification of photovoltaics to aid the electricity needed for the daily long-hour operation of the adult school.

The architectural expression of andragogy in adult education is less common in practice, and scholarly will have been that most designs would be easier explained by their form and function than user experience. Since the population context of Honolulu mentioned in the abstract composes a high percentage of immigrants coming into America, hence, assumption of a language barrier would be very typical as immigrants of another cultural background are slowly adopting a new lifestyle. Furthermore, the architecture of the building should better enhance the existing community adult school facility on the island's already diversified educational programs, from basic English learning classes to professional training for white-collar positions.

The faculty of the community adult school will have comfortable working spaces around the facility to create the best learning environment for students and a good platform for everyone to share their knowledge to enhance the ideas of self-directive learning and interpersonal communication skills. In an andragogy learning environment, all students and teachers will constantly exchange knowledge cycles on a more intimate scale, from multiple smaller group discussions to one-to-one mentorship; classroom designs must follow the usual Educational Specifications (EDSPECS) standards; however, flexibility in furniture programming will achieve such results mentioned.

No longer should adult education be focused only on high school classrooms; the needs for a proper adult education environment are crucial to the future of Hawaii and nationwide. Therefore, enhancing the current generation's contribution to society to breed the future of next-generation leaders begins now.

## **ADULT EDUCATION IN HAWAII**

1.2.2 CURRENT CSA ADMINISTRATION AND MANAGEMENT MODEL

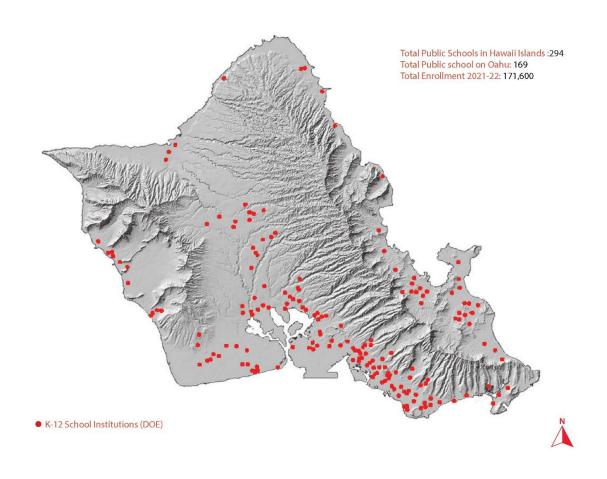


FIGURE 1.2.1 STATISTICS ON HONOLULU PUBLIC SCHOOLS (NOT TO SCALE)

Existing total public schools regulated by DOE totaled 294 registered K-12 schools across the entire Hawaiian Island, where about 47% of the whole quantity are located on Oahu alone. In the 2021-22 school year, DOE statistics of the total enrollment of 171,600, 96,947 students are enrolled in public schools on Oahu. A higher number of students are in urban areas of Honolulu, indicating a higher need for educational facilities than in other areas of the island, such as Castle-Kahuku and Kailua-Kalaheo.

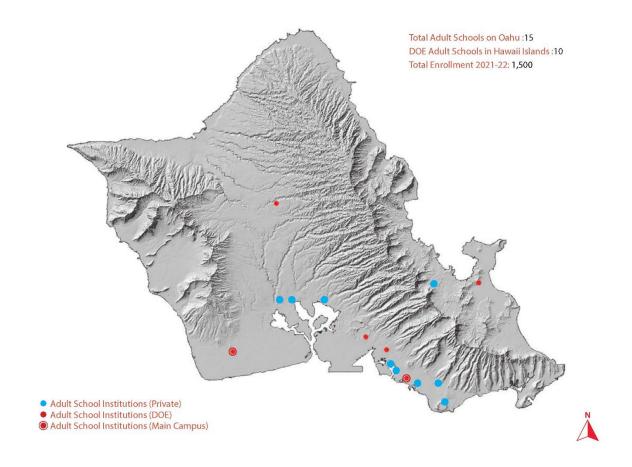


FIGURE 1.2.2 STATISTICS ON HONOLULU ADULT SCHOOLS (NOT TO SCALE)

There were 11 community adult schools across the state, and DOE consolidated community schools sometime in recent decades. Currently, two main campuses remain on the island serving as headquarters for adult school faculties and available testing centers for all adult students across the island. Additionally, one community adult school was closed due to funding issues which will be discussed later in the design proposal. The remaining eight schools became the branch of the two primary schools of McKinley and Waipahu; therefore, all branches utilize high school classrooms to reduce the cost of constructing new buildings in accommodation to 1,500 enrollments of Spring 21-2022. Of the schools indicated on the diagram, 9 learning institutions are privately held to assist the current community school program. Regardless of the setback created by financial funding, HIDOE Learning Organization constantly introduces new ideas in the existing teaching curriculum to better provide "equitable services for students" (HIDOE academic plan) within the confirmation of the funding provided to the community schools.

The three cores that facilitate the adult education program in Hawaii defines its teacher's responsibilities to increase the larger quantity of successful students and mobilize abilities allowing Adult School graduates to contract high pay position or achievement of their personal cultural goals is ideal for CSA.

#### 1. Pipeline of Emerging Ideas

Strategically preparing the campus and staff for emerging trends, advancement, and changes that impact education, all ideas are tested and vetted by school staff and team.

Technological improvement in learning facilities, such as swapping old chalkboards with whiteboards or interactive boards, will help teachers deliver class material to students much more efficiently. Architectural projection of digital media accommodates students who need to prepare for effective notetaking. Digitalizing class material through video recordings and power points helps students record and register knowledge at their own pace.

Farrington High School Adult Community School is speculating on a mentorship-like program to tutor students known as "Essential Learning" at different HIset Levels based on their initial placement exam to enter the adult school program. The teacher will help the student improve their Math, Reading, Writing, Science, and social studies, one course at a time from their worst subject, and effectively increase their level to meet the high school graduation level and be ready for college or white-collar careers.

Most importantly, streamlining one-to-one mentorship will increase the adult student's concentration significantly with the reduced peer pressure of a typical classroom setting. As traditional classrooms engulfing with the competition of students trying to achieve a higher academic score, often the teacher will overlook the minor improvements of the less achieving students, which can redefine their sense of self-confidence needed in a work environment for teamwork and leadership.

#### 2. Innovation in Supporting the Core

New strategies and systems for delivering teaching-learning, High-Impact Strategies include.

school design, teacher collaboration, and student voices.



FIGURE 1.2.3 HIGH IMPACT STRATEGIES BY HIDOE

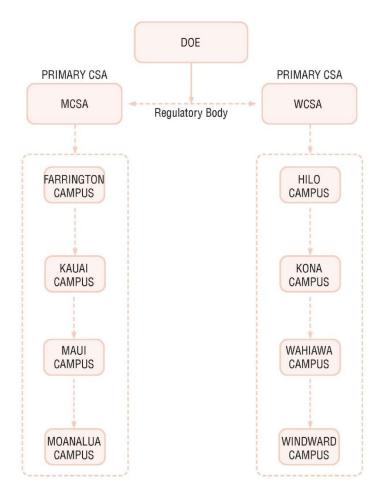
#### 3. Teaching and Learning Core

Aspire to focus on equity and excellence in the core curriculum and supports.

Providing a comfortable work environment for teachers and other faculty in the adult education facility will significantly increase their motivation to provide top-of-the-line educational programs in the hope of graduating more adult students who enroll in those programs. All teachers within the adult education facility are subject to constant collaboration with each other to better improve their teaching methods inside and outside of classrooms; therefore, the design of the facility will have elements that will allow teachers to respect one another to a point mutually then they can begin to coordinate among themselves positively. Moreover, education is only partially independent study, especially in this vast world of modern networking. However, specialized knowledge can be concentrated in an academic facility much faster because it collects specialized professionals and data from official governing agencies to improve the learning experience.

Even though crucial data that improve learning are open to the public, sometimes even teachers may not be aware of such information simply due to the lack of exposure as an individual, the ability to come together and work as a team will ensure knowledge taught by adult schoolteachers will be standardized and universal.

As all adult school faculties are currently part-time, hence, design of their workstations in classrooms and faculty centers should be fluid without compromising their privacy as an individual. Designated locker stations should be located around the classrooms, faculty centers, storages, and spaces with limited access otherwise open only to faculties or employees.



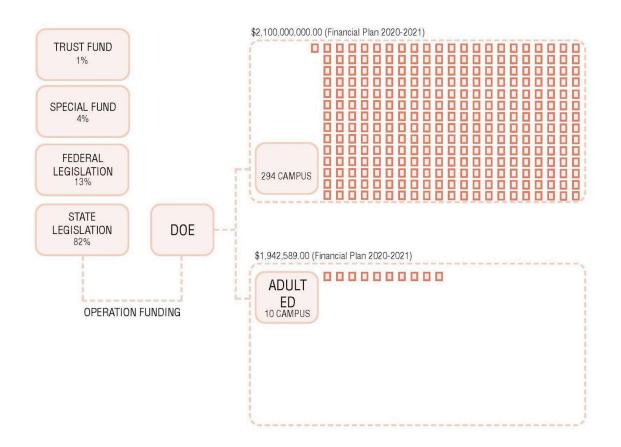
1.2.4 CSA ADMINISTRATION/MANAGEMENT MODEL

The inclination of adult school consolidation hopes to justify legislation funding to the main campus. Then, funding can diverge to other adult community campuses according to their enrollment rate—one Principal to oversee all ten adult schools in administrating the three-core proposal mentioned in the previous chapter.

Only two headquarters for the entire K-12 system in Hawaii are allowed for design proposals because of their unique position with a stand-alone facility away from the high school campus. Hence, as limited budgets are typical for adult schools, the retrofit project much be decided between Waipahu Community School for Adults or McKinley Community School for Adults. However, the first have undergone new construction of a new facility at the time of this research, so developing the McKinley facility would be the most effective design decision.

## ADULT EDUCATION IN HAWAII

CHAPTER 1.3 | DOE FINANCIAL FUNDING FOR PUBLIC SCHOOLS



#### 1.3.1 DOE SCHOOL FUNDING SOURCES

DOE funding is a combination of four different types of financial funding that supports both the K-12 program and the community adult education program. School funding usually comes in four forms: Private Trust Funds from organizations that wish to sponsor build specific facilities or schoolwide activities, special funds with a government agency to fund specific educational programs, federal legislation, and state legislation.

Most financial funding comes from Hawaii state legislation to support the operational cost of maintenance and improvement of 294 K-12 public schools at 82% of the total financing of roughly 2.1 billion dollars. However, the Hawaii Department of Education (HIDOE) 20-2021 financial plan only identified 1.9 million dollars going to Hawaii Community Adult schools. The fractional money from private and special

funding mainly contributes to K-12 because curriculums in adult schools are often practical and don't suggest high interest for donor organizations to trigger creative learning. Such numbers suggest that adult school facilities may indicate less focus by the legislators than K-12 facilities. Hence the overall annual budget directs the design proposal to minimize the architectural footprint to match the imaginary budget if the design proposal is realized.

Source of Funding	PrgmID	Program Description	Туре	Student Success	Successful Systems of	Total
Special	37307	Use of School Facilities - School	Casual/Hourly	\$ 0	\$ 0	\$ 0
			Current Expenses	\$ 0	\$ 0	\$ 0
			Equipment	\$0	\$0	\$ 0
		37307 total		\$ 0	\$ 0	\$ 0
	46415	Adult Education - Special Fund	Casual/Hourly	\$0	\$0	\$ 0
			Current Expenses	\$ 0	\$0	\$ 0
			Equipment	\$0	\$0	\$ 0
		46415 total		\$ 0	\$ 0	\$ 0
	Special			\$ 0	\$ 0	\$ 0
Trust	16872	Performing Arts Learning Centers	Casual/Hourly	\$0	\$ 0	\$ 0
		16872 total		\$ 0	\$ 0	\$ 0
	17867	Adult Education Enrollment/Testing Fund	Casual/Hourly	\$ 0	\$0	\$ 0
			Current Expenses	\$0	\$0	\$ 0
			Equipment	\$ 0	\$0	\$ 0
		17867 total		\$ 0	\$ 0	\$ 0
	Trust			\$ 0	\$ 0	\$ 0
Rev Fund	46413	Adult Ed Revolving Fund Secondary 9-12	Current Expenses	\$ 0	\$0	\$ 0
			Equipment	\$0	\$0	\$ 0
			null	\$ 0	\$ 0	\$ 0
		46413 total		\$ 0	\$ 0	\$ 0
	Rev Fund			\$ 0	\$ 0	\$ 0
Grand Total				\$ 1,879,631	\$ 62,958	\$ 1,942,589

1.3.2 CSA FINANCIAL REPORT FOR THE SCHOOL YEAR 2020-21

An extract of the 2020-21-year financial report from the DOE Adult Education indicates that the total funding for the ten community schools statewide is worth 1.9 million dollars. Further breakdown of school funding from HIDOE suggests allocating the special funds and truss funds about 8% of the total fund for community adult schools, roughly enough only for facility operation. Hence when designing a retrofit school building, one needs to consider the potentially limited budgeting from these funding agencies. Keeping the existing structural members of the building and providing a retrofit design would accommodate most of the student and teacher needs for better education environments, bringing the existing McKinley Community Adult School facility to a more modern facility for educational purposes.

## **ADULT EDUCATION IN HAWAII**

### CHAPTER 1.4 | EXISTING CURRICULUMS OF ADULT EDUCATION

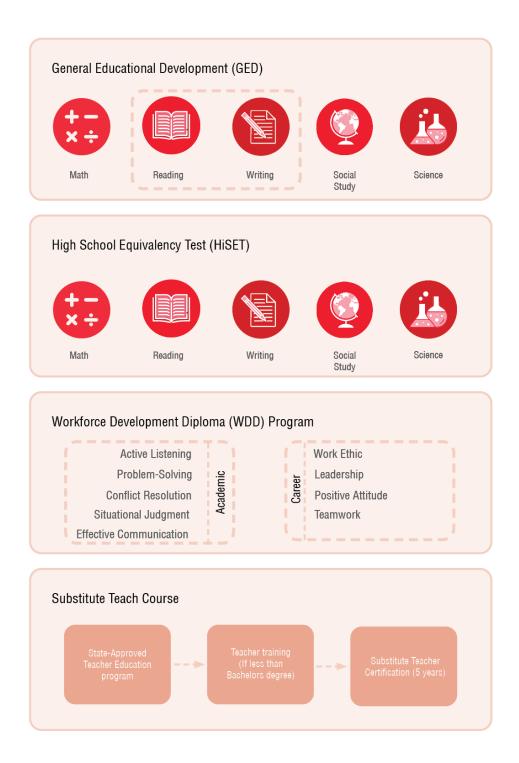


Figure 1.4.1 MCKINLEY CSA SCHOOL CURRICULUM

McKinley CSA offers three education programs: GED/HiSET, Workforce Develop Diploma (WDD), and Substitute Teacher Course. Each program will represent a different student niche that must be assessed as each student may need help identifying their needs when first entering adult school. An advisory center with trained faculty should be in a visually recognized area providing consultation with potential students to understand their needs.

After the potential adult student has identified the objective academic path, the advisory body should guide the student into a testing center for a quick educational placement assessment to locate the possible classes within the selected educational path. The testing center should be conveniently located immediately of the advisory body or the administration office, which takes less effort for the student to traverse, additionally hoping to reduce the accumulation of stress for the student before stepping into the testing center.

#### **General Education Degree (GED) and HiSET**

"GED Testing Service has 70 years of experience offering a high school equivalency credential. Nearly all colleges and employers recognize the GED credential and accept it for purposes of applying to college or for a job. The 2014 test was developed over 3 years by experienced high school and adult educators and reviewed by subject matter experts. The GED test is also standardized and normed using a national stratified random sample of graduating high school seniors to ensure it is measuring the skills needed to graduate from high school. Among the many benefits of the GED testing program, passing the GED test provides an opportunity for adults to continue their education. In fact, over 98 percent of U.S. colleges and universities accept GED graduates who meet their other qualifications for admission. A GED credential documents that you have high school-level academic skills. About 97 percent of U.S. employers accept the GED credential as equal to a traditional high school diploma, according to recent studies". <sup>6</sup>

The difference between GED and HiSET is that GED combines Writing and Reading into one category so students can focus on studying one study guide for the examination more efficiently. Regardless of the test, students will have to take a certain level of reading class in the form of an online application company Rosetta Stone, allowing students to actively verbal practice English with an online program.

<sup>&</sup>lt;sup>6</sup> https://www.mcsahawaii.org/apps/pages/index.jsp?uREC\_ID=471947&type=d&pREC\_ID=915360

#### **Workforce Development Degree Program**

"The Workforce Development Diploma Program was designed to meet the needs of those entering the workforce without a high school diploma and to equip them with the necessary basic education and access to job training programs."<sup>2</sup>

#### **Substitute Teacher Program**

It is a five-year certification for substitute teachers to satisfy the HIDOE minimum of Class III requirements of

"Substitute teachers who meet any one or all of the following:

- 1. A Hawaii-licensed teacher.
- 2. A teacher (including current/retired DOE teachers) who completed a State-Approved Teacher Education (SATE) program".<sup>2</sup>

Substitute teachers are trained through the State-Approved Teacher Education program (SATE) with the requirement to obtain adequate teacher training hours learning how to show passion and a positive attitude toward students and other school staff so that every class period is conducted in regulatory policies/ethics established by the HIDOE.

A substitute teacher candidate can skip the teacher training hours if possessing a bachelor's degree in education from any accredited university. Once graduated from the program as a substitute teacher, the qualifications will allow the individual to teach most K-12 programs, including high school. Substitute teachers would also qualify to teach as adult educators because of the qualifications they met to teach at a high school level. Architecture can optimize the teaching experience of the educator by redefining their role inside the classroom with proper lighting, ventilation, and vocal concentration when speaking in the hope of maintaining the focus of their students with lessons from morning to evening.

## **ADULT EDUCATION IN HAWAII**

**CHAPTER 2 | LITERATURE REVIEWS** 

#### 2.1 Overview of adult education in the US's recent history

The earliest perspective in the architecture profession on adult education by Architect John Becker from Cincinnati in 1953, titled "Architecture for Adult Education." The article articulates the importance of the environment impacting adult learning efficiency. However, it has yet to present enough research to quantify the specifications needed to improve the education facility and enhance positive learning behavior. The Adult Learning Theory began to attract national awareness within the United States to bring the existing conditions of adult education.

However, the problem of underfunded post-secondary education facilities is also a common problem worldwide as later research by Mdabiwe-Woko from the Department of Adult and Non-formal Education in Nigeria shows that more than 70% of the represented sample indicates that a poorly designed environment does not facilitate positive feedbacks on adult education. Adult Education suggests a long period of non-formal education from formal education taught by a post-secondary institution. Thus, local government needs to incentivize tertiary institutions to improve the deteriorating facilities for adult education, gradually diminishing the existence of adult education entirely.

#### 2.2 The Importance of Place to Adult Education 1991

Fulton (1991) Examines the possible relationship between physical settings impacting adult learning. By cross-examining a few preceding research studies and doctoral dissertations, Fulton concludes that survey results dating back to 1950 that most facilities providing adult education around the USA pay minimum attention to providing design space to accommodate adult learners<sup>7</sup>. Fulton quotes Malcolm Knowles and Herbert Clark's massive survey study; the results indicate more adults cannot access proper Education, leading to the Adult Education Association's subsequential involvement with aligning architecture with adult education. Fulton also references the architect John Becker, who began to take responsibility for linking architecture with adult education. Fulton compared John Becker's forceful leadership in the commission of adult education architectural style as both a curse and blessing that bought adult education facilities improvement to the national level.

<sup>&</sup>lt;sup>7</sup> Fulton, Rodney D. "Eric - Education Resources Information Center." The Importance of Place to Adult Education, 1991

#### 2.3 Physical Criteria for Adult Learning Environment

White (1972) made 54 recommendations for improving adult education in the United States based on books, peer-reviewed articles, scientific research reports, and educational supplements available before 1972. Also, from over 60 bibliographical sources, White creates a preliminary design catalog of learning space by studying the spatial configurations leading to the flexible design, allowing multi-purpose functionalities by conveniently emphasizing seating arrangement. White Investigation on adult education shows the social and psychological implications of the classroom layout and its designed elements. White recommendations arrive similar period as the initial sustainability concepts, as White mainly focuses on the selection of "furniture; the use of colors and lighting; other visual and auditory factors such as the disruptive quality of clutter and decrements in hearing ability among adults; and recommended temperature, humidity, and air motion of "furniture". Though White's primary focus is on adult education within an academic institution reinforces an adult psychological, physiological, social, and physical dimension of any environment, she advocates that such recommendations will carry on to vocational training for jobs and careers.

White is categorized into seven categories:

#### 2.3.1 Aura of Adulthood

"Much of the limited research on adult learning environments indicates that adults are even more cognizant of their surroundings than children arc. If adults are more aware of details Is in their environments, then attempts to create a pleasant learning situation should always be made, no matter how inconsequential a change may seem. Also, there is the fact of adults' decreasing physical abilities (the common loss of visual acuity) with their Increasing years. An educator should attempt to maximize the possibilities for efficient learning by providing a comfortable and flexible and appropriate learning environment for adults. Moreover, adults have additional specific physical environmental needs and desires.

- Adult learning facilities should have adequate close-by parking areas.
- The parking lots should be well Lighted, since many adult classes take place at night, Adults
  often are not able to walk rapidly or far, planned adult learning facilities should be located on
  the ground floor close to entrances and parking lots.
- Elevators should be available, for older or handicapped adults, ramps should be provided.

<sup>&</sup>lt;sup>8</sup> White, Sally. "Physical Criteria for Adult Learning Environments." ERIC, Adult Education Association of U.S.A., Washington, D.C. Commission on Planning Adult Learning Systems, Facilities, and Environments, 1972

 Also, adults use telephones more than children do. An adult learning center should have accessible phone booths for its patrons.

These may seem like relatively inconsequential matters, but attention to such details contributes to an adult's feeling of ease, confidence, and capability in a learning situation. Formal education, especially credential-oriented studies can be a trying experience for adults, many of whom are years away from their last formal educational experience."

Remark: Indeed, adult school planning is much more different than K-12 school planning because adult students have more demand for vehicle transportation than K-12 students. Children may choose to be dropped off by parents or arrive on campus by public transportation; however, adult students who drive may need parking spaces that K 12 students often don't require. Therefore, it is essential to calculate how many parking stalls are required within the parking vicinity of the adult school campus.

#### 2.3.2 Flexibility

"In general, as responded in the Literature the most favored criterion for adult learning design is the word just mentioned, "flexibility." This includes adult learning design is the word just mentioned, flexibility." This includes flexibility in room configuration, ability to change the environment (e.g., by moving furniture), and availability of adaptable or multipurpose equipment."

#### 2.3.3 Social and Psychological Dimensions

"Favorable social and psychological dimensions in a learning environment should promote more efficient learning. Unfortunately, little literature exists to identify these dimensions. Generally, though:

- It is desirable that surroundings reflect the intent of the adult education meeting
- Adults should have a choice of various learning experiences and environments".

Remark: Existing adult school classrooms must follow K-12 classroom settings where teachers are at the front of the podium, which perfectly underlines pedagogy. However, adult students should have a choice to be in an environment that encourages andragogy, where teachers serve only as facilitators to help students teach each other.

#### 2.3.4 Space, Fixtures, and Furniture

- An adult learning facility, first of all should have an Aura of adult-hood about it. Ashtrays for smokers, a refreshment area, coffee machines, and other creature comfort items should be available.
- Advocates of the use of carpeting especially recommend it for adult facilities because they say it provide a relaxed feeling of warmth and intimacy.
- At least 30 square feet per student is recommended in seminar rooms.
- Specifically, a 450 square foot room is needed for 15 students. For a small Lecture Hall, less space is required: 18 to 22 square feet per student.
- Moveable wall multi-purpose storage areas, portable blackboards, and easily rearranged tables and chairs are suggested for flexible and adaptable Learning spaces.
- Equipment with multiple uses is envisioned, e.g., mobile screens carrying electrical power which can be written on, projected on, and which divide areas and provide electrical current for other devices.
- Furniture should be adult size. Suggested working heights for adult equipment are 27 to 29 inches for seated work areas, tables, and desks.
- Furniture for an adult learning environment should also reflect the learning styles of adults.
   This is evident even in chair design:

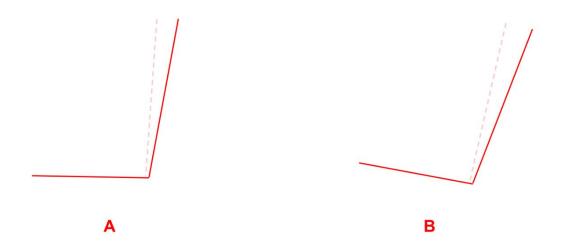


Figure 2.3.1 Chair Spine Tilting Diagram

- reflects an alert sitting position. This is common to children's traditional learning environments in which attention to a teacher or workspace is often required.
- represents a relaxed setting position such as that used in conference rooms. Such chairs reflected the concerns of adult education whose method is often discussion rather than lectures.

Remark: classroom size follows a typical modern-day classroom of 18-22 students, equivalent to 450 square feet of interior space. The total number of schools would highly determine by the enrollment amount; hence, HIDOE focuses primarily on setting academic goals to boost the learning experience of the adult student rather than finding ways to increase the enrollment rate. Only when graduated students display some form of success can they use that as an example to request legislation for a more significant investment and pivot their undivided attention to the adult schools in Hawaii.

#### 2.3.5 The Visual Environment

#### Color

- For concentrated mental efforts, cool colors such as green, grey, and blue tend to be physiologically relaxing and conducive to adult learning.
- The color of classroom walls should not be visually bland (e.g. avoid all-white walls)
   nor exceedingly distracting (e.g. avoid bright reds).
- A contrast between background walls and the focus wall (e.g. the front of a traditional style classroom) is useful to call attention to presentations; that is, a deeper and softer color should be used on a front wall.
- Red orange is attention getting color. In studies of light signals, red is most easily
  identified, then green, yellow and white, while these colors should not be used for
  study area walls and ceilings, "I-hey should be used for visual teach Ing materials to
  capture and focus attention.
- A yellowing of the eyes lens occurs with increasing age. After age 35 colors at the blue end of the chromatic spectrum are difficult to distinguish. Therefore, stronger tones should be used for colored presentations, especially when using yellow-blue

- colors. Ability to distinguish colors at the red-green end of spectrum does not diminish with age.
- Surrounding blackboard with deep tones rather than light ones reduces contrast and essence visual shock.
- There is a trend toward using light colored chalkboards and theoretically, when perfected, whiteboards should be ideal.
- White chalk is more visible than colored chalk.
- The light source should be constant.
- A "valence lighting installation" (see Architectural Record CXLIX) has been isolated as a most effective classroom illumination method.
- A semi-direct or direct-indirect lighting system is preferred over an. indirect lighting system (which provides comfortable soft light but is often an inefficient light source) and over direct lighting (which efficiently provides light, but often with excessive glare).
- Transillumination (Lighting falling across the visual task rather than at the tasks)
  causes poor visual presentation of materials. That is, "Forms, typically letter cut out
  of a background, become blurred when they are transilluminated. Light 'spills' out of
  the letters and parts blend together'.
- Lighting and colors should not distort natural appearances. Color and lighting combinations which change the appearance of skin tones should be avoided.
- Chromatic lighting should be avoided.
- Investigation of ultraviolet lighting sources has been suggested because of the beneficial physiological effects of irradiation.
- Dark ceilings or walls should not be used. Dark surfaces do not reflect adequate light to the learning task.
- Light colored floors aid in light reflection.

- Carpeting reflects less light than other floor surfaces, (This means a judgment needs
  to be made between the value of carpetin9 for other environmental purposes and the
  necessity for increasing light reflection.)
- The brightness or glare factor of materials is a most important element in visual comfort (see Bibliography for books with suggested reflectability and recommended lighting standards).
- This simple diagram shows age differences is the number of watts heeded for visual tasks. It demonstrates the general visual decline with age.

#### FIGURE 2.3.2 GROWING AGE AND REQUIRED WATTAGE TO SEE CLEARLY IN A CLASSROOM

- Adults take longer to make focus changes (e.g. from a distant object to a close one) than children do. Learners should be given sufficient time to get visually comfortable with new material.
- Adults often experience increasing visual disability will increasing age. A teacher or lecturer should avoid pacing and other unnecessary movements, as they can create physical discomfort and force the learner to engage in continued, often difficult visual refocusing.
- Clutter in the visual task can be disruptive. A clean, orderly room invites attention to the learning task. Simple, clear diagrams and carefully selected visual aids containing no extraneous material contribute to effective communication. Chalkboard material should be erased as soon as it is no longer being referred to, and other types of visual presentation should be removed from view so that they will not distract learners.

- If diagrams are used, they should be large enough to be seen clearly by those farthest away from the chalkboard or screen.
- Chalkboard words or other visual devices reinforce verbal information.
- The optimum viewing angle for visual presentations is a 30 ° range as indicated below. A range up to 90° is acceptable but not advisable.

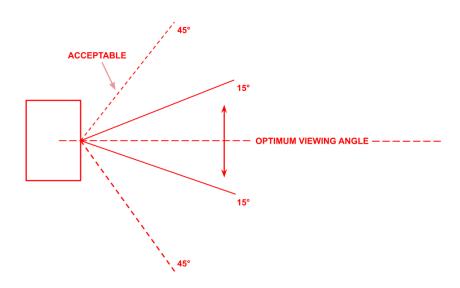


FIGURE 2.3.3 VIEWING ANGLE CLEARLY IN A CLASSROOM

- Low-gloss ink, rather than pencils or ballpoint pens, helps reduce glare. Matte paper may be used in preference to glossy materials.
- No conclusive evidence exists regarding the desirability of windows in adult learning
  environments. Windows generally provide illumination, ventilation, and views of the
  outside. While the physical needs for illumination and ventilation can be supplied by
  sources other than windows, it is not known whether a view of an outside (or at least a
  different) area is psychologically helpful or necessary for an effective adult learning
  environment.

Remark: Having a well-lighted room is crucial for adult students who are growing age. Although using a blackboard is no longer relevant in modern classrooms, a brighter classroom with more vital lighting or colors will help students stay focused and be more productive. Additionally, when exposed to too much

lighting on its surface, the glossy material, such as a reflective whiteboard, might discomfort the adult student in view.

#### 2.3.6 Auditory Stimuli in Adult Learning Environment

- A meeting room with no extraneous auditory stimuli would be ideal for a learning environment. Since this rarely exists, educators usually choose environments with the least bothersome noises; e.g. away from street noises.
- There is a difference between the comfort level and the tolerance level for sounds. Often psychological components make the difference; for example, useful noises like noises from fans, although disagreeable, may be tolerated when quieter but useless noises would be intolerable. Also, noise from a self-controlled device is more acceptable than noise control led arbitrarily by an outside force.
- A constant source of interfering noise is preferable to sporadic audible interruptions.
- High-pitched tones are more disturbing than low-pitched tones.
- Carpeting diminishes the noise level in a work area. Similarly, acoustically tiled ceiling and walls can help absorb extraneous sounds.
- When planning fixed rooms (e.g. lecture halls with nonmovedble chairs) a constant acoustical level is desirable so that the room can be used by various-sized groups without altering the auditory situation. A way to eliminate some acoustical difficulties is to use upholstered chairs that absorb the same amount of sound empty as when a person is sitting in the chair.
- Adults often suffer a decrement in hearing abilities. Therefore, teachers should try to remain relatively stationary so that students do not have to continually readjust to a changing sound source (cf: "Other Visual Factors," 3a; a contending adult value is, of course, the desirability of achieving an atmosphere of informality by casual movement and of maintaining student alertness by frequent changing of visual focus through movement of instructor from one place to another; the point is, of course,

that no single guideline is adequate to the adult situation; environmental judgments reed to relate to the total adult learning context.)

- Adults who consistently speak with higher or lower volume than that used by others
  often have a hearing problem.
- An acceptable noise criterion for classrooms is 20 to 30 decibels. This varies with size of area.

Remark: Conventional classroom forces teachers to be stationary to teach to provide constant vocal around the school, which may be physically tiring for the teacher. Andragogy allows students to become teachers to facilitate class material among the entire class. Teachers can spend more effort setting up the methods students can use to interact, boosting leadership and teamwork for real-life applications.

#### 2.3.7 The Thermal Environment

- Principal components of human thermal comfort are the air temperature, air motion, temperature of surrounding surfaces, and relative humidity.
- One guide for thermal factors in sedentary activity spaces recommends
  - o A temperature from 70° to 72° F
  - o 30% to 70% relative humidity
  - o air motion of 12 to 25 feet per minute when using heating 01. air conditioning systems, or 100 feet per minute for ventilation periods during warm weather (Berlowitz et al.)
- Age and sex differences compound attempts to quantify thermal norms. Female typically
  require a higher temperature than makes. The norm for adult's thermal environment is higher
  than for children learning environment and also higher for someone with age. Also, the
  desirable temperature varies with the number of people in a group and the type and amount
  of activity.
- Air conditioning is generally accepted as a useful tool to promote physical comfort in adult learning environments.

Remark: The onset of information was dated; regulating temperature in a classroom was much more complex with limited technology other than maximizing local weather. The temperature in Hawaii often stays very breezy all seasons; hence, reducing artificial control over the temperature within the classrooms during the day will help the school save more operating budget.

#### 2.4 Psychology & Social Development

Mbadiwe (2019) examines the relevancy of physical facilities in enhancing adult learning in continuing education programs in tertiary institutions in Rivers State in, Nigeria. Mbadiwe begins the study with three research questions leading to a design survey to interview 1,198 adult learners in their last year within continuing education programs taken from tertiary institutions in the River States. Mbadiwe mainly wishes to answer if there is any need for improvement in the learning facilities within the tertiary institutions of River States. Secondly, research and make recommendations on improving the existing conditions of tertiary institutions for adult education.

Lastly, the research aims to answer the potential factors affecting the availability of physical facilities in implementing adult education programs in tertiary institutions in River State. The research team designed an 18 question-survey to randomly sample students with the listed qualifications mentioned earlier and rated their existing experience on a scale of 4, with four strongly agreeing and the lowest rating of 1 disagreeing.

The research paper by Mbadiwe suggests that an adult's learning environment should acknowledge an adult's aura by considering the conduciveness, spacious, well-light, and noise-free, with air conditioning and a public address system. In the end, Mbadiwe remarks that insufficient government funding leads to a lack of implementation, regulation, and monitoring of the responsibilities of adult education in River State<sup>9</sup>. Thus, it argues that peculiar adult features must be included in tertiary institutions to enhance the academic activities of their adult students.

#### 2.5 Literature Review Conclusion

All three research aims to investigate the individual response to learning by delineating the aspect within the environment from an architectural perspective. As Fulton (1991) points out, the environmental

<sup>&</sup>lt;sup>9</sup> Mbadiwe-Woko et al......Int. J. Inno. Psychology & Social Development 7(2): 21-26, 2019

impact on adult education varies from children learning because adult mentality formulates more self-awareness and requires indirect education methods than children who learn faster when receiving direct class lessons from the teacher. White (1972) further improved the Education Learning theory by curating a catalog of design recommendations for adult education facilities. Even without data to quantify the efficiency of the architectural language, White manages to set a crucial standard for future research to develop with more than a psychological basis.

Lastly, Mbadiwe presents an idea of quantifying architectural adult education facilities in a scientific study by conducting massive questionnaire-based research focusing on adult education students' physiological and psychological features when learning within the facilities that somewhat meet White's recommendation within Nigeria tertiary institutions.

#### 3.1 | MPS Center for Adult Learning

Date | 2018

Location | Minneapolis , MN
Architect | UrbanWorks Architecture
Size | 87,000 SF Education and Office
Owner | Minneapolis Public Schools

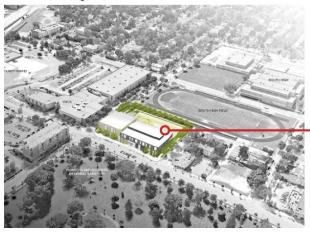
"Adult Education, which connects individuals to the skills, supports, and opportunities they need to gain stability, self-sufficiency, a career path, and contribute to society as workers, parents, and community members; and Transition Plus, which provides services to students with educational disabilities and transition needs in post-secondary education, employment, and independent living skills to transition successfully from high school to adult life. The programs previously occupied two separate facilities in which neither building was designed for its respective use, resulting in an inefficiency of space, poor function, and expensive operation."

1. Miller, David. "MPs Center for Adult Learning." Architect. ARCHITECT MAGAZINE, November 25, 2019. https://www.architectmagazine.com/project-gallery/mps-center-for-adult-learning.



Drip metal flashing to reduce rainwater going into the educational facility.

Outdoor landscape for social activities, would be great to have more shading devices



Tall windows allow optimum lighting into classroom instead of excess artificial lights Vehicle access isle away from school building to divide pedestrian traffic to outdoor area

Gentle roof slope eliminate the need of typical parapet that might induce water drainage issues

 Miller, David. "MPS Center for Adult Learning." Architect, ARCHITECT MAGAZINE, 25 Nov. 2019, https://www.architectmagazine.com/project-gallery/mps-center-for-adult-learning.



Niched wall facade (spatially break visual impact of continuous surface) suggest more awning for windows

One tall window allow optimum lighting into classroom on two floors (exposed floor plate)

Alignment of exterior veneer siding, window sill, guardrail create balance of construction material.

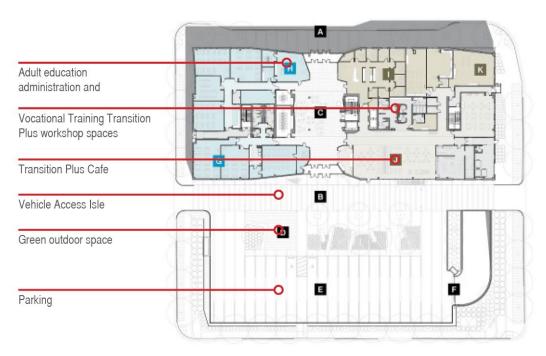
All windows are nonoperable, something to consider if natural ventilation can be implement

Completely enclose spaces cant see any natural scape from indoor>Prospect and Refuge



Open ceiling allow floor height to be more flexible, tall picture windows allow more natural day lighting, but not natural ventilation

Primary structural system embedded into the facade wall, allow higher vertical separation of noise from the first floor to the upper floors.



SITE WITH FIRST FLOOR PLAN SCALE: NTS



Miller, David. "MPS Center for Adult Learning." Architect, ARCHITECT MAGAZINE, 25 Nov. 2019, https://www.architectmagazine.com/project-gallery/mps-center-for-adult-learning.

# 3.1 MPS CENTER FOR ADULT LEARNING Key Takeaways

- 1) A taller ceiling allows more room for high windows and natural ventilation.
- 2) Consider all exterior elements, such as siding, windows, louvers, and doors, to create a consistent vertical hierarchy.
- 3) Tall windows should invite more landscape views into the space unless it is for heavy noise recreative activity such as a basketball game; shifting windows upwards creates more windowsill space below for acoustic wall insulation.
- 4) Smart use of primary structural and secondary wall systems will help increase the floor plate height for the room to have a higher ceiling.
- 5) Café may be an essential factor in adult school because it allows students to buy meals on campus rather than traveling a distance outside of school. However, HIDOE might consider having a bar-like area instead because bringing in an external catering service or a fully commercial kitchen will increase the operation budget.

#### 3.2 | Adult Education Centre-CEBRA

Date | 2014

Location | Odense, Denmark

Architect | CEBRA, Hundsbæk & Henriksen

Size | 12.500 m2 / 134.550 ft2 educational institution

Owner | HF & VUC Fyn

"We designed a school that doesn't look like a school. The general conception of a completed educational degree as a security to fall back on is subjected to a fundamental review. We have realized that we must learn constantly in order to adapt to everchanging reality. An Adult Education Centre will play a pivotal role in maintaining society's competences in the future. It is therefore essential that it is built on lasting values that revolve around the individual. The building has to adapt to the student and not the other way around. Neither ultra-flexible nor rigid programs show consideration for individual needs. That is why we focused on creating a building with specialized, yet diverse environments, where students can find spaces and settings that match their own preferred learning style."1

1. Furuto, Alison. "Adult Education Centre / Cebra." ArchDaily. ArchDaily, May 7, 2012. https://www.archdaily.com/232099/adult-education-centre-cebra.



White and pale timber facade with combination of aluminum plates and aluminum mesh with led back lit light behind (facade lighting without traditional exterior wall

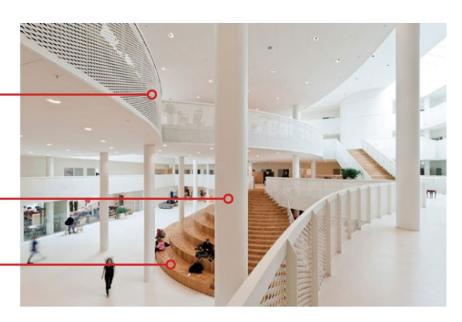
Grand large space beneath the column, serve as entry space. Exposed column design may trigger homeless issue in Hawaii.



Window install flush to floor increases large view port to the surround landscape, rainwater will penetrate without proper waterproofing during construction. White mesh balustrades to increase semi-visual transparency in transitional spaces with the entire design intent to replicate Greek amphitheaters.

Use of columns for higher floor plates to enlarge the open area to socialization.

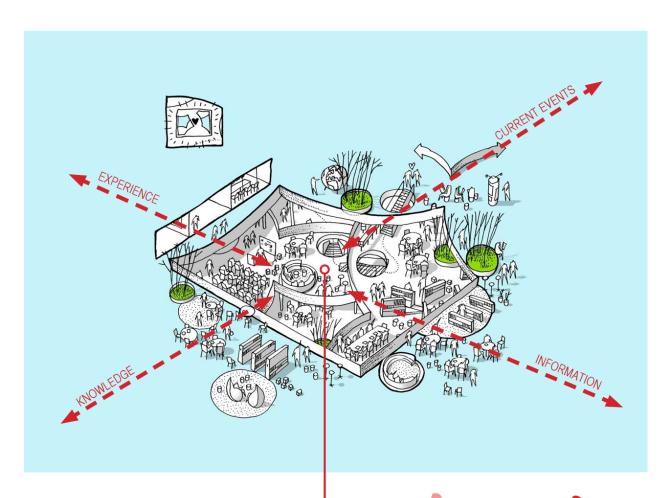
Use of stair wood natural color as vertical pathfinding devices within the building.



Stair opening, furnitures, guardrail, columns, lighting, circulation all uses heavy circular curves which inspired by Mickey Mouse design Extract of the watercolor done by CEBRA Architect Mikkel Frost showing the progressive development of curve lines for Mickey Mouse design influence on the 1,300 capacity adult education facility.







Agora, a name given by architect Mikkel Frost after the public gathering space famously define ancient Greek cities. Mikkel use Agora as atrium platform for students to share ideas or new innovations.

Direct application of Andragogy using architectural forms to express ideals behind social learning among adult students and the class facilitator. Where classrooms are no longer confined in traditional enclosed spaces without proper daylighting.

# **3.2 Adult Education Centre-CEBRA**Key Takeaways

- 1) Exterior lights can be cleverly embedded into the wall system during the day to serve as texturized wall façade and pathfinding devices to locate the facility at night from afar. Which majority of adult classes are hosted in the evening time.
- 2) Having too much outdoor covered area may encourage the homeless population to congregate, require more security staff, and discourage students from walking to school at night.
- 3) Use the natural color of wood as a pathfinding device due to the contrast with nearby monochrome building elements.
- 4) Andragogy is an expansive design approach than pedagogy that is implosive. Hence curve design allows room for dynamic progression in either direction. Expansive design may include walls, furniture, guardrail, and columns to be more fluid. Therefore, classrooms can be easily converted to accommodate the curriculum of different age groups.
- 5) Using Agora to recreate the ancient Greek-like setting provides a platform for all students to have an equal chance of sharing their knowledge and ideas.

## 3.1 | Adult Learning Centre

Date | 2015

Location | Torrelavega, Spain Architect | 1004arquitectos

Size | -

Owner | Caligrama School for Adult Learning

Two contrasting shaped translucent glass buildings serves as the headquarter for the Caligrama School for Adult Learning. The intent of the building as the landmark of the new urban development project at Torrelavega municipality for a more neighborhood in the eastern part of the city. Aside to solving the specific education programs from the Caligrama School, 1004arquitectos also have to integrate the adult school facility into the future Miravalle Park. Most of the building is embedded into the landscape of the park, allowing more pedestrian walk/bicycle paths on natural topography leading to the building.



Translucent glass provide privacy to the building during the day and becomes complete transparent during night due to difference in illumination from inside versus lighting of the exterior surrounding.

Maximize landscape to reduce vehicle traffic within the area.

Double glazed glass facade panels mounted to exterior wall system made up of steel framing. The facade wall system is mounted to the floor plate of the building.

Limiting outdoor furnitures also help mitigate homeless congregation issues especially in a more rundown part of the city.

Griffiths, Alyn. "Round and Rectangular Buildings Form Adult Education Centre by 1004ar-quitectos." Dezeen Architecture Magazine, July 1, 2015. https://www.dezeen.com/2015/07/01/translucent-glass-volumes-adult-education-centre-1004-arquitectos-torrelavega-spain/.



Central open courtyard allow max natural daylighting into the entire building as the floor layout are wrapped around the courtyard.

Mesh and ceiling insulation to deflect walking noises within the building hallways. Diffuse direct lighting from the fluorescent above.

Color coding floor allows activate happier mood (White, 1972). Certain color also use as pathfinding and spatial separation between private and public spaces. Not suggest on area with large amount of traffic for maintenance.





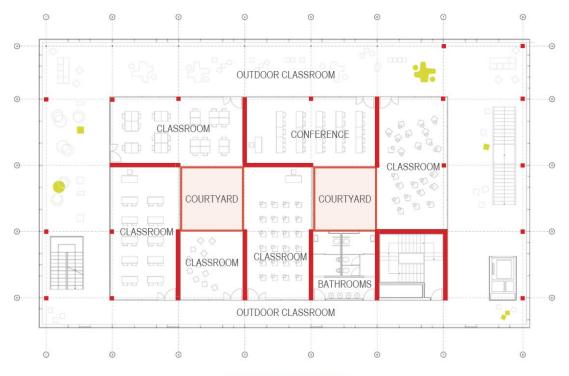
### Flexible classroom:

Non-stationary furnitures allow class arrangement to be movable. Teachers have separate offices to prepare curriculum.

Teacher's office behind the classroom

Griffiths, Alyn. "Round and Rectangular Buildings Form Adult Education Centre by 1004ar-quitectos." Dezeen Architecture Magazine, July 1, 2015. https://www.dezeen.com/2015/07/01/translucent-glass-volumes-adult-education-centre-1004-arquitectos-torrelavega-spain/.





THIRD FLOOR PLAN NTS



# **3.2 Adult Education Centre-CEBRA** Key Takeaways

- 1) Use translucent glass to provide semi-privacy for students and staff during the day. Lighting illuminating from classes during nighttime becomes a navigation tool for locating the school.
- 2) Maximizing landscape might not be optimal for Hawaii, especially urban Honolulu, because it requires an extensive irrigation system to sustain. However, having more outdoor softscape will increase foot traffic.
- 3) Indoor open sky courtyard for natural lighting into the classrooms, testing center, and offices.
- 4) Teacher offices can be located behind classrooms, and students can have one-to-one tutoring sessions if needed. Otherwise, teachers can have private rooms to create future class curriculums.
- 5) Using color for pathfinding, intense colors such as yellow or green contrast with white walls and ceiling. Different floors have different colors to indicate different functions.

### 3.3 RIBA Monthly Art Challenges

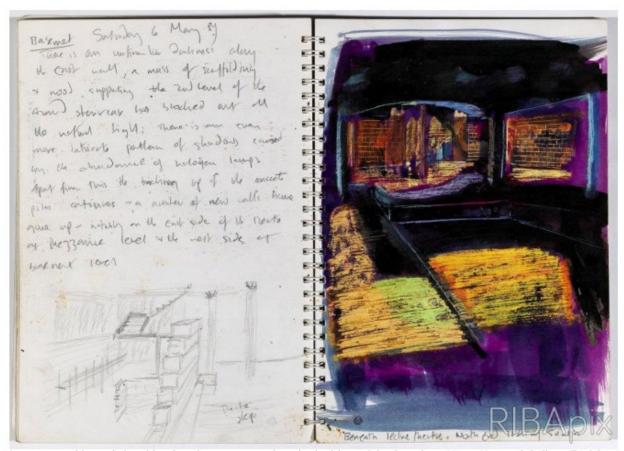


Image: spiral bound sketchbook with pages recording the building of the Sainsbury Wing, National Gallery, Trafalgar Square, Westminster, London, by Andrew Norris, 1991

Credit: RIBA Collections

Royal Institute of British Architects values the well-being and health of its professional adult members by repeating creative habits. The best collection of design creativity often resonates with small daily tasks; each task, for example, may have a variation of the method to journey for a quality answer. Art creation is also an interpretational idea that varies from a different individual. Hence RIBA Monthly Art challenges Online self-development resources: the program Requires self-discipline to practice the course material. Self-development for art and architecture enthusiasts

Flexible schedule and learning period depending on the user. However, the program needs a regulatory body to confine the learning schedule. Therefore, this is designed for self-disciplined people. Overall is a program with Monthly challenges to build habits and reinforce the constant practice of skills and techniques.

Allow users to stay curious and remain in a constant state of learning. Provide knowledge for users to filter any space to extract essential elements as learning cues or inspiration. Develop a specific artistic style by compiling other people's work.

## 3.4 The Importance of Place to Adult Learning

The Adult Learning Theory (1953, John Becker): Individuals' reactions to their environment are often considered idiosyncratic.

Building For Adult Learning (Karen and Jim Leed) "Adult learning facility should meet basic comfort needs, feature and reinforce a nonjudgmental climate of trust and sharing, maximize social contact and exchange of information, meet the learners' highest expectations of quality, and truly inspire learners to greater achievement."

The user experience by interaction with the building creates a powerful dynamic with the quality of learning and teaching, especially when quantifying student enrollment or faculty working stations will reflect the human density factor when retrofitting the existing adult learning facility. Roughly 1,500 adult students enroll annually in the school, and the current 400 faculties occupying the spaces will cause a detrimental density problem because of limited classrooms available to accommodate such individuals. Moreover, the need for adequate natural ventilation and daylight can be achieved by altering the existing non-load-bearing partition walls so the building can be open for more oversized glass curtains to introduce more daylight to boost the concentration of the students and teachers. The amount of omission to existing non-load bearing partitions will vary depending on the type of structural reinforcement to the existing concrete columns and beams, then studying the reinforcement to the existing floor plate and roof to offset the integral structural reduction when removing some load-bearing walls.

Adult education theory prioritizes a well-lighted environment and ample open space to reduce students in the hope of encouraging students to share their knowledge as the ideal learning process openly. The thought of an open classroom contradicts the purpose of andragogy simply because large room spaces would create a more lecture hall feeling. However, ideologies of Andragogy are to create a spacious classroom setting for students to share what they know better to study the class material through more spread-out discussion groups. Ideally, in a typical classroom setting of about 24 students, if the entire class is to be broken down into 4-5 smaller groups, each with a group leader to direct, then class discussions would be

beneficial for each student as they become peer review regardless of it is individual assignment or group projects.

## **Chapter 4 Methodology**

#### 4.1 Overview

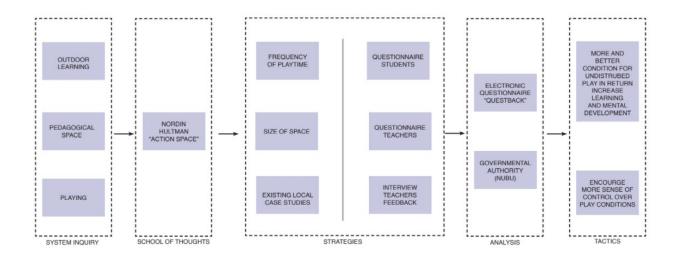


FIGURE 4.1.1 RESEARCH APPROACH

This methodology will be a mixture of site observations of the school campus. They mainly wish to focus on exploring the possibility of open social learning for adults in existing adult learning facilities in Honolulu by first discovering the primary system inquiries or architectural elements found in recognized academic study facilities worldwide. Nordin Hultman proposed an essential theory of Action Space, which depicts the need for space to allow users to decide their lives. The ability of option-making should define the direction of positive learning habits and better retain more information to reinforce preceding positive decision-making.

The specific strategies proposed by Hultman, regardless of their function, are designed for elementary schools. However, the methodology to approach the design presents in-depth concepts reflecting the interconnection of the involvement of its teacher and students. The architecture remark by Hultman emphasizes the user experience, which may be more abstract with the functionality of the space because the designer can define a function; however, the user experience will vary as the individual interacting with the built environment will be different simply because memory is registered in the mind are unique from the

individual. Hence, user experience is considered best as a cross-sectional study of biological research data collected from the user, the site, and its academic programming.

#### 4.2 Informal Interviews #1

**Interviewee**: Current Administration Registrar of Farrington High School (2022) **Identifying Information**: Current situation of Adult Education in Farrington High School

Interviewer: Jordan Luo Place of Interview: In-person Date of Interview: April 8<sup>th</sup>, 2022

- "Essential Education" is a program started by the Farrington High School administration to host one-to-one mentor sessions to tutor students in class subjects that are insufficient by the national GED standards.
- Target specifically "at-risk" age group of 16-24 where students couldn't graduate from high school due to poor GPA or missing school credits.
- Unlike McKinley Adult Community School, with a separate school building because it is the headquarters for CSA in Hawaii, Farrington has developed online practice exams taken at home to place students in the appropriate GED-level classes.
- Farrington community adult school branch hopes to create a one-stop platform to help remedial students obtain GED at its high school division. To create a sense that students don't feel weird going to a familiar school versus traveling to other Adult School campuses for remedial classes.
- Regular classes are often hosted on Tuesdays and Thursdays. However, students can set up private
  meetings with the teacher on campus for a one-to-one tutor if they can't attend the regular class
  period.
- There is three full-time staff on-site to manage the Farrington Community Adult School branch.
- The office building is in the storage space behind the Special Education Building
- Classes are host in classes on the second floor of the Special Education building.
- The current administration seeks funds to ship in a large container as classroom space.
- Farrington Community Adult School has outreach partnerships with Salvation Army, American Job Center, and Susana Wesley Community Centers, all non-profit organizations specializing in socially preparing unskilled individuals for employment.
- Youth Challenge Academy is a 6-month camp sponsored by the state government National Guard that offers military discipline training and housing for young adults who may be lost in the transition

phase out of high school. At the end of the training period from January to June, the graduate can decide to prepare for GED or continue into the military services.

 Job Corp program that offers white-collar position job training, mainly targeting at-risk adults of 16-24 to refine a trade skill such as communication, carpenter, landscaping, and culinary, thus, increasing the chance to become part of the productive workforce.

## 4.3 Informal Interviews #2

Interviewee: Helen Sanpei, Current Principal of CSA

**Identifying Information**: Current situation of Adult Education in Hawaii

Interviewer: Jordan Luo

Place of Interview: Zoom/ Online Date of Interview: Nov. 9<sup>th</sup>, 2022

- Community Adult School is part of DOE; hence, all CSA is funded by state legislation. Funding information is readily available online in its annual financial plan.
- Total enrollment is 1,500 adult students in the school year of 21-2022.
- No Future goal regarding the new facility expansion/outreach; however, retrofit of the existing MCSA building is a potential idea to investigate.
- There are currently about 400 faculty of whom are only part-time.
- Classes are held in three sessions Monday through Friday: morning, noon, and evening.
- Three teachers will occupy one classroom to teach specific daily sessions.
- Each teacher will be assigned to one school (headquarters or subbranch), then use the classroom of that facility to teach.
- Class layout should have teacher storage for each teacher using the classroom.
- One table for all three teachers
- One teachers' lounge for staff to relax and socialize.
- Community Adult School is classified under the K-12 program. Thus, EDSPECS will also become the standard for any proposed design changes to the MCSA building.
- The new classroom layout should fit 20-24 students at once.
- If possible, add natural lighting without altering the existing roof plan.
- Should have a sink in every classroom, allow students to bring a home meal and microwave if such a need occurs.

- One large meeting room fits roughly 100 people for MCSA to host an annual meeting for statewide faculties coming together to discuss the current plan and future goal of Adult Education.
- More display areas for students to display their homework assignments and to learn about other cultures since existing students enrolled in the program are culturally well diverse.
- Every classroom should switch from the current whiteboard to an interactive board.
- Large computer lab to fit about 25-30 people; student uses the computer lab to learn English or do homework.
- Many non-English speakers use the computer lab to learn English, one of the software being Rosetta
   Stone, which academically knows the software to help build vocabulary and grammar.
- The Testing Center should fit about 25-30 people, and which security design for the exam monitory shall meet the national GED Standards.
- One room for security staff of the adult school facility with computer and surveillance equipment.
- Janitor storage for all custodian supplies.

## 4.4 Results/Recommendations

- Promote one-to-one mentorship to help adult students acquire knowledge faster.
- CSA falls under HIDOE; hence funding from legislation and Design standard follows EDSPECS standards used in K-12 facilities.
- Understand how the school offers existing curriculums and how teachers use the classrooms.
- Testing centers shall always have specific standards following the Pearson Virtual University
   Enterprise (VUE) Test Administration Policies & Procedures
- Try to introduce new technology for teachers to simplify the learning process for students. Virtual projections, Interactive board, in-school iPad for classroom apps to create more digital content.

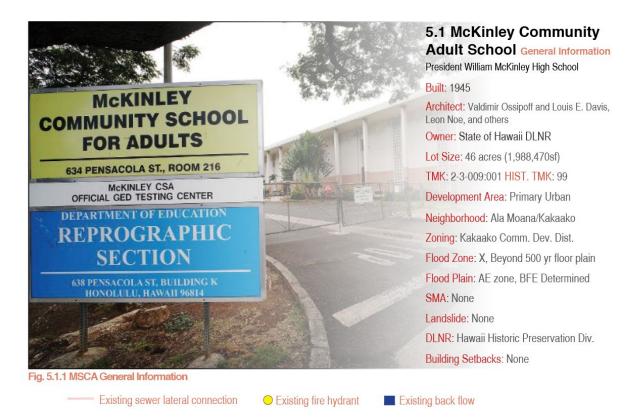
# **Site Selection Matrix**Need of Improvement out of 10 rating

	McKinley High School	Farrington High School	Waipahu High School	Moanalua High School
Wider range of cultural diversity of students within the school facility (impact of cultural diversity help improves learning)	₩			83
Higher Student graduation rate moving to a 4-year university	$\approx$			$\approx$
Drop-out Rate/ Graduation rate	***	$\approx$	<b>₩</b>	
Access to testing facilities	***	$\approx$		$\approx$
Access/transportation		$\approx$	<b>₩</b>	X
Existing school staffs >10 Qty (School Readiness)	$\approx$	$\approx$	$\approx$	
Student Average comprehension level towards lower than state average		×		
High number of low-income family nearby the school facility	₩	æ	S	
High Average number of senior population nearby the campus	<b>≅</b>		83	**
Higher level of immigrant enrollment into the adult school	XX	X		

TOTAL 9/10 7/10 5/10 5/10

## 5. Site Assessment

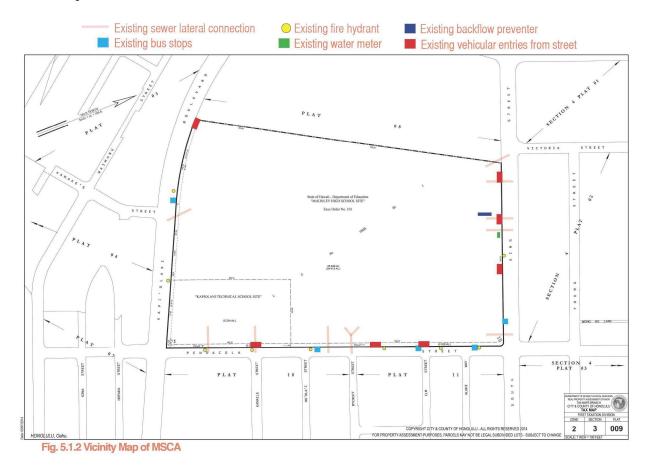
McKinley Community School for Adult MCSA



William McKinley High School was constructed in 1945 with the first administrative building designed by architect Vladimir Ossipoff with the later addition of the W-Building as a collaborative work with architect Louis E. Davis in the mid-20s, then when it became a DOE school, the development of the entire school was taken over by head architect of the time, Leon Noe. The property of the entire school campus site at 46 acres or 1,988,470 square feet of state-owned land, with an official tax map key of 1-2-009:001. Due to the involvement of architect Vladimir Ossipoff in addition to being the oldest high school in Hawaii, William McKinley High School was listed on the National Historic Registry as number 80-14-9926.

The entire campus is part of the Ala Moana and Kakaako Neighborhood, which falls under the state jurisdiction of Hawaii that is overseen by the Department of Honolulu Development Authority for all construction work to be performed. No significant flooding goes on the McKinley campus as its location is beyond the 500 years floor plain and classified as an AE zone subject to a 1% annual chance of flooding at base flood elevation. However, substantial flooding or coastal erosion issues can be disregarded in this research since base flood elevation has not yet been determined for the community adult school. The city has no setback requirement for the property because is not part of the city and county of Honolulu development

zone, hence, any new addition added to the adult education facility can be within the typical city zoning setback for buildings<sup>10</sup>.

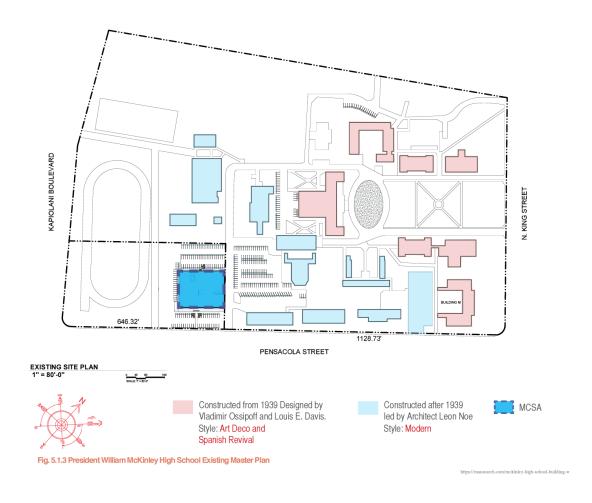


Understanding the connection between municipal utilities into the school is crucial when deciding the number of sinks and toilets, as that will determine the occupancy load of people using individual rooms. Additionally, understanding the municipal water lines and waste sewer laterals connection can control the construction budget from exceeding regulating plumbing elements such as fire sprinkler systems, classroom vanities, bathroom fixtures count per International Building Code occupancy load, water fountains, and irrigation systems for landscaping.

There are five bus stops and seven public vehicle entrances into the entire property; the awareness of the type of entry will help redirect the existing path of travel to a more pedestrian-friendly one. As students from the high school campus and the adult school campus walk in and out of the school and around the

<sup>&</sup>lt;sup>10</sup> Pherson, Neal Mac. "McKinley High School's National Register of Historic Places Registration Form." Historic Hawaii Foundation. Historic Hawaii Foundation, April 21, 2017. https://historichawaii.org/2014/02/19/mckinley-high-school/.

neighborhood, it would be best to have more entrances to the campus that is more welcoming for bicycles and pedestrians.



The history of McKinley High School dates to the Mid-20<sup>th</sup> century of the Second Industrial Revolution as lightweight industrial material replaced the heavy masonry or wood structure of the original McKinley Campus. A quick site plan indicates a quick timeline on the building built within McKinley Campus in Figure 5.1.3, where the pink is the original buildings designed and permitted by architect Vladimir Ossipoff and Louis E Davis, which most are "Hawaii Regional Architectural style with an Island-Oriented interpretation of Spanish Form" as the build reflects many details on the building depicting Hawaiian culture via cast-in stone transom panel mounted above Building-W as part of the renovation project completed in 2019 by local architectural firm Mason Architects, who specialized in historic preservation projects.

<sup>11 &</sup>quot;McKinley High School, Building W." MASON. Mason Architects Inc, 2019. https://masonarch.com/mckinley-high-school-building-w/.

The 20<sup>th</sup>-century Hispanic Colonial Revival Style is the existing architecture represented by terra Cotta roof tile and bright exterior stucco over heavy concrete walls. This historic architectural style aims to maintain interior cooling during hot weather. For Hawaii, located at the equator, colonial revival is the best choice to lower the air conditioning cost even today. The central courtyard space with the Former President William McKinley statue welcomes all visitors facing North King Street, with vehicles entering from the left side, looping around the main administration building, and exiting to the right side.

The oval symbolizes the pride of the high school, with no visitor being able to step foot on that patch of landscape, which is only made available for the high school senior student on the day of their graduation to walk across. The sense of pride has passed down through generations of academic years, which is reflected by the architecture of the buildings; students and faculty using the administration building will immediately be aware that the experience inside the building is different from the experience inside the community adult school building that is an example of Modern Architecture.

### 5.2 Field Observation

### **Purpose**

- To make observations of the adaptability of the school to the pandemic.
- The daily interaction of students and teachers with the school space.
- Existing conditions of the school building (parking, location).
- Studying building classroom layout and student circulation.
- Interview students or staff regarding their experience with the campus.
- Understand the general demographics of students who attend the community adult school (age, ethnicity, gender)
- Activities students participate during class breaks, for they congregate in small study groups or rush to leave the facility.
- Study of the learning facility will focus on open-learning experience or traditional classroom learning.
- Enter the facility in different time of the day and weather in attempt to understand the limitations of the project site.



**Location**634 Pensacola St #216, Honolulu, HI 96814

### Permission

Verbal permission for the video to remain within the facility to record, sketch, and take notes of the events during the site assessment as needed.

## **Note Taking Protocols**

**Notebook**: Additional contacts related to Adult Education or social housing, such as phone numbers, emails, name cards, and public or private institutions.

## Studying the site:

- How people be to access the facility?
- How are people able to find the facility from the street? (access)
- Sketch the layout of the classrooms, offices, and access to outdoor learning spaces.
- Locations of access into and out of the learning facility.
- Evaluate the existing daylighting and natural ventilation of the facility.
- Identify the reasoning behind the current placement of plumbing fixtures, lighting, and class furniture in the building.
- Record the cultural diversification indicators on site, such as student project display areas.
- See the potential for introducing biophilic design to enhance the learning experience.

• Phone (video/ voice recording)

## **Deliverables**

- Interviews, site observations (consistent sketches for all the site visits).
- Photos of necessary elements to depict relationships of the users with the learning facility.
- Study and understand the site programming.
- Graphical presentation of reasons and findings to be used as guideline for SITE design.
- Study and understand the existing building programming.
- Graphical presentation of reasons and findings to be used as guideline for BUILDING design.

Fig. 5.2.5 Site Study: Main Entry to MCSA



Date Taken: Nov. 5th 2021 | 17:00pm | Sunny Photographer: Jordan Luo



SITE KEY PLAN

Existing faculty entrance of completely paved and gated with chain-link fencing.

Existing entrance of the adult students that drive on a rocky road that have not pavement with no proper fencing.

Fig. 5.2.6 Site Study: Main Faculty Parking



Date Taken: Feb. 28 2023, 14:58PM | Rainy

Photographer: Jordan Luo



SITE KEY PLAN

Rain water from rooftop drain to landscape.

Water begin to collect towards the middle, but the faculty parking don't have site drains.

Slope of the existing faculty parking for rain water.

Fig. 5.2.7 Site Study: Parking For Visitors



Date Taken: Nov. 5th 2021 | 17:08pm | Sunny Photographer: Jordan Luo



SITE KEY PLAN

Large clear view to the Moana Pacific Towers.

Gate area and good view to the McKinley HS running track field.

Exposed utility machinery standing awkwardly on the gravel road. Landscape shading device is recommended.

Fig. 5.2.8 Site Study: Parking For Visitors With Heavy Rain Water



Date Taken: Feb. 28 2023, 14:57PM | Rainy

Photographer: Jordan Luo



SITE KEY PLAN

Unpaved parking area for students and visitors with no on-site security.

Substantial water detention after a quick raining period.

Lack of exterior ground lighting making adult students enrolled in night classes difficult to navigate.

Fig. 5.2.9 Site Study: Main Visitor Entry With Heavy Rain Water



Date Taken: Feb. 28 2023, 14:57PM | Rainy Photographer: Jordan Luo

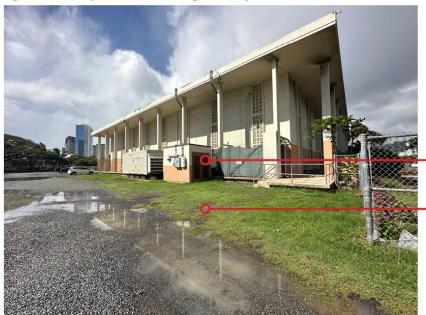
SITE KEY PLAN

Substantial water detention after a quick raining period by the entry.

Unpaved road causing the soil to sink when vehicle leave tracks driving by.

No clear marking of parking areas for adult students of visitors when entering the school

Fig. 5.2.10 Site Study: End of Visitor Parking With Heavy Rain Water



Date Taken: Feb. 28 2023, 15:00PM | Rainy Photographer: Jordan Luo



No clear path connection of the exposed utility machinery to interior or to the landscape

No clear marking of parking areas

Figure 5.2.5 indicates a significant privacy issue with a clear delineation of visitor and faculty parking areas. There are four entrances into the facility; three of four entrances are closed for public access due to security reasons, and all visitors, upon entering the facility, will be greeted by the sign showing MCSA will not be responsible for any theft or loss of visitor parking. The lack of coherence of security for visitors and student parking proves the difficulty of providing security services on-site, hence, as one of the key decisions for new site planning.

The main entrance of MCSA from Pensacola Street seemly rejecting incoming visitors with a chain-link fence gate that is permanently closed, creating a miscommunication to others that the facility is not open, which is contrary to the fact that classes are still ongoing within the facility. As a school institution, an average pedestrian and incoming traffic should be able to quickly identify during the day if the school is operational or on academic break. During the nighttime, the design should give the same academic experience to residents' casual stroll around the neighborhood or as can be spotted from a relative distance when driving into the school. As evening classes are ongoing, adult students should have the opportunity for outdoor learning to absorb learning content better or to perform recreational activities without the fear of potential vandalization or personal harm.

Another observation made driving through the visitor parking stall; a large puddle of rainwater will congregate on a rainy day on driveways. Especially as heavier vehicles traverse in certain areas, soil tends to sink because more impervious materials, such as gravel and base course, are needed to act as proper drainage agents. Thus, another key decision for MCSA site planning should include the following two items.

- 1. Slightly regrade the existing site condition to slope towards the fence or towards the adult education facility.
- 2. strategies of implementing bioswale at certain locations of the lowest points of the property to serve as natural fencing for the facility and a drainage system for rainwater to daylight.

Fig. 5.2.11 Site Study: Secondary Faculty Parking Area Facing Pensacola



Date Taken: Feb. 28 2023, 15:02PM | Rainy

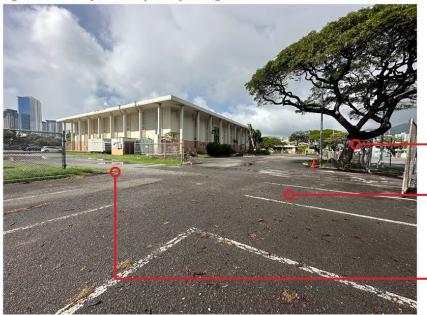
Photographer: Jordan Luo



Water collection by the entrance, need to prevent from entering into city sewer

Mixture of gravel rocks and asphalt as the merging between the secondary faculty parking and the visitor parking areas

Fig. 5.2.12 Site Study: Secondary Faculty Parking Area



Date Taken: Feb. 28 2023, 15:02PM | Rainy

Photographer: Jordan Luo



Existing Monkey pod Tree

Lack of landscaping within the parking space for outdoor activities

No clear indication of gravel road connection to the asphalt parking beyond the chain-link fence

Fig. 5.2.13 Site Study: Secondary Faculty Parking From Site Walk



Date Taken: Nov. 5th 2021 | 17:11pm | Sunny Photographer: Jordan Luo



#### SITE KEY PLAN

Existing Modern Style architecture using two color selections of Beige and Light Red.

Old Chain-link fence needs to be replaced or removed

Root of Monkey pod tree begin to eat into the parking asphalt.

Fig. 5.2.14 Site Study: Entry to Secondary Faculty Parking From Site Walk



Date Taken: Nov. 5th 2021 | 17:11pm | Sunny

Photographer: Jordan Luo



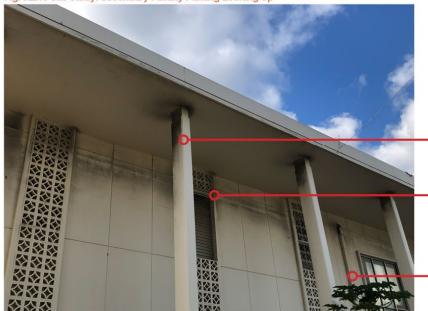
SITE KEY PLAN

Recently renovated running track field beyond, mismatching fencing with existing MCSA

Uneven asphalt parking areas

Cracking asphalt parking joining the Right-of Way to the parking lot. Double lane entry, yet empty parking lot.

Fig. 5.2.15 Site Study: Secondary Faculty Parking Looking Up



Date Taken: Nov. 5th 2021 | 17:08pm | Sunny

Photographer: Jordan Luo



SITE KEY PLAN

Molding of the columns and wall near the roof plane during decades of rain.

Small window for natural ventilation, breezblock are only decorative element, service no natural ventilation

Existing Rain gutters not providing enough roof drainage causing mold to build up

Fig. 5.2.16 Site Study: Secondary Faculty Parking Looking Down



Date Taken: Nov. 5th 2021 | 17:08pm | Sunny

Photographer: Jordan Luo



SITE KEY PLAN

Entry doors of the building are the only major spaces for natural daylighting

Metal railing is not heavily utilize, sees not sign of wear and tear

Entry step are coated with non-slip coating color to match base wall paint

Looking beyond site drainage and security issues, the sense of place will be another factor set for observation. As mentioned earlier, the facility should improve the current enrollment of adult students in Urban Honolulu; ensuring that the building will be welcoming to all students is crucial to allowing the school to be regarded as a prestigious educational institution among the local communities. Previously Chapter 1 discussed that one of the three-education goals for MCSA is to pay attention to students' voices as the school encourages students to voice their opinion that can better improve the education facility.

Figure 5.2.15 indicates that the existing roof of the adult school facility has issues with rainwater drainage, causing building columns to accumulate mold that is corrosive to the life span of the building. The mold growth near the building roof is consistent; limiting and centralizing the roof's sloping will mitigate the rainwater collection on the ceiling. Large solar panels are installed on the rooftop to provide alternative energy for an education facility; despite the good intentions, the weight of the solar voltaic arrays is creating a heavier dead load for the roof plane, dramatically reducing the integrity of the existing structural elements. Another key decision of the building improvement will have to reinforce the existing structural columns with concrete jacketing wrapped around the existing columns with structural rebars and provide an opening for larger C-channels to open all the interior walls for new programming of the facility building.

Another purpose aside from better canvas for adult learning programming, the reinforced structural members allow the omission of a substantial amount of exterior light-weight industrial concrete panels to introduce natural daylighting into all new classrooms and offices, thus reducing the need for excessive utilization of artificial lighting in the long term improve the learning experience for teachers and students.

After analyzing the figure 5.2.11 to figure 5.2.16 concluding the following key decisions.

- 1. Reinforce the existing structural members omitting exterior concrete panels to invite natural daylighting.
- 2. Keep existing Modern style of the MCSA building as the backbone of the building to serve as platform to incorporate contemporary design elements.
- 3. Ensure there are adequate private areas for outdoor learning opportunities.

Fig. 5.2.17 Site Study: Pedestrian Entry To MCSA Facing Pensacola

SITE KEY PLAN

Monkey pod trees are located around the perimeter of the

Larger U-Shaped ramp for ADA

Small ramp for ADA

Red color with rough texture to distinguish entrance and avoid slipping hazards

Date Taken: Feb. 28 2023, 15:07PM | Rainy Photographer: Jordan Luo

Existing high shrubs nearby classrooms allow more privacy if have out door activities

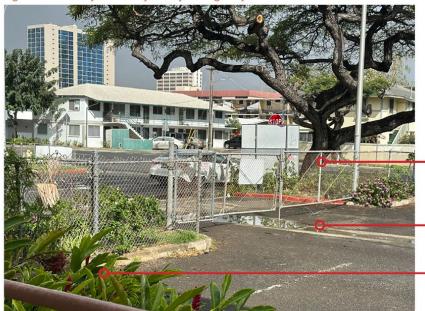
Cracking on foundation by the window opening, can be patched

Lightweight concrete slab mass produced in the early 19s

Fig. 5.2.18 Site Study: Pedestrian Entry To MCSA Facing Moana Twin Tower

Date Taken: Feb. 28 2023, 15:07PM | Rainy Photographer: Jordan Luo

Fig. 5.2.19 Site Study: Secondary Faculty Parking Entry From Pensacola



Banyan trees are located around the perimeter of the education facility

SITE KEY PLAN

Water collection due to improper site drainage

Shrub vegetation of Red Ginger (Alpinia Purpurata)

Date Taken: Feb. 28 2023, 15:08PM | Rainy

Photographer: Jordan Luo

Fig. 5.2.20 Site Study: Location of Existing Transformer



Date Taken: Feb. 28 2023, 15:08PM | Rainy Photographer: Jordan Luo



SITE KEY PLAN

Existing power transformer somewhat concealed by the nearby vegetation

Broken chain-link fence due to trespassing to graphitti, new fence should be higher and more rigid material

24" grade change from the parking level to the exterior corridor (4 steps)

Fig. 5.2.21 Site Study: Corridor Facing McKinley Cafeteria



Date Taken: Feb. 28 2023, 15:10PM | Rainy Photographer: Jordan Luo



SITE KEY PLAN

Sudden change of furniture from concrete bench to wood, suggest consistent design

Cracking on foundation by the window opening, can be patched

Large spot footing supporting the prefabricated concrete columns

Fig. 5.2.22 Site Study: Corridor Facing McKinley Cafeteria (Facing High School Parking)



Date Taken: Feb. 28 2023, 15:11PM | Rainy

Photographer: Jordan Luo

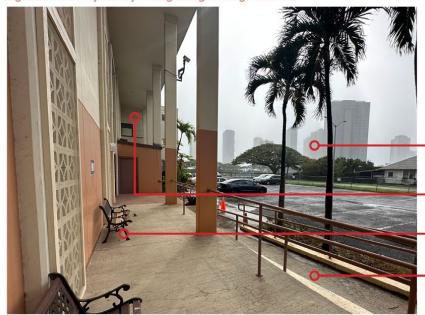


3 Monkey Pod trees are located around the perimeter of the education facility dividing the two campuses

Open view to the student parking area for the main campus

Lacking of exterior lighting increase navigational difficulties at night time

Fig. 5.2.23 Site Study: Faculty Parking Facing Running Track Field



Date Taken: Feb. 28 2023, 15:12PM | Rainy

Photographer: Jordan Luo



SITE KEY PLAN

Non-obstructed view to the Kakaako Cityscape, suggest more vegetation to better framing the view

Large unused space above the exterior storage

Another set of benches differ from the other facade of the building

Another ramp from the faculty drop off, but no public vehicle access to this parking lot

Fig. 5.2.24 Site Study: Faculty Parking Facing Running Cafeteria



Date Taken: Feb. 28 2023, 15:14PM | Rainy

Photographer: Jordan Luo



Formal main entry to the MCSA, but no accessible for Public

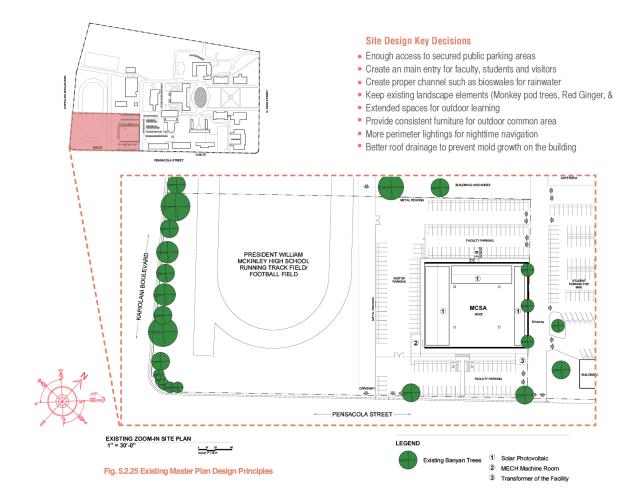
Most well maintained parking space in the entire facility

Need of better connection of the faculty, student, and visitor access to the facility

Figure 5.2.19 shows the gate entry turn from Pensacola, the main entrance to the education facility that supposedly defines a navigational pattern of the entire school. However, since constant closure of the gate may misguide visitors of the school's significant function, the redesign should first understand why such a decision is made. Following figure 5.2.20 shows clearly that serious issue of vandalism is presented on the campus. The painting of the school facility is relatively recent; one can infer that the reason behind the improvement is to conceal the unsanctioned trespassing to very restricted areas of the building to leave vandalized marking that does minimum help to the school's reputation.

Smart Technologies such as intelligent parking sensors embedded in the base course at each parking stall can send a signal to all incoming drivers to the parking facility, then convert it into a message to drivers identifying which parking stall is available for occupying. This will help reduce parking congestion during high school sports events or adult class periods.

The three more giant Monkey-pod trees with vegetation create a visual separation between the education facilities and the main campus. This indicates that the school board pays close attention to the existing vegetation on site. The new design should follow the existing preservation of significant vegetation that brings cultural values into the adult school facility, substantially carrying over the tree scheme from the main high school campus. To have consistent design of exterior furniture in all façades of the building would be crucial, because of it ability to allow visitors to experience the view at certain locations of the exterior hallway when looking at cityscape referring to figure 5.2.23 and 5.2.24.



Architecture is a complex field that requires various considerations to produce functional and aesthetically pleasing buildings. When designing a building, several critical decisions must be made to ensure that the site is designed correctly and that the building meets the needs of its users. In this case of research, eight fundamental principles are created to address the current issue of the site plan.

The approach to site design is based on the main principles listed in Figure 5.2.25, looking at the site limitation understood from the two site visits conducted on a rainy and sunny day. Looking at how the site and the building are reacting to the change in weather helps decide strategic design gestures that can be implemented to relieve the existing problem quickly are facing.

The large mass of water collected in the middle of the unpaved parking in Figure 5.2.8 indicates a lack of proper drainage on-site to disperse rainwater, eventually creating potholes on the road as tripping hazards to vehicles and pedestrians. Hence, proposing bioswales along the parking stall after paving the



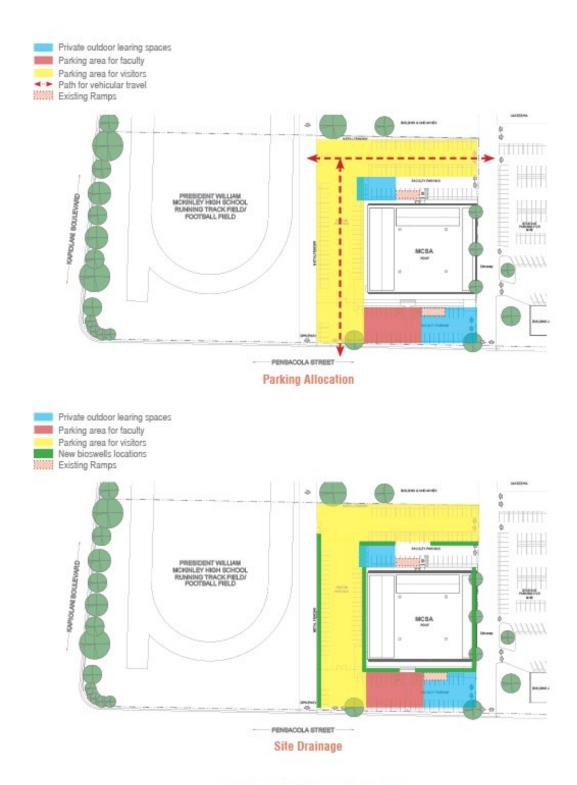


Fig. 5.2.27 MSCA Development Diagrams

One of the most important considerations when designing a building is access to secured public parking areas. This is especially important for educational facilities, as students and faculty need a safe and secure parking space. In addition to providing ample parking, creating a main entry for faculty, students, and visitors is vital; all entrances should be easily accessible and marked to provide a welcoming vibe.

Another important consideration when designing a building is proper channeling for rainwater drainage. Bioswales are an effective way to channel rainwater away from the building and into the surrounding landscape. This can help to prevent flooding and erosion, as well as improve the overall aesthetics of the site. In addition, it is essential to keep existing landscape elements per Hawaii Department of Education Specifications, such as Monkeypod trees and Red Ginger, to preserve the site's natural beauty.

Ample spaces for outdoor learning are another essential consideration for class programming and building overall as architectural design research. Outdoor learning spaces can provide a valuable opportunity for adult students to connect with nature and engage in hands-on learning experiences. Providing consistent furniture for common outdoor areas is also essential, as it can help to create a cohesive and inviting environment for adult students and faculty.

To improve the nighttime navigation of the adult learning facility, it is important to provide more perimeter lighting around the building such as Toki torches or low shrub lighting devices. Additionally, better roof drainage is also important, as it can help to prevent mold growth on the wall facade and improve the overall health for all users occupying the McKinley Community School for Adult of the entire academic year.



Fig. 5.2.28 MSCA Development Diagrams

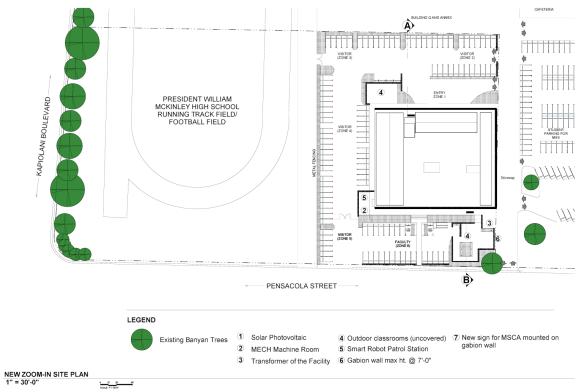


Fig. 5.2.29 MSCA NEW MASTER SITE PLAN

The primary issue on-site currently is security. Looking at the faculty parking in Figure 5.2.5 is clear that the current school emphasizes the safety of its employees with gated parking spaces than students or visitors who were greeted by the disclaimer sign of theft when entering the campus parking. Carrying andragogy into the design of the parking lot, limited access into the site must be established where any traffic will only enter one way and exit the other and limit pedestrian entry to enforce more comfortable outdoor learning areas for teachers and students.

Additionally, smart security robots can also be an opinion to support the existing security staffs to cover the ground that existing manpower could not completely supervise. Breaking the parking lot into 6 zones can allow the security robots to transverse around with direct view to the incoming traffic and help better the security on MCSA.

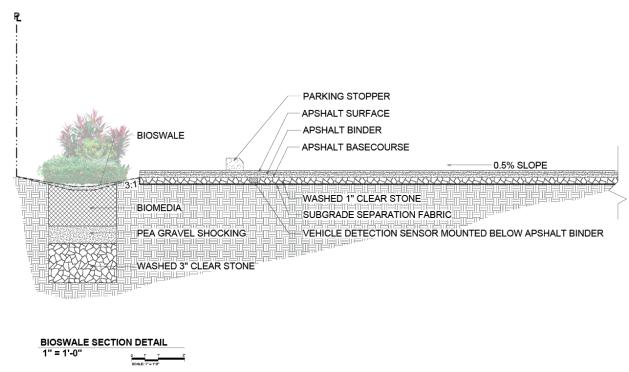


Fig. 5.2.30 SITE SECTION A-A

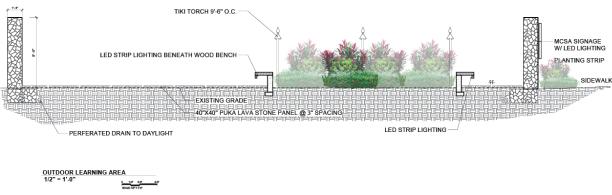


Fig. 5.2.31 SITE SECTION B-B

6. Building Assessment

McKinley Community School for Adult MCSA

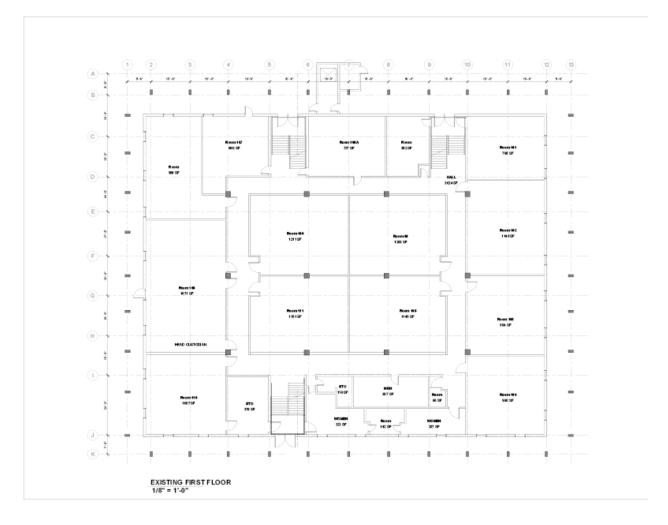


FIGURE 6.1.1 EXISTING FIRST FLOOR PLAN

The current layout of the MCSA is mainly comprised of enclosed classrooms with no visual connection to the outside world. The building is very much maze-like and might be slightly uncomfortable when first entering the space, as the administration office or bathroom cannot easily be identified when entry into the building.

Instead, the building feels more like a government building that discourages learning, as no student was seen taking in the learning process when traversing down the hallways of the existing building. The vertical access, such as stairs, is right above the entry, a tremendous advantage as open space brings in most of the natural daylighting. Unfortunately, the window above the staircase by the entrance is also the only opening large enough to allow natural light to penetrate. Anywhere else in the building is powered by

fluorescent lights and nothing else, which may distill a disorientated feeling in the users.

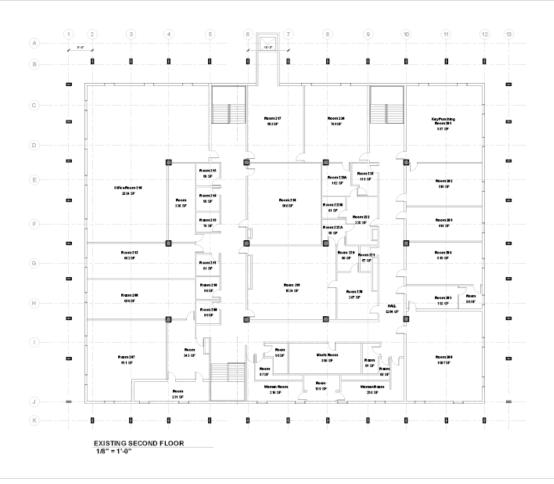
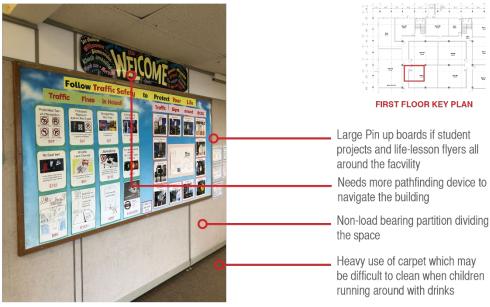


FIGURE 6.1.2 EXISTING SECOND FLOOR PLAN

The second floor of the MCSA has a direct connection of one set of staircases that provide more natural daylighting to the school building, which allows more classrooms and faculty offices to be located on this floor. The retrofit of the spatial programming of classrooms and faculty offices should delegate around the importance of natural daylighting. As the building currently has a very large overhand on the roof plane, any natural light entering the building will be passive and not direct as building facades with no overhang above will experience.

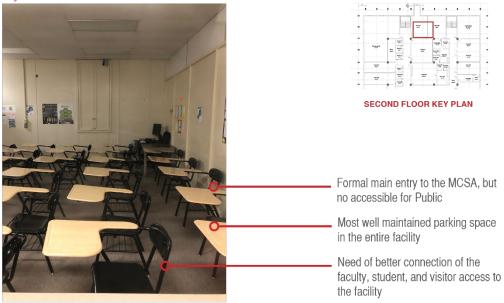
The location of plumbing area of the existing building is in one single area which is structurally beneficial from a financial perspective, hence the retrofit design will also have a center core to host all plumbing and elevator as the need for lighting is less of those spaces due to their functionality.

Fig. 6.1.3 Building Study: Display Wall



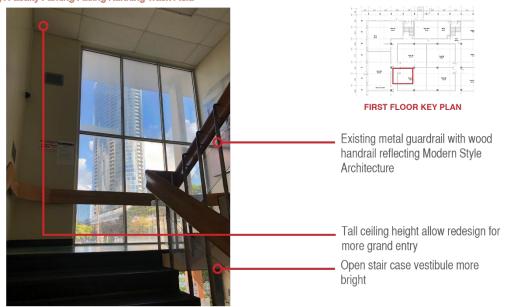
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Fig. 6.1.4 Building Study: Classroom On The Second Floor



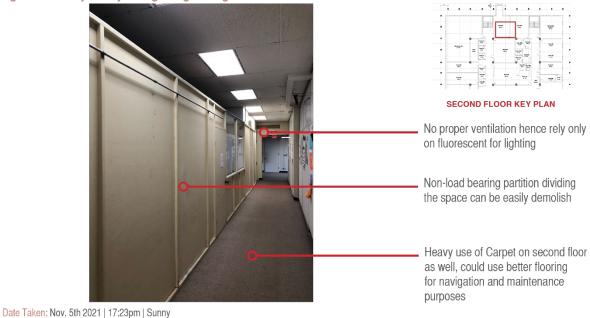
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Fig. 6.1.5 Site Study: Faculty Parking Facing Running Track Field



Date Taken: Nov. 5th 2021 | 17:23pm | Sunny Photographer: Jordan Luo

Fig. 6.1.6 Site Study: Faculty Parking Facing Running Cafeteria



Photographer: Jordan Luo

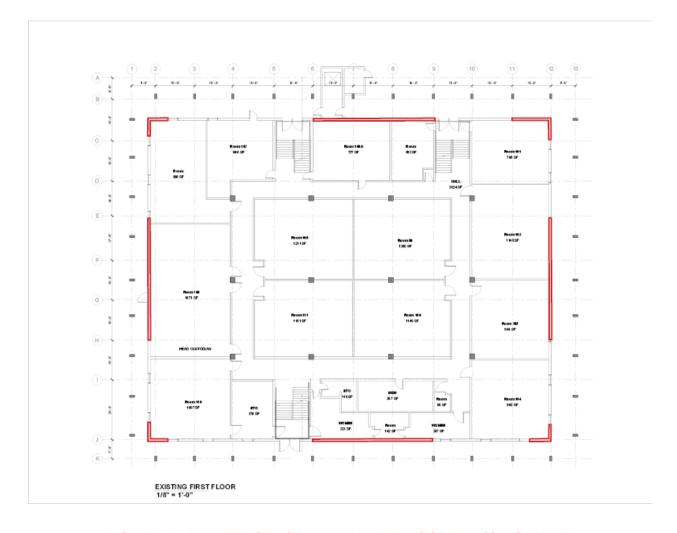
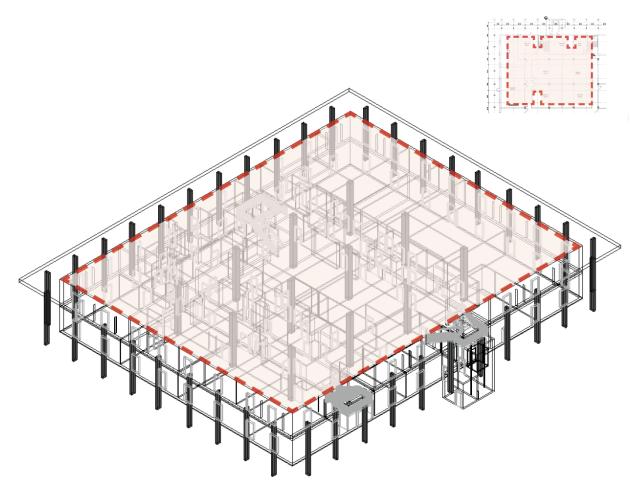


FIGURE 6.1.7 PERIMETER STRUCTURAL WALL MEMBERS OF THE MCSA TO REMAIN

To fully understand how each programming of space can be arranged, the need to shred the building into an empty shell can best prioritize the element with the highest structural integrity. As the MCSA is a product of the second revolution made with slender columns and lightweight concrete panels, the need to retain its architectural form becomes a significant decision as it the building needed to inform student and teacher that the building is the current interpretation of Hawaiian Modernism architecture.

Not only emphasize on the structural integrity of Modernism but looking at the current design methods and material to best depict the educational importance of adult education in Honolulu.



The need of removing all interior walls will help free up creative flow of space arrangement that would be otherwise restrictive to existing plumbing, electrical or sutrctural members.

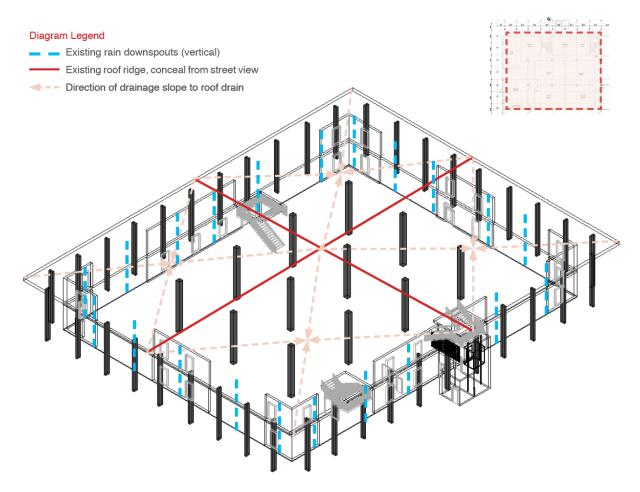
The modern gesture of spaces within the McKinley Community Adult School also will follow the Hawaii EDSPECS to the following chapters:

Chapter 3: Guideline for Spaces
Chapter 4: Sustainable Design Criteria
Chapter 5: Acoustic Design Criteria
Chapter 6: Mechanical Design Criteria
Chapter 7: Electrical Design Criteria
Chapter 8: Multi-Media Design Criteria

Chapter 9: Safety and Security Design Criteria Chapter 10: Traffic, Bus, and Parking Design Criteria

Chapter 11: Landscape Design Criteria

FIGURE 6.1.9
INTERIOR PARTITION DEMOLITION DIAGRAM
NOT TO SCALE



Existing roof ridges connecting to rain downspouts around the building exterior facades. Rain water slope down to center of four quadrants with roof drains connect to the wet wall penetrate through the upstairs and downstairs.

Design intent wish to retain the architectural language of the existing flat roof. The only connection to the rooftop is through the existing hatch, as the original architect did not envision a proper vertical access to the roof top for outdoor function and maximize classroom spaces.

Demolition of interior wall and non-load bearing structural walls optimize proper penetration of natural daylight which harder to be achieved by the existing adult education facility solid walls.

FIGURE 6.1.10
EXISTING DEMOLISHED PLAN AND
REMAINING STRUCTURAL MEMBERS
NOT TO SCALE

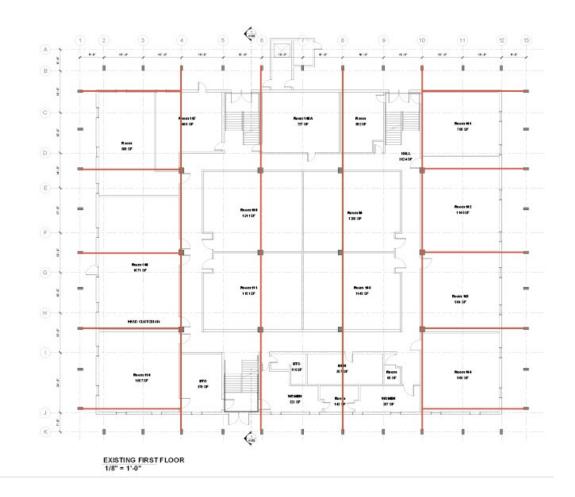
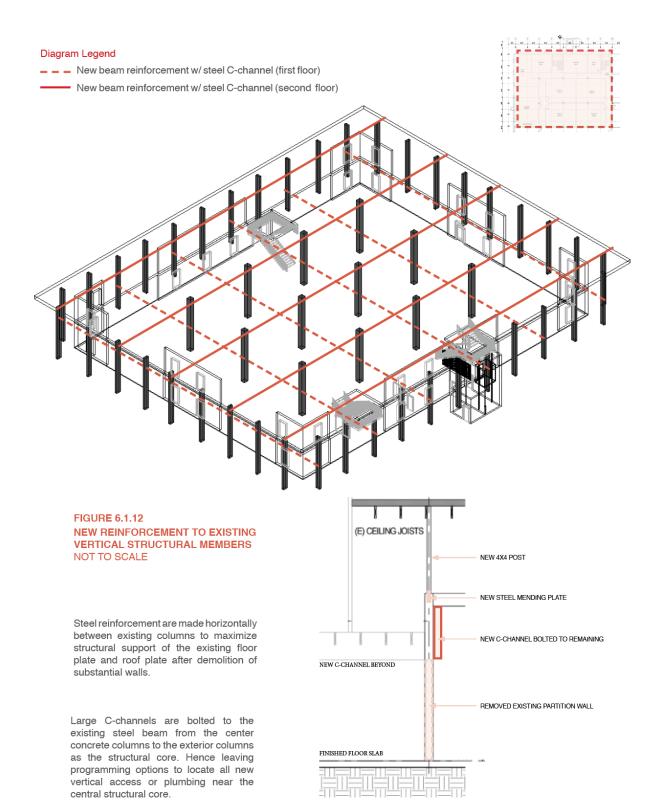


FIGURE 6.1.11 NEW BEAM REINFORCEMENT PATH DIAGRAM

The reinforcement of columns between the floor slab allows more pieces of the building to be omitted in preparation for the substantial daylighting penetration it never had the chance to receive. Strategic enforcement of beams and columns also helps reduce the structural load of the roof plane. Thus, large skylights can be introduced into the building to create an eastern Zen-like learning environment.

As an education facility, should give students and teachers a proper learning environment that warm welcome even before step foot into the campus. The existing building gives off a cold and silent vibe when entering the building which will discourage a lot of students from paying commitment or passion to further their education.





New space programming of classrooms, adminstrations room, and common spaces following the current edition of the following programming.

FIGURE 6.1.13
EXISTING DEMOLISHED PLAN AND
REMAINING STRUCTURAL MEMBERS
AT AIKAHI PARK BY G70 INC.
NOT TO SCALE



## FIRST FLOOR KEY PLAN

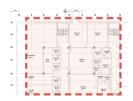
ADMINISTRATION OFFICE PRINCIPAL'S OFFICE VICE PRINCIPAL'S OFFICE COUNSELOR'S OFFICE SMALL CONFERENCE ROOMS LOBBY HEALTH CENTER **DUPLICATING ROOM** PCNC GENERAL OFFICE CLERICAL/SASA STATION MAILBOX LOCKABLE CABINETS SAFETY OFFICE HALLWAY NOOKS BATHROOMS (WOMEN AND MEN) CAMPUS SECURITY OFFICE COMPUTER RESOURCE CENTER/CAFE 1.200 SF COMPUTER UTILITY ROOM COMMON STUDY ROOMS 120 SF ELEVATOR(S) FACULTY CENTER 980 SF WORK AREA LOUNGE AREA STORAGE ROOM

TEACHER PLANNING CENTER CUSTODIAL SERVICE CENTER

LARGE CLASSROOMS

STUDENT DISPLAY AREA TESTING CENTER

THREE VERTICAL ACCESSES INSTRUCTIONAL COMMONS



## SECOND FLOOR KEY PLAN

BATHROOMS (WOMEN AND MEN) COMPUTER UTILITY ROOM COMMON STUDY ROOMS CONFERENCE ROOMS ELEVATOR(S) LARGE CLASSROOMS 980 SF STUDENT DISPLAY AREA THREE VERTICAL ACCESSES FACULTY CENTER 980 SF WORK AREA LOUNGE AREA STORAGE ROOM HALLWAY NOOKS INSTRUCTIONAL COMMONS 150 SF STUDENT ACTIVITIES SPACES 1,160 SF LIBRARY/INFORMATION CENTER LIBRARIAN OFFICE

FIGURE 6.1.14

NEW PROGRAMING OF THE ADULT SCHOOL FACILITY

NOT TO SCALE

The programming of the McKinley Community Adult School will follow and comply with the EDSPECS (Educational Specifications For High School) designated by Hawaii State Department of Education, furthermore, each space will include compliance to artificial conditioning and ventilation within classrooms and common spaces. All new interior will try maximize natural lighting to encourage more out-of-classroom activities to encourage andragogy learning.

130 SF / TEACHER

500 SF

980 SF

150 SF

Built-in and movable furnitures will encourage teachers to present class material on a digital platform than traditional white board. Not only students can access the class contents on their mobile devices, but helps reduce physical byproducts from paper printing.

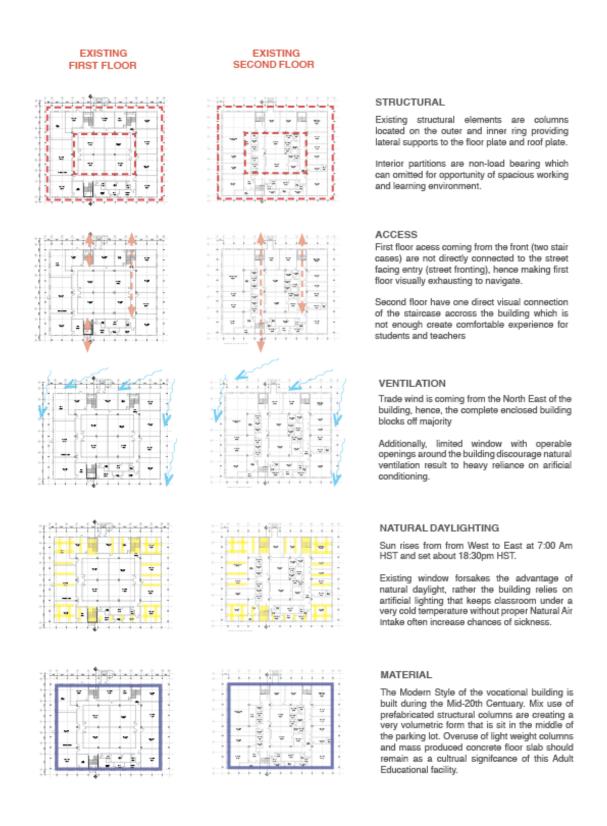


FIGURE 6.1.15 KEY DESIGN DECISIONS OF THE EXISTING FLOOR PLANS

It is crucial to consider the existing structural elements of the building. In this case, the existing primary structural elements are columns on the outer and inner rings providing lateral supports to the floor plate and roof plate. Interior partitions are non-load bearing and can be omitted to create a more spacious working and learning environment.

Visual access is another important design consideration. The first-floor access from the front with two staircases is not directly connected to the street-facing entry, making the first floor visually exhausting. Similarly, the second floor only has one direct visual connection to the staircase across the building, which is needed to create a comfortable experience for students and teachers.

Natural ventilation is also essential as trade wind comes from the northeast of the building, meaning the wholly enclosed building blocks most of the natural ventilation. Additionally, limited windows with operable openings around the building discourage natural ventilation, resulting in heavy reliance on artificial conditioning in exchange for increasing electricity usage.

Natural daylighting is another important consideration when programming and building an architecture project. Sun rises from West to East at 7:00 am HST and sets about 18:30 Hawaii Standard Time. In this case, existing windows forsake the advantage of natural daylight. Instead, the building relies on artificial lighting that keeps the classroom under a freezing temperature without proper Natural Air Intake, which often increases the chances of sickness. Maximizing the exterior and interior openings will help natural light to penetrate the classrooms.

Material considerations are essential to programming and building an architecture project. In this case, the modern style of vocational buildings was built during the mid-20th century, with mixed-use prefabricated structural columns creating a volumetric form that sits. Therefore, the material should only replace non-structural members such as decorative partitions and flooring to trigger interior navigation around the adult learning facility.

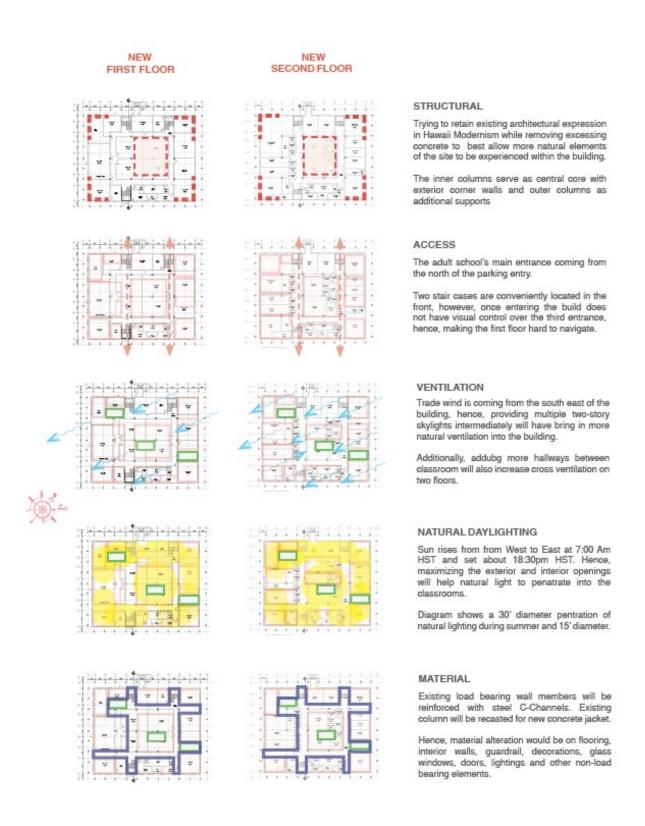


FIGURE 6.1.16 KEY DESIGN DECISIONS OF THE NEW FLOOR PLANS

Structural stability is critical to the longevity of a building. The existing concrete beams can be reinforced with steel C-channels to increase their load-bearing capacity. Additionally, the interior partitions can be omitted to create more spacious working and learning environments. This improves the building's structural integrity and enhances its functionality.

Visual accessibility is addressed within the new architectural programming of classrooms and other educational spaces. All new adult education classrooms will be wrapped around a continuous corridor with complete visual access upon entry, providing easy access for adult students and faculties. In the effort to improve accessibility, the retrofitted plan will remove many non-loads bearing partition walls that are perpendicular to the hallway, will enhance the layout of the building, and can make it easier for people to navigate and find their way around.

Trade winds are coming from the southeast of the building, which will be optimized by the various open hallways open to the exterior, double-storied courtyard, and large operable window openings on glass curtain wall facades. Introducing Two-story skylights will penetrate through the roof plate straight onto the finished slab of the first floor, allowing more natural light and air to flow into the building. More hallways between classrooms will also increase cross-ventilation between the two floors.

The sun rises from the west to east at 7:00 am HST and sets at about 6:30 pm HST. Maximizing the exterior and interior openings will help natural light penetrate the classrooms to create a more comfortable and pleasant learning environment. Diagrams show that a 30 feet diameter penetration of natural lighting during summer and a 15 feet diameter in other months can be achieved.

Material selection is essential to ensuring the longevity and functionality of the building. The flooring, interior walls, guardrails, decorations, glass windows, doors, lighting, and other non-load-bearing elements can be upgraded with a consistent wood texture and color to indicate different classrooms and serve as a navigational device for non-English speakers traversing along hallways of the adult learning facility.

In conclusion, the architecture programming of the existing facility will be altered to adapt to the changing needs of the users and improve its functionality. The adult school's architecture analysis will enhance the retrofitted structure's stability, accessibility, ventilation, natural daylighting, and material quality.

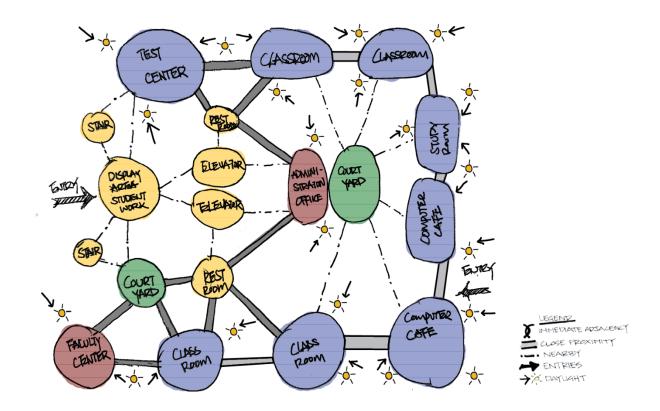


FIGURE 6.1.17 NEW PROGRAMMING OF THE BUILDING

Room adjacency is a crucial process in designing a building that meets the needs of its occupants while also conforming to various building codes and regulations. Additionally, proper connection of the room spaces will serve as an essential aspect of architectural programming that involves allocating space within a building to accommodate the intended activities.

Design considerations in the room bubble diagram are the location of central structural columns to identify the components of the building's primary structure that provide support and stability. Once these structural member columns are identified, the next step is determining the placement of rooms and other spaces within the building.

According to the International Building Code, certain rooms, such as bathrooms and offices, do not require natural ventilation. Therefore, these spaces can be located around the center core, where natural

lighting is weakest. This approach maximizes the use of space while ensuring that the building remains compliant with building codes.

On the other hand, spaces that require daylighting, such as classrooms, computer cafes, testing labs, libraries, and reading rooms, should be located around the parameter of the building. This placement ensures that these spaces receive ample natural lighting, which is energy-efficient and promotes a healthy and productive learning environment.

In addition to the placement of rooms and spaces, it is essential to consider the accessibility of the building's various components. For instance, the testing center, which assesses new adult school students, should be conveniently located beside the administration office. This arrangement of advisory planning can ensure that non-English speakers can access the testing center and receive administrative staff assistance.

Another way to address the issue of insufficient daylighting and natural ventilation in the center of the building is to incorporate double-story interior courtyard spaces. These open-ceiling spaces can provide additional natural daylighting to the center of the building, compensating for the rooms in the middle and not receiving sufficient ventilation and lighting.

Moreover, the interior courtyard spaces can serve as multi-functional hubs that promote socialization, relaxation, and overall healthier well-being among the building's occupants. They can be designed with greenery and other amenities that enhance the building's aesthetic appeal and functionality.

In conclusion, architecture programming is a crucial process in designing a building that meets the needs of its occupants while also conforming to building codes and regulations. Space programming is an essential aspect of architecture programming that involves allocating space within a building to accommodate the intended activities. In designing a building, it is vital to consider the placement of central structural columns, the location of rooms and spaces, accessibility, and natural lighting and ventilation.

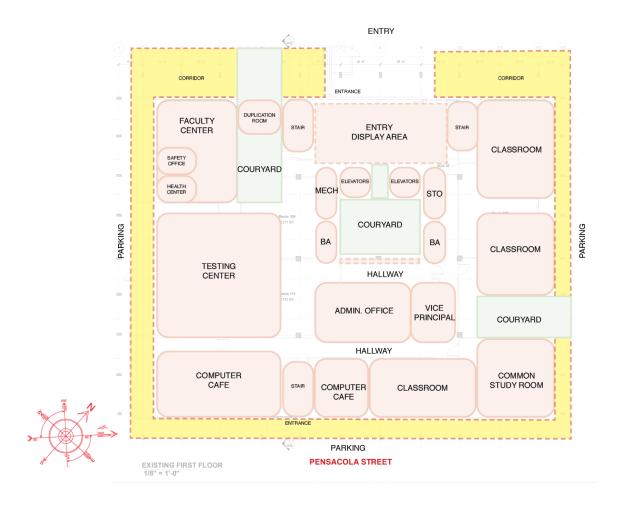


FIGURE 6.1.18 NEW PROGRAMMING BUBBLE DIAGRAM OF THE FIRST FLOOR

The programming of the first floor first resolved the issue of visual access, where each entrance of the building can view the opposite end without searching around the base. Double-story entries and an interior courtyard open to skylight break the cluster of rooms allowing more trade wind from northeast of the Manoa ridge.

The double-story interior courtyard also reduces the need for artificial lighting during the day, introducing biophilic in crucial spaces such as classrooms. Then when students take a break from their lesson, they can gather around the courtyard, relax in the view of the double-story courtyard, and potentially exchange information with each other in case some students cannot catch the entire lesson during class time.

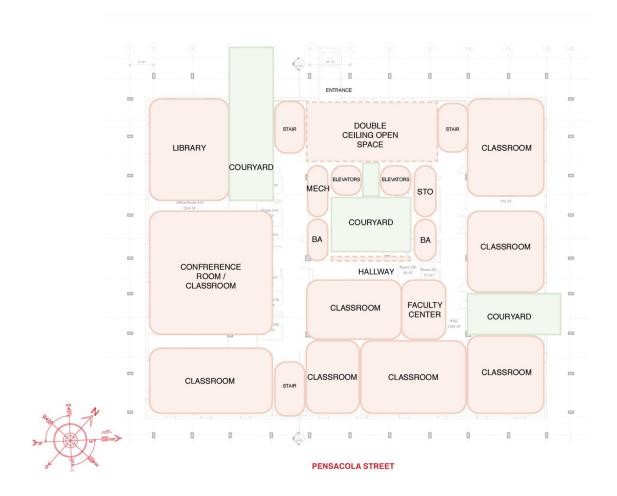


FIGURE 6.1.19 NEW PROGRAMMING BUBBLE DIAGRAM OF THE SECOND FLOOR

The second floor is very similar to the layout of the first floor. The only difference will be the furniture placement, which varies because of its room function. As there is the need to accommodate 100 faculty from the Hawaiian Islands for the annual faculty meeting, the design of the conference room should be more prominent and centered on the building and have direct access to the interior courtyard.

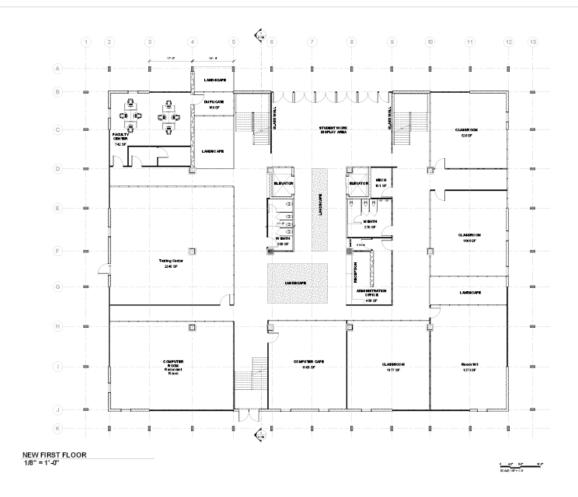
When the meeting is over, the ability to look over from a second floor into a courtyard space will help reduce stress by discussing one year's worth of education goals, objectives, and learning material listed in the Academic Plan for the upcoming year.



FIGURE 6.1.20 UTILIZATION OF EXISTING FACULTY PARKING AS MAIN ENTRY FAÇADE

The entry of the building is divided by the existing elevator that has yet to be utilized since construction. One assumption is that the elevator is not perceived as accessible from entering the faculty parking lot. Additionally, the parking lot is only for faculties. Unless there are disabled faculty going up to the second floor for school, most adult students don't often utilize the elevator.

Hence, the omission of the old elevator can give the learning facility a grand entrance where vehicles can drop off people and walk into the display area of the student projects giving a sense to the visitors that MSCA is an officially recognized school within the K-12 system in the state of Hawaii that promoted international diversification.



**FIGURE 6.1.21 NEW FIRST FLOOR PLAN** 

The floor plan followed the design guidelines of Structural integrity, vertical accesses, welcoming trade wind, heavy emphasis on natural daylighting, and strategical use of the material as navigational devices.

The existing thin concrete columns will be covered with a layer of reinforced concrete jacketing to add another foot all around the columns. Furthermore, steel C-channel will be bolted to the existing structural members of the interior partition for additional load-bearing support from within. Ultimately, the concrete jacket will offset the structural load from the roof and second floor without changing the foundation.

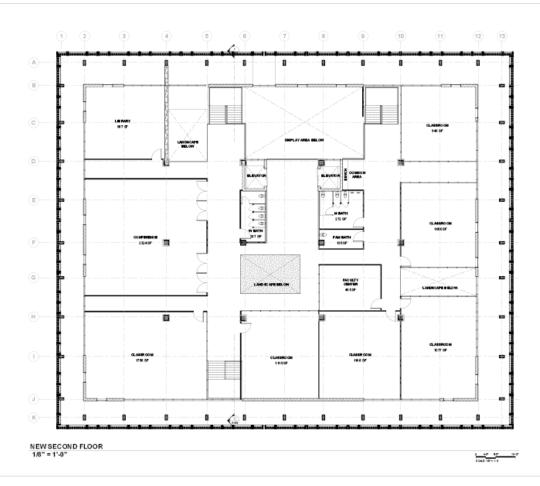
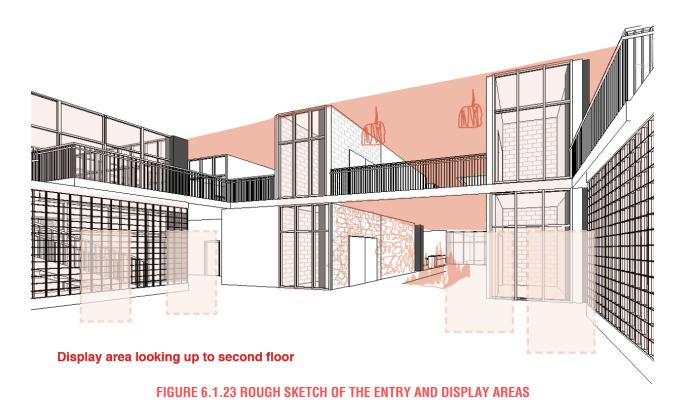


FIGURE 6.1.22 NEW SECOND-FLOOR PLAN

The second floor also follows the design approach of the first floor, where the courtyards are extended into the skylight allowing the interior of the building to be more spacious than the current layout. The exterior wall that was removed now became the glazed glass curtain wall that allows natural daylighting into every single classroom space. Where the original design forsakes because light weighted concrete arrived on site as fixed pieces, further processing of light weighted concrete would defeat the purpose of using light weighted concrete panels during that time.

However, lightweight panels of MCSA are creating so many limitations to a more comfortable classroom revision to the existing design should be made to accommodate the philosophy of andragogy of the current days.



The facility's entry will be as open as possible to provide visual navigation as they enter the building. All the vertical circulation, such as the stairwell and elevator, will present itself by a transparent glass wall curtain and glass block wall. Only when the visitor is fully aware of the surroundings can they navigate through the building to get to their destinations, even with a language barrier; hence, designing a universal programming layout is crucial for incoming visitors in case they do not speak English.

As an extraction of the idea of "transparency" back in the case study in chapter 3, when adult students first arrive on the campus, they should not feel rejected by the solid wall that is in the existing building. For those who do not know their destination in the building, an adult student can quickly visually locate the reception office at the end of the hall for guidance. For returning students and faculty, every critical space, such as the testing center or faculty office, is located toward the front of the entry at each side behind the two central elevators.

The existing building does not have symmetry in circulation or space layout. Hence, the hallway separated by two elevators brings symmetry to the facility entry and helps users to visually break the facility into two parts so they can remember the classrooms and other spaces much more effectively.

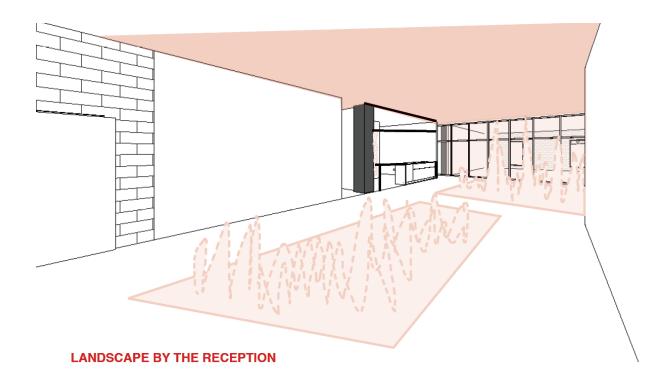


FIGURE 6.1.24 ROUGH SKETCH OF THE RECEPTION AREA

Walking further down to the elevator doors of the first floor, the large hallway dividing the two parts of the building is even more separated by a small sand garden to bring visual comfort to the user as they approach the reception area to utter courage to speak with the faculty staff.

Many of the biophilic elements in the facility serve as a relaxant device as students and faculty finish their long class sessions while sitting down. Hence, stepping out to the gardens while standing up is mainly to relax and digest the class information; there is no seating or furniture to rest at all common areas of the building because long hours in a seating position would be harmful to the human spine as mentioned in the literature reviews.

If students wish to have a private area outside the classroom, designated seating areas in four computer cafés located conveniently on the first and second floors can accommodate up to 20 students in each room. Therefore, common areas should be meant for quick after-class or before-class chitchats, and essential activities such as individual assignments or group projects should be taken care of in a more private area.

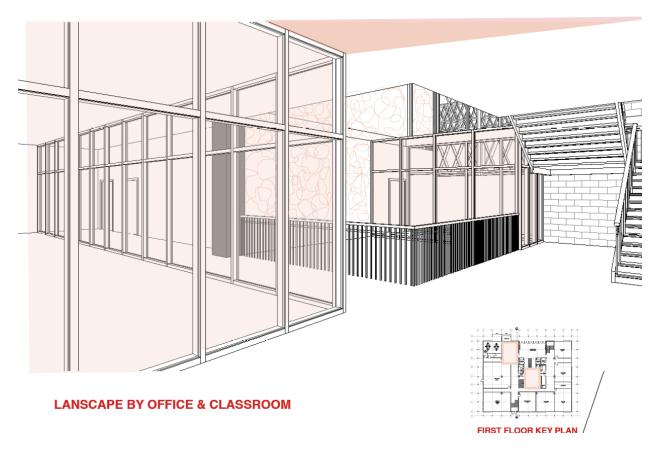


FIGURE 6.1.25 ROUGH SKETCH OF THE DOUBLE-STORIED COURTYARD

Having enough access to multiple courtyard spaces is one of the vocal points of the design, as green spaces not only provide a visual break to the eyes but allow more natural daylighting to penetrate the spaces, hopefully achieving lesser energy consumption in the long run. The main objective is to give more volume to create larger-looking spaces, which will help make the student feel less overwhelmed by the amount of educational content they will receive, considering that the most recent class lessons might have been decades ago.

Concurrently provide a comfortable working environment for the teachers by allowing them to feel like there are less of their employment role, but as a friend with the student so they can enjoy teaching longer as well.

However, the room with large glass will also bring the teacher and students using the spaces to be in a fish-bowl effect as other people will be staring at their every move as the class proceeds. Therefore, ensuring that all glass panels will be tinted or translucent will increase the privacy of the teachers and their students as they are diligently studying the class material.

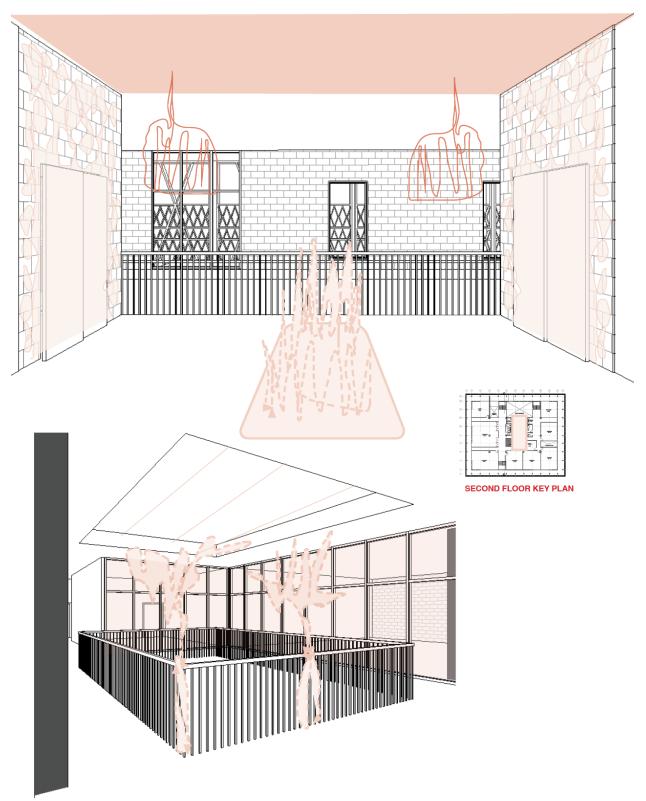
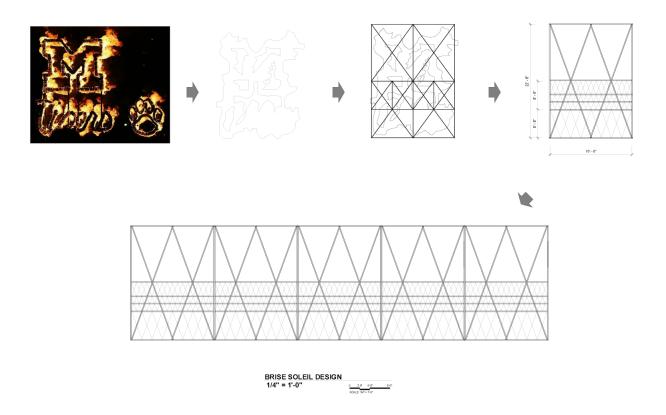


FIGURE 6.1.26 SECOND-FLOOR ELEVATOR AND CONFERENCE ROOM SKYLIGHT

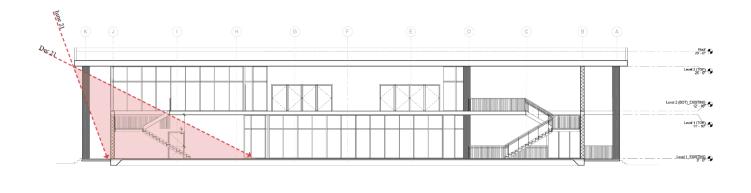


#### FIGURE 6.1.27 BRISE SOLEIL DESIGN DIAGRAM

A long history of William McKinley High School is the tradition of Lighting the "M," an annual event that occurs at the end of every winter prompt. The lighting of the letter M would bring pride to the students at the school as they watch the fire light up the dark sky. This is a similar connotation for the students entering into the MCSA as they are seeing the light in probably their dark time after arriving in the paradise state. As a student first upon arriving at the facility, they will be greeted by the brise soleil, which derives its design pattern from the lighting M, as the extraction of the fire sparks becomes more geometrical to follow the linear form of the existing school building that announcing is a new beginning for those who enter the facility.

Considering the school's construction budget would be substantial, having the brise soleil made of aluminum will be easier for maintenance, replacement, and installation. Additionally, the fire brise soleil

ironically acts as a double façade wall mounted to the exterior light concrete column as a shading device for the interior and provides an interesting pattern when the sun hits the panel at different times of the day.



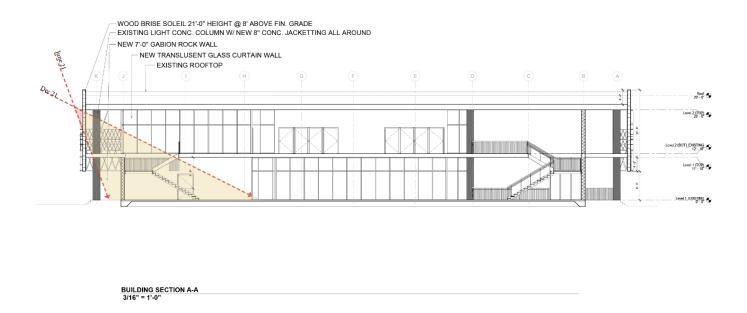
SECTION A-A WITHOUT BRISE SOLEIL 3/16" = 1'-0"

#### FIGURE 6.1.28 SECTION A-A WITHOUT BRISE SOLEIL

Proper sunlight penetrating a classroom is vital to creating a comfortable and productive learning environment. However, excessive sunlight penetration can lead to discomfort and overheating. Therefore, a wall façade such as a brise soleil can help regulate the amount of sunlight entering the adult learning facility while allowing natural light to penetrate.

In tropical climates, such as Hawaii, the sun's intensity can be extreme, and the heat generated can make classrooms uncomfortable for students and teachers. Direct sunlight can also cause glare on computer screens and whiteboards, making it difficult to see and concentrate, especially if the adult student has just

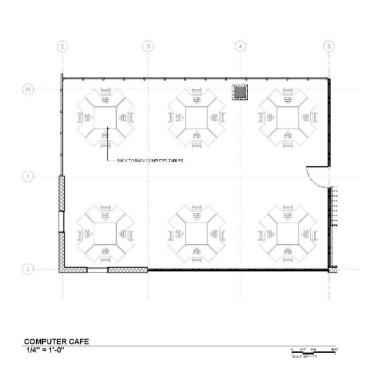
been through a stressful day just before starting the class period. This is why balancing natural light penetration and temperature control is essential in a classroom setting.



#### FIGURE 6.1.29 SECTION A-A WITH BRISE SOLEIL

As brise soleil is an excellent solution to regulate sunlight penetration and temperature control. Furthermore, a brise soleil facade is a non-structural outer layer of a building that can provide shade, reduce glare, and reflect direct sun heat. This system comprises a series of metal louvers positioned at an angle to block the sun's direct rays while allowing natural light to enter the classroom.

The louvers are adjustable by auto motor, reducing the risk of physical accidents when operating the louvers. Also, the amount of light and heat that enters the room can be controlled according to the occupants' needs with a remote click.





#### FIGURE 6.1.30 FURNITURE PLAN: COMPUTER CAFE

The furniture plan of the computer café, per HIDOE EDESPEC design standards, should have a minimum room size of 1,200 sf that can accommodate 20-30 students at once. The table layout should be a trapezoidal table with 5 or 6 sides with students seated around the spaces.

The flexibility of the computer café will also become a classroom whenever there should be a need for workshops or special requests by the teachers. EDSPECS indicates that at least one wall should be an instructional wall with a whiteboard and provide a wall area to mount televisions. Since the computer café is flexible, proper acoustical wall insulation will be required about the perimeter, as referred to in the drywall

detail. Multiple drywall and soundproofing panels are mounted to the metal study to prevent sound from leaking into shared spaces. However, since the computer café is a supplemental sitting area for the student, teachers won't have a permanent station inside the computer café but in classrooms and faculty centers.

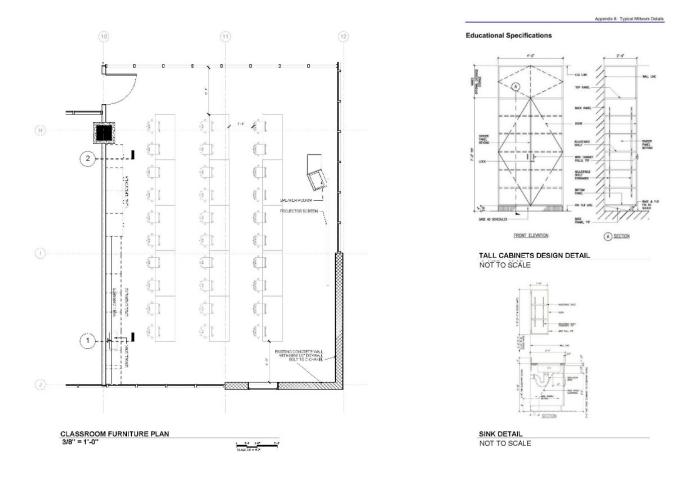
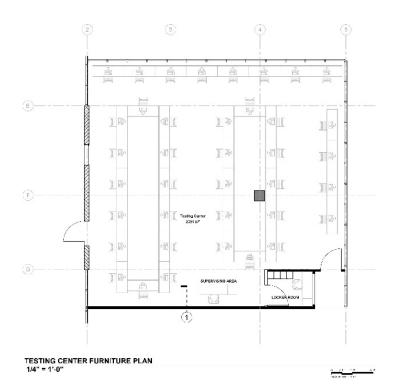


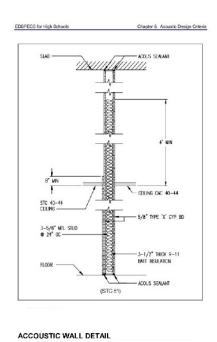
FIGURE 6.1.31 FURNITURE PLAN: CLASSROOM

The typical classroom size is about 980sf to have the capacity to accommodate 24 students and one desk for teachers to rotate as three part-time faculties take one session throughout a day. As a requirement of EDSPECS, every classroom should have a single-compartment sink and microwave ready for students to bring their home lunch to eat between class periods. Each teachers will also have a specific locker room to

store their personal items and class material without worry about invading other teachers' privacy when utilizing each locker.

A designation of a solid white wall for an instructional purposes allows the installation of a projection screen or television for digital presentation among students and teachers as needed instead of the constant use of whiteboards which will eventually become harder to clean with pen marking through the time of board usage. Movable furniture is also available for teacher rearranging for dependent and independent learning. The spacious student desk layout also allows the classroom to adapt to all the programs provided by the MCSA agenda.



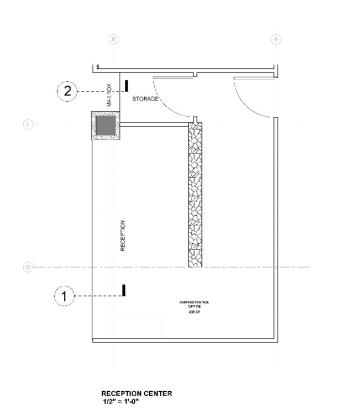


#### FIGURE 6.1.32 FURNITURE PLAN: TESTING CENTER

The testing center will have to be designed to comply with the specific standards for Pearson Virtual University Enterprise (VUE) testing centers; specific security protocols will be in addition aside from the International Building, other relevant Zoning, or Energy Codes. When you first arrive at the main entry will have a small locker booth with a window opening allowing students to sign in to their assigned examinations. Students will also hand over their personal belonging that is prohibited within the testing center to the locker booth administrator before entering the testing center.

Each testing booth will be about 4'-0" in width, with exam partitions dividing each testing table; even as students sit immediately opposite each other, no one will have access to each other's examination material other than the exam proctor patrolling the examination area.

The examination proctor at the end of the room has direct access to the locker booth, so no one other than the proctor and related personnel will access the examinee's personal belongings. The location of the proctor table will also have complete visibility of the entire testing center since it is strategically placed in the middle of the aisle spaces between the examination booths.



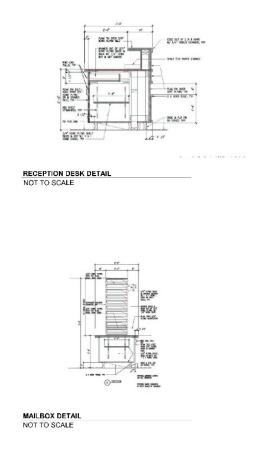


FIGURE 6.1.33 FURNITURE PLAN: RECEPTION OFFICE

The furniture layout of the reception office is somewhat typical, following the standards listed on the EDSPECS, so the variation of its function will be different from the selection of material. The student will stop in front of the reception desk, where they will be welcomed by a fully veneered rock wall, which provides a visual statement of stability that reinforce their purpose of seeking assistance.

Right beside the reception desk is a mailbox station that conceals the structural column, adding a unique visual division to the private and public activities within the administration area. All electronic equipment or computer desks will locate behind the rock wall for safety and protect the privacy of the administrative staff. All access to the administration office is only through one solid core door with selfclosure

and will be constantly locked unless of emergency. Administration staff can also store their private belongings behind in the storage room behind the mailbox for extra security.

The design of the reception desk will follow typical architecture detail of the EDSPECS which is 2'-10" from finished floor with countertop of 38" including the low partition wall that supports the top palm fin to add another 12" above the reception counter.

### 7. MCSA RENDERINGS

McKinley Community School for Adult MCSA



FIGURE 7.1.0 THE MCSA BUILDING REIMAGINED

Fig. 7.1.1 MCSA PARKING LOT AT MAIN ENTRY, EVENING



Fig. 7.1.2 MCSA PARKING LOT AT MAIN ENTRY, NIGHT



This proposed design considers the site analysis and visibility with the parking lot's placement and traffic lanes' centralization. The lanes' width allows larger vehicles to enter the campus quickly.

At nighttime, the security robots will be there to guide the night operation of the facility by patrolling six different zones within the parking lot. Each robot can patrol up to 3 zones at once, reducing the workload of the facility's security staff. Furthermore, security robots only take up a small charging station despite its almost 5'-0" human scale and can run the facility for 24 hours.

The on-site security would only need to be available for emergencies that the security robots could not handle and minor monitoring of the robots to ensure they are functional as it's patrolling the campus. Furthermore, security robots will also help record and collect all visitors and vehicles entering and exiting the parking spaces as an extra precaution for the facility in case thievery, vandalism, or similar crimes would ever happen on site.

Reducing the considerable slope and increasing pavements provide a flatter surface for the security robots to travel. The main concern of these technologies is often tripping over unpaved areas or cracks on the floor. Nighttime design is also considered with navigation lights in the indoor garden and the reduction of large fluorescent lights in the computer café. This creates a relaxing, studious ambiance for students to learn and socialize.

Fig. 7.1.3 MCSA PARKING LOT AT SIGNAGE AT PENSACOLA



The entry sign of the school can be visibly observed when driving by or strolling down Pensacola Street and even at night because of the LED lights behind the signature, providing straightforward navigation for drivers and pedestrians entering the site at night.

The exterior courtyard behind the MCSA school sign is an extension of outdoor learning space for students and teachers as they wish to take their courses outside of the classroom. The entire school premises are covered by gabion walls that are offset more than 5'-0" from the property line. Hence, the height limit can be higher than the city regulated 6'-0". However, the height of the gabion wall should only be tall enough to provide privacy for outdoor activities. It must not be too tall so bystanders cannot observe the facility beyond the walls.

Fig. 7.1.4 MCSA MAIN ENTRY



The new proposed design will have a vast parking lot facing the main entrance to the building, which follows the vehicle traffic access coming from Pensacola Street. The notable difference from the existing building is centralizing one-way incoming and outgoing traffic lanes. The width of each traffic lane is a minimum of 22'-0" in width allowing larger vehicles, such as tour buses, to enter the campus quickly. Each private Vehicle emerging into the entry of the parking lot will trigger a sensor placed underneath each parking stall to indicate its vacancy to every visitor.

The exterior column's reinforcement not only has a layer of concrete jacketing but also a rock veneer skin that contrasts with the wood brise soleil to reinforce its role as the primary structural member that supported the roof plane and the second-floor plan. The gap between the brise soleil and exterior columns to the building wall is about 10' each façade, which becomes a very comfortable space for drop-off areas, ADA ramps, and a common area for socializing. Due to the patrolling security robots and on-site security guards, these large corridors will be safe for outdoor activities before the entries. The exterior column is reinforced with concrete and a rock veneer skin, contrasting with the wood brise soleil. This adds to the structural integrity of the building while also providing an attractive visual element.

Fig. 7.1.5 MAIN ENTRANCE



Fig. 7.1.6 MAIN ENTRANCE AT NIGHT



Visibility and wayfinding are also essential aspects of the design. Translucent glass is used in private and shared areas, providing unique views for circulation, and allowing users to create their own congregating spaces based on their needs. This also creates a sense of privacy for those inside the rooms. Indoor and sand gardens are key cues to inform users of their location and provide a sense of direction. Using lava rock as a heat absorption device also adds to the functionality of the building.



Fig. 7.1.7 OUTSIDE OF FACULTY CENTER

The implementation of translucent glass in the separate private and shared areas provides a unique view for circulations as users will create their own congregating spaces based on their needs now, and the user inside the translucent rooms will not feel obligated to behave in a specific style to please the viewer standing beyond the glass curtain. During night class, this indoor garden provides navigation light for users to travel around the facility.

Providing more indoor scenic areas such as sand gardens create key cues as they can inform other members which area they are locating for conversation. For every double-story courtyard inside the facility, an accent piece will stretch to the rooftop to make the open space even more open. Concurrently, the double-story courtyard rooftop will serve as the new roof drain for rainwater to drain downward, following the rock

wall or vegetation down to the previous sand garden below. The use of lava rock in the rendering above is also thought of as a heat absorption device to collect residue heat throughout the day, further cool down the space during summertime, and warm the space during cold evenings.



Fig. 7.1.8 OPEN COURTYARD TO SECOND FLOOR ABOVE AND RECEPTION

The reception area is designed with another interior double-story courtyard space to break the large open areas into different sections. Opening the guardrail on the second will have vertical patterns to match the glass curtain and bamboo, increasing the ceiling height of the common area. Furthermore, the garden provides a Zen-like feeling of rock and sand for students and faculty utilizing the area.

The horizontal wood slate across the ceiling serves as the directional guideline to open areas in the facility; since each courtyard will end at some advisory rooms such as reception, administration office, principal office, faculty center, conference room, etc., students without prior language in English can easily navigate themselves to assist with much less effort.

The essential purpose of a double-story courtyard is to serve as a biophilic element for the first and second floors with the understanding that the building has a limited footprint which would be financially and sustainably unwise to enlarge the building footprint further.

The design could have implemented planter boxes in every classroom space as an effort to integrate biophilic elements but be less effective than introducing an enormous interior courtyard because of the hassle of maintaining every single planter in every classroom than maintaining a few larger courtyards space with automatic irrigation system embedded around the courtyard perimeters.

Fig. 7.1.9 OUTSIDE OF FIRST FLOOR CLASSROOM



Fig. 7.1.10 INSIDE OF CLASSROOM



Fig. 7.1.11 COMPUTER CAFE



The computer café is one of the most critical programs in the MCSA facility simply because it brings everyone together. The tall room ceiling helps to make the space more spacious. Hence, all acoustic insulation will be on floor tiles, drywall, and industrial ceiling panels.

The large windows of the computer café also reduce the amount of large fluorescent lights in the existing facility and utilize smaller fluorescent lights at a larger spacing, creating a relaxing studious ambiance vibe than an institutional feeling where education is forced onto the students.

At the center of the computer café is an oversized lounge chair for students to relax and to provide a more defined area to socialize, further reinforcing the ideologies behind andragogy and encouraging students to have self-directly learning among themselves even outside of the typical classroom setting.

The main objective of this research is to broaden the current adult education program in Honolulu, which includes implementing contemporary ideas on education that is more prominent in a university-level education to enhance the experience and the environment for adult school students and faculties alike when using the facility.

Site analysis, visibility, wayfinding, nighttime, and materials are essential to building success. This proposed design considers all these aspects, creating a functional, attractive, and comfortable space for adult education. By implementing contemporary ideas in education and design, the building provides an enhanced experience for students and faculty alike.

## **CONCLUSION**

In conclusion, this dissertation highlighted the economic impact of limited job access and business leadership opportunities for immigrants settling in Hawaii. The loss of taxable income due to language barriers and lack of access to proper education is substantial. It affects not only immigrants but also at-risk adults and elderly individuals. Therefore, the proposal of an architectural landmark that expresses the need for proper attention to adult education in Hawaii is necessary.

The proposed design guidelines prioritize structural integrity, vertical access, natural daylighting, and strategic use of materials as navigational devices. The floor plan extends the courtyards into the skylight, allowing for more spacious interiors and natural daylighting to every classroom space. The addition of reinforced concrete jacketing and steel C-channel provides additional load-bearing support without altering the existing foundation.

Furthermore, this research highlighted the need for increased awareness of the importance of adult education in Hawaii. While the primary goal of the Department of Education is to focus on K-12 education, adult students should also be recognized as potential future leaders. The proposed architectural landmark will not only serve as a place for adult education but also as a symbol of Honolulu's rapid urban development and a place for visitors, students, and faculty to come together and appreciate the importance of education.

Overall, this dissertation contributes to the ongoing conversation about the importance of adult education in Hawaii and proposes a solution that not only addresses the economic impact of limited access to jobs and business leadership opportunities but also creates a welcoming and inspiring environment for adult students to unlock their potential and take on leadership roles in their communities.

The project's next phase would be the potential of developing a more pedestrian-friendly parking area for students and faculty. Although the idea of pedestrian-friendly parking sounds ironic, reducing the amount of vehicular traffic in the facility will help boost the idea of the Department of Honolulu Development Authority, hoping to create a more sustainable urban Honolulu for its occupants to have a more active lifestyle.

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