Increasing physical and information accessibility at The Faculty of Medicine and Pharmacy of Rabat

ADVOCATING FOR PEOPLE WITH DISABILITIES

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Advocating for People with Disabilities

Recommendations to increase accessibility at the Faculty of Medicine and Pharmacy-Rabat

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Abstract

The Global Partnership for Education estimates that in low and lower-middle income countries, 90% of children with disabilities do not go to school (Right to Education Initiative, 2018). This project set to improve the accessibility for people with disabilities in the Faculty of Medicine and Pharmacy of Rabat (FMP-Rabat) in collaboration with our sponsor Dr. Azeddine Ibrahimi. We conducted building assessments using ADA Standards, interviews with professionals, and focus groups to identify and prioritize needs that would improve handicap accessibility. We found that the infrastructure and lack of sensibilization at the school made it difficult for students with disabilities to attend. We recommended improvements in areas such as navigation, space accessibility, and services.

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Executive Summary

Background

The Global Partnership for Education estimates that in low and lower-middle income countries, 90% of children with disabilities do not go to school (Right to Education Initiative, 2018). According to the current UN Convention definition, people with disabilities are those who have long-term physical, mental, intellectual, or sensory impairments that hinder their full participation in society (The Lancet, 2006). Morocco is a developing country located in North-Western Africa and Moroccans with disabilities (MWDs) are a **vulnerable population** in the country.

According to a National Study on Disability Report, 5.1% of the population in Morocco lives with a disability (Trani, 2015). Accessibility for people with disabilities in Morocco is widely limited including physical (entrance to buildings, streets) and informational (education, employment) accessibility. **Shockingly, 73% of all Moroccans with some sort of a disability have never attended school** and only 15% have graduated from primary school (RTI International, 2016).

The government of Morocco has taken initiatives that recognize the importance of education for social and economic development (Legrouri, 2013). However, many students with disabilities do not have the opportunity to attend a fully accessible school because of the **lack of infrastructure**, such as ramps, elevators, and wheelchair accessible bathrooms (RTI International, 2016). While there are many barriers that limit equal access to education for people with disabilities, our report focuses on the issues of physical accessibility and disability services in the Faculty of Medicine and Pharmacy of Rabat (FMP-Rabat).

The Faculty of Medicine and Pharmacy of Rabat is a Moroccan public higher education institution, part of the University Mohammed V - Souissi. It was established in 1962 and the faculty was officially opened by Hassan II of Morocco (FMP-Rabat, n.d). An important step to continue the history of success of this faculty is to expand the student's opportunity to study in this faculty. Our project goal was to work with the FMP-Rabat **to provide recommendations** to make the school more accessible for people with disabilities, so they will not face any barriers on pursuing their studies.

Objectives and Methods

To accomplish our goal, we completed three main objectives:

1. Assessed the current state of accessibility in FMP-Rabat.
2. Understood how accessibility issues are tackled in the Moroccan context.
3. Proposed recommendations to improve the physical and informational accessibility in the FMP-Rabat.

The first objective **evaluated the physical accessibility** of the school based on an accessibility audit adapted from American with Disabilities Act (ADA) standards. We created a standardized rubric that included spaces most frequented at the school (cafeteria, library, labs, classrooms) and the measurements to determine if they met or did not meet ADA standards. The accessibility audit allowed us to see how accessible the school was and prioritize places that needed more improvements.

The second objective was focused on observation, interviews and focus groups to **understand disability issues in the Moroccan context,** specific challenges students with disabilities faced in FMP-Rabat and how other schools have made their environment more accessible. We visited the Faculty of Sciences and International University of Rabat (UIR) regarding physical accessibility and interviewed professionals that have experience in healthcare to get their perspective on improvements that can benefit people with disabilities. Finally, specifically for FMP-Rabat, we interviewed one student with disability and conducted a focus group with other students to come up with recommendations that would improve their quality of studies.

Our final objective analyzed all the collected data and created a list of recommendations that would be beneficial for FMP-Rabat. Our earlier objectives were critical in the production of **our final recommendations** and the collaboration between Worcester Polytechnic Institute (WPI) and FMP-Rabat.

Findings

Based on the results we gained from completing our methods we grouped our findings into three categories: navigation, space accessibility and services. According to the school administration, when the school was built, the disability standards were not considered, and this makes it now difficult for people with disabilities to attend the school.

Navigation

We found that even though the FMP-Rabat has ramps in certain locations around school **not all of them meet the ADA standards**. Ramps outside of the library do not have a 1:12 slope which makes it difficult for a person in a wheelchair to get up. When a ramp has a slope greater than 1:12, like in the case of the ramp in front of the library, not only does it not meet ADA standards, but it is steeper requiring more force to get up. In most frequented places, like the cafeteria, main entrance, school administration and labs, ramps are missing. In the case of the route to the labs located on the third floor, the implementation of ramps could be difficult because of the existence of circular stairs which are not easily adjustable because of their rounded structure. Signs to show directions to accessible bathrooms or routes are not frequently used and even a sign indicating a handicap accessible ramp in the parking lot is often blocked off by parked cars. There is not a school map that shows handicap accessible places.

Space Accessibility

We found there to be difficulties accessing classrooms and other rooms. First, not all door handles are operable according to ADA standards. Next, large amphitheaters have stairs down to the front of the room so someone with a wheelchair would have to sit in the back of the room. Also, desks and chairs are too low which makes it very difficult for someone to get out of their wheelchair and transfer to the desk chair or use the table. Many of the bathrooms do not have ramps at the entrance and not all the sink heights meet the appropriate clearance for someone in a wheelchair to operate them.

Services

Services for people with disabilities can provide them with resources to succeed academically and in their future careers. There is the Center for Accessibility, which belongs to all the Mohammed V University and gives various services to students with disabilities starting from classroom changes, extended exam times to employment opportunities (H. Mderssi, personal communication, February 25, 2020). The FMP-Rabat, as part of Mohammed V University, is aware that this center exists, but because there is not a designated person for people with disabilities in this faculty, this leads to lack of communication between the center and the school. Most of the services to students with disabilities, so far have come from individual help but we hope that in the future there will be more directed way to solve the issues that people with disabilities face.

Recommendations

We recommend that the FMP-Rabat install handicap accessible ramps on their campus. The school should implement ramps at the entrances at the most important buildings like the cafeteria and school administration and update the current ramps that have a slope greater than 1:12.

We recommend that the FMP-Rabat post handicap accessible signs around campus and update their school map to show accessibility. At the main entrance, there is a table showing a map of the school. The map of the school should include symbols that show important handicap entrances, ramps, and bathrooms so they can be easily found. Also, putting signs on doors and other places helps indicate handicap accessible features.

We recommend that the FMP-Rabat improves the space accessibility of their facilities including their classrooms, bathrooms, amphitheaters, administrations, library, and cafeteria. Each classroom should have one or two desks which are high enough for students who use wheelchairs to easily access them. In addition, there should be a railing near handicap accessible features, like ramps, desks, and bathrooms, so that students can stabilize themselves when getting out of their chairs. Every bathroom labeled as accessible should have a ramp at the entrance and sinks should have enough clearance for a wheelchair.

We recommend that the FMP-Rabat improves their student services that support people with disabilities. We recommend that the school increases communication with the Center for Accessibility. The school can designate someone in their current student affairs office to collaborate with the center and provide resources to students with disabilities within the Faculty. We also recommend that the school has a psychologist to provide counseling for not only students with disabilities, but for all students at the Faculty. This would be beneficial as it helps students and teachers achieve academic success, psychological health, and social wellbeing. Finally, we recommend that the school encourages students to volunteer to support students with disabilities by helping take notes in classes and scribing for exams. These improvements would create a more supportive learning environment for people with disabilities.

Conclusion

The FMP-Rabat is a higher-educational institution which is continually improving its environment to make it fully accessible for students who are pursuing their studies. Our project helped us identify accessibility problems and some possible solutions in the existing facilities at the FMP-Rabat. The school's administration and faculty are aware of these issues

and continues to welcome its students' feedback as a catalyst for FMP-Rabat to become more accessible. The FMP-Rabat's intention to increase accessibility for its students with disabilities is evident from hosting our project and the work they are continuing to undertake on their facilities. Currently, the school is building three new amphitheaters where the disability standards are being taken into consideration. This shows the commitment the FMP-Rabat has in making their school more accessible for people with disabilities.

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1 Introduction

The Convention on the Rights of Persons with Disabilities adopted by the United Nations has been ratified by 75% of the states in the world (Humanity & Inclusion, 2016). The UN defines a disability as a long-term physical, mental, intellectual, or sensory impairment that hinders an individual's full participation in society (The Lancet, 2006). Morocco is a developing country located in North-Western Africa and Moroccans with disabilities (MWDs) are a vulnerable population in the country.

The Research Triangle Institute International (RTII) stated that people with disabilities in Morocco are disadvantaged in three important life sectors: education, healthcare, and employment. Our project will focus on the educational sector because lack of education can lead to future unemployment, resulting in lower income levels, which directly affects one's quality of life (Isakova, 2011). One of the major concerns preventing children from attending school is that school facilities cannot physically accommodate someone with a disability (RTI International, 2016).

For all members of society, including those with disabilities, education is a primary key to success. The government of Morocco has taken initiatives that recognize the importance of education for social and economic development (Legrouri, 2013). However, many students with disabilities do not have the opportunity to attend a fully accessible school because of the lack of infrastructure, such as ramps, elevators, and wheelchair accessible bathrooms (RTI International, 2016). While there are many barriers that limit equal access to education for people with disabilities, this report focuses on the issues of physical accessibility in the Faculty of Medicine and Pharmacy of Rabat (FMP-Rabat).

In collaboration with our sponsor, Dr. Azeddine Ibrahimi, a professor at the FMP-Rabat, our goal was to identify the most crucial improvements needed to increase the accessibility of this Faculty. We outline three main objectives to achieve our goal. First, we assess the current state of accessibility in the FMP-Rabat. Then, we understand how accessibility issues are tackled in the Moroccan context. Finally, using the information gathered from the previous two objectives we propose recommendations to improve the physical and informational accessibility in the FMP-Rabat.

In the next chapter we present our background research on the difficulties of having disabilities in Morocco. Then our methodology presents the steps we took to achieve our

project goal. Finally, we include our findings and results from our project and proposed recommendations.

2 Background

Injustice against people with disabilities is a widespread problem, as only 45 countries have anti-discrimination legislation protecting people with disabilities (United Nations Enable, 2020). According to the current UN Convention definition, people with disabilities are those who have long-term physical, mental, intellectual, or sensory impairments that hinder their full participation in society (The Lancet, 2006). That includes people in wheelchairs, deafness, blindness, or developmental disorders like autism. Disability is a central health issue that plays out in all areas of individual and social life (The Lancet, 2006). Despite the wide social and economic effects, it has on communities, discrimination against people with disabilities is not a topic that is discussed in everyday conversation.

This chapter explores major factors that influence the life of Moroccans with disabilities (MWDs) by highlighting and reflecting on the efficacy of the current laws that support this specific population. Then, the team investigated effective methods and techniques that could improve physical and informational accessibility for students with disabilities in the Faculty of Medicine and Pharmacy of Rabat (FMP-Rabat).

2.1 Disability in Morocco

As the world population grows rapidly, we cannot disregard that 15% of the population (one billion people) experience some form of disability and that the prevalence of disabilities is higher in developing countries (World Bank, 2019). According to a national study on disability report, 5.1% of the population in Morocco lives with a disability (Trani, 2015). This means that one person in every four households has a disability (Trani, 2015). As shown in Fig 1, there are three types of disability present in Morocco: mental (18.8%), sensorial (24.9%) and physical (56.2%). This data helps us to determine that physical disabilities are the most prominent in Morocco which is why we are focusing on making institutional buildings such as the FMP-Rabat more accessible.

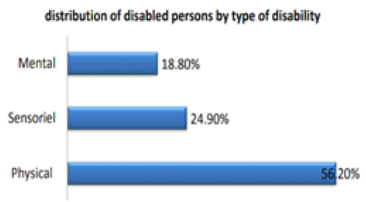


Figure 1: Percentage chart of different types of disabilities in Morocco. Adapted from "Moroccan experience on disability statistics" by Touhami (2015).

As a developing country, Morocco faces major issues with integrating people with disabilities into society. Moroccans with disabilities experience limited opportunities and inequality because of the unsupportive attitude that exists in Moroccan social environments. Although people with disabilities are present in every community, they are viewed differently than others in this society.

2.2 Public Perception

In Moroccan culture many believe that a person with a disability cannot contribute enough to society leading to their alienation from society (Trani, 2015). Some parents who have a child with a disability are embarrassed by them, and keep them out of the public eye because they see their children to be not as capable as others and are worried about what other people in the area may think of the family (Al-Aoufi, 2012). This causes the child to be even more out of touch with the real world and isolated from their community. Physical and information accessibility also play an important role in improving the lives of people with disabilities.

2.3 Physical and Information Accessibility

Accessibility for people with disabilities in Morocco is widely limited. This includes physical accessibility, entrance to buildings or sidewalks, accessibility to information, education, and employment (Wheelchair Traveling, 2017). This makes it difficult for MWDs to integrate into society. By denying access to education or employment, useful human resources are wasted, and society gets poorer (Community Toolbox, 2019). Both physical and information accessibility are important in providing people with disabilities with adequate resources.

In Morocco, independent movement on roads and sidewalks is almost impossible for people in wheelchairs as many sidewalks are in bad shape as shown in Fig 2. Accessibility to buildings is not guaranteed as building codes are rarely enforced (Rohwerder, 2018). Wheelchair-friendly ramps are scarce even though most buildings have staircases leading up to the entrance, while not all hotels have elevators (Ichen, n.d). Even something as simple as using the bathroom poses a problem because of the lack of handicap bathrooms (Ichen, n.d). This keeps people with disabilities from being able to get around their own city.

Figure 2: Disintegrating sidewalk in Fes. Adapted from "Good, Bad, and Interesting Sidewalks of Morocco and Western Sahara" by Sidewalk City (2010).

Another form of accessibility is information accessibility, which lacks in Morocco as many buildings do not have a directory and even if they do, they are not in Braille. Also, streets do not have beeping pedestrian crossings, making it difficult for people who are blind to navigate the city on their own (Ichen, n.d). For children who have hearing impairment, it is hard to communicate because Moroccan Sign Language is poorly documented and rarely used (Zero Project, 2018). This makes it challenging for Moroccans with any kind of disability to communicate with the people around them.

2.4 Government Legislation

Article 34 of Moroccan Constitution states that the government is "responsible to rehabilitate and integrate the physically, sensorimotor, and mentally handicapped individuals into social and civil life" (Bond, 2015). In 2005 King Mohammed VI started the National Initiative for Human Development Support Project, whose goal was to increase the accountability and transparency of the decision-making and implementation processes made by the government to enhance social and economic infrastructure and services for vulnerable groups (World Bank, 2014). Later in 2007, Morocco became one of the first countries to sign the United Nations Disability Rights Treaty and later ratified it in 2009 (Hicks, 2015).

The government proposed Draft Law 97.13, which focused on the diagnosis and treatment of disabilities (Hicks, 2015). The National Council of Human Rights (NCHR) then developed suggestions to the law that were split in four categories: rephrasing the objectives of the law, offering social protection, access to health, and access to education for MWDs. Later drafts have adopted the first three categories, however Human Rights Watch believed that access to education for MWDs needed more improvement. Their major criticism of the law, which was accepted in February of 2016, is "guaranteeing access to inclusive education for children with disability…" (Human Rights Watch, 2017). According to HRW the government hasn't addressed the issue of insufficient specialized staff, negative attitude of families, and the infrastructure problems preventing long distance children from accessing integrated schools (Human Rights Watch, 2017).

The Universal Periodic Review (UPR) completed by the United Nations Human Rights Council in 2012 mentions several of the actions performed by the National Initiative for Human Development Support Project. The reception and guidance services for persons with disabilities were decentralized into 16 centres, the number of children with disabilities in schools has increased by 33% and 235 more school classes have been accommodated to their needs from 2012 to 2016. Furthermore, a project to develop an inclusive school curriculum

has been put forth (Human Rights Council, 2017). However, as UPR states, despite action in many important social aspects – access to information, education, training and employment, participation in socio-cultural, sports and leisure activities – employment and accessibility remains an issue. The UPR followed up on this in the third cycle (2017) with recommendation 144.76 "for the constitutional and legislative framework to help people with disabilities as seen in number, adopting an anti-discrimination law prohibiting all forms of direct and indirect discrimination" (Human Rights Council, 2017). Although the government has made improvements to support the rights of people with disabilities, there are still actions that need to be made.

2.5 Accessibility Issues in Education and their Impacts

As a result of insufficient rights, Moroccans with Disabilities (MWDs) often fail to receive education, employment, and health care, or establish a positive relationship with abled individuals (Trani, 2015). Moreover, lack of education directly influences their ability to find employment. Lack of physical and information accessibility in schools creates a vicious multidimensional poverty cycle for MWDs which they cannot escape without direct help from the government (Trani, 2015).

2.5.1 Education

Receiving special needs education is a major problem in Morocco and a large proportion of MWDs never attend school. According to a 2014 national census, 73% of all Moroccans with some sort of a disability have never attended school and only 15% have graduated from primary school (RTI International, 2016). It is important to note the unequal distribution of this statistic in terms of demographics. The first disparity is that while 27% of MWDs have attended school, 18% lived in cities and 9% in rural areas. The second disparity is that of gender inequality as 90% of MWDs with a disability who attend school in rural areas are male (RTI International, 2016). The disparities in education are highlighted in the pie charts in Fig. 3.

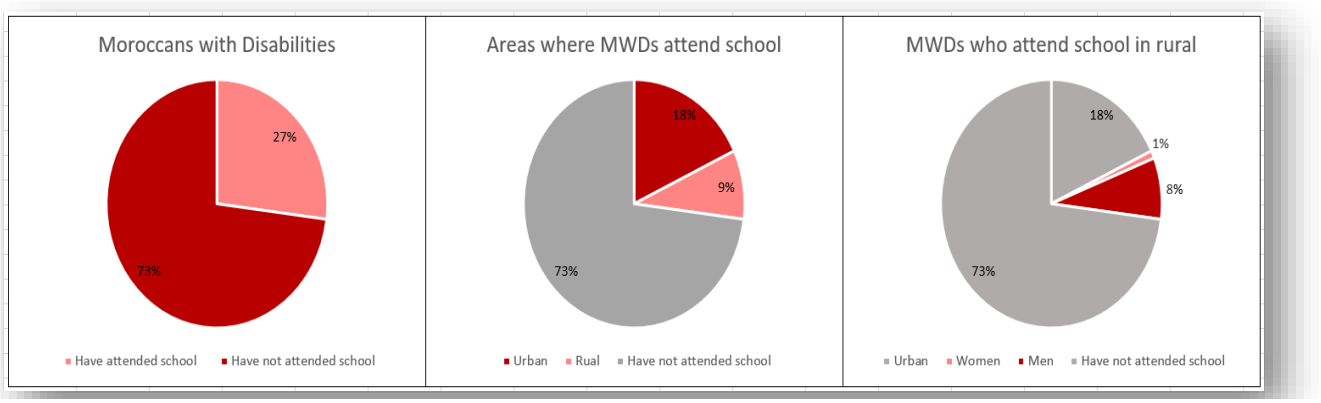


Figure 3: Disparities in Education. Adapted from "Data for Education Programming in Asia and the Middle East" by RTI International (2016).

There are several major concerns that people have regarding the education system in Morocco. The aforementioned HRW reflection on the Draft Law 97.13 echoed the concerns that were previously raised in a 2014 survey performed by RTII in collaboration with multiple Disability People's Organizations (DPOs) in Morocco – the two major concerns preventing children in Morocco from accessing education are the lack of adequately trained special needs teachers and the inability of school facilities to physically accommodate a student with a disability (RTI International, 2016). Finally, even if a child is enrolled in school they are often segregated from the rest of the students. This makes students with disabilities even more closed off and further complicates their ability to integrate into the Moroccan society (McIvor, 2002).

The issues within the education system affect not just Moroccans but foreign workers as well. Jackie Spinner, a writer for the Washington Post, travelled to Morocco and stayed in Rabat for three months. Both of her children are affected by autism and she wanted to find a school that would satisfy the needs of her older child. Unfortunately, as she highlighted in her article titled "Special Needs parenting in Morocco", her son was rejected from three schools before she used her personal friend network to find a small private school in Rabat that admitted her child into their kindergarten (Spinner, 2017). The article highlights the same issues as the survey completed by RTI (in collaboration with USAID), including rejection due to poor facility accessibility and lack of educated personnel. An inadequate education system leads to a lack of professional development for MWDs which causes them major difficulties when looking for employment.

2.5.2 Employment

A common trait of a population with a low education level is a high unemployment rate and high participation in the shadow economy, which is illicit economic activity. Of the

776,000-working age MWDs (15 and over), 86% are unemployed, which is almost 10 times larger than the national average unemployment level of nine percent (Morocco Unemployment Rate, 2019). Of the 103,000 employed MWDs, 62.8% participate in the shadow economy and cannot take advantage of Labour Code facilities or acquire social security protection (Arssi, 2017). Additionally, females are massively marginalized within the working population as only 1 in 11 working individuals with a disability are female.

Another reason for low employment is physical and informational inaccessibility of the workplace itself. It is uncommon for a workplace to have ramps, elevators, or specially accommodated bathrooms in its facilities. Objects of informational accessibility such as screen-readers, clear signage, or Braille displays are even more rare. Even if someone with a disability is employed within an accessible workplace, they still face challenges with equal pay. The wage inequality between the abled and disabled populations is quite substantial, as 82% of those with a disability who work earn less than the minimum wage (Arssi, 2015). Figure 4 shows the relationship between employment rate and having a disability in Morocco.

2.6 Effective methods to increase physical accessibility in schools

It was found that the most effective approach to breaking the poverty cycle is to

Figure 4: Disability and Employment chart in Morocco. Adapted from "Moroccan Experience on Disability Statistics" by Touhami (2015).

provide the population with education (ChildFund, 2020). Similar conclusions can be made based on the team's research – lack of education amongst the population of MWDs leads to lower employment levels and wage inequality, that directly affects their ability to receive good quality of social services.

Schools will vary widely on how accessible they are to individual pupils. An Accessibility Audit is a useful tool to evaluate the accessibility of a school for an individual

with a disability by comparing the school's entrances, classrooms, and common areas to national or international disability standards. It also helps schools create accessibility plans, which show how the school administration plans to improve the facilities in the future to make the school more accessible for students with physical and mental disabilities (School Accessibility, 2019). The Americans with Disabilities Act (ADA) Checklist for Existing Facilities highlights some of the requirements found in the ADA Standards for building accessibility (ADA, 2016).

Another method to increase access for individuals is to make accommodations. By simply changing a classroom location, or putting the important classes on the ground floor, students in wheelchairs will not need to have a lift. Accommodations can be beneficial because no costly equipment needs to be installed but at the same time it means that the school is accommodating student needs (Burton, 2018). It is important for every school to provide these accommodations as it provides students with disabilities with equal access to materials and classes offered in school (Texas University, 2016).

The Faculty of Medicine and Pharmacy of Rabat, shown in Fig. 5, is a Moroccan public higher education institution part of the University Mohammed V - Souissi. It was established in 1962 and the faculty was officially opened by Hassan II of Morocco (FMP-Rabat, n.d). During the inauguration of the faculty, His Majesty King mentioned that the usefulness of the faculty is undeniable, and it must be a school of civility and sacrifice (FMP-Rabat, n.d). An important step to continue the history of success of this faculty is to expand the student's opportunity to study. That's why our project focuses on improving physical accessibility of the FMP-Rabat, so students won't face any barriers on pursuing their studies. In the next chapter, we describe our methodological approach to achieving this goal.

Figure 5: The main entrance of the FMP-Rabat. January 16, 2020.

3 Methodology

In collaboration with the Faculty of Medicine and Pharmacy of Rabat (FMP-Rabat), we assessed the level of accessibility for people with physical disabilities that frequent the school. We identified areas in the FMP-Rabat that needed improvement regarding physical accessibility. Our goal was to provide recommendations to increase access for people with disabilities in the FPM-Rabat.

3.1 Objectives

To accomplish the goal of this project, we completed three main objectives:

1. Assessed the current state of accessibility in the FMP-Rabat.
2. Understood how accessibility issues are tackled in the Moroccan context.
3. Proposed recommendations to improve the physical and informational accessibility in the FMP-Rabat.

In the following sections we explain our approach to achieving these objectives. In section 3.2, we discuss how the specific standards (ADA Standards) helped evaluate the physical accessibility in the FMP-Rabat. Building off that, in section 3.3 we justify why interviews and focus groups with people that have experience with working with people with disabilities gave us insight on the current challenges they face. Finally, ways on proposing successful recommendations are described. Our timeline of completing these objectives is found in Appendix A.

3.2 Assessed the current state of accessibility in FMP-Rabat

The first objective was to assess the current state of the accessibility in the FMP-Rabat. We observed the building to gain information regarding the physical aspect of the FMP-Rabat. The structural aspect of a school influences the quality of life of people with disabilities and their academic success in a school environment (Gal, 2009). We assessed different parts of the FMP-Rabat, focusing on important spaces, such as laboratories, bathrooms, classrooms, cafeterias, etc. The group evaluated issues involving the presence of elevators, ramps and handicap accessible signs using the report of the American Disabilities Act (ADA, 2016), that provided information on accessibility standards for streets and schools. Using the report, the team created a standardized rubric (Appendix B) with checkpoints on how to assess a building. The resulting assessment guided and informed the project, which helped the group to document and identify how accessibility of the FMP-Rabat

could improve for people with disabilities. We assessed each class, lab, and bathroom two times to reduce human error. All members of the team evaluated spaces in school at the same time, and the faculty was assessed for a period of 4 days. Using a site assessment form (Appendix B), the team critiqued structural features such as:

- Entrance to buildings and rooms
- Staircases, Elevators
- Ramps
- Signs
- Doors, handles
- Floors

We did not disrupt class, work, or studies while completing our site assessment and got permission from school administration on accessing the building. We collaborated with our sponsor and the medical school students to find the appropriate times when school halls or classes were not busy to evaluate the space without any barriers. After gathering the data from our Site Assessment Form, we evaluated the abundance of accessibility features in the FMP-Rabat. We used this data as part of the discussion in our focus group mentioned in objective two.

3.3 Understood how accessibility issues are tackled in Moroccan context

The second objective was broken down into three subcategories. The first was to observe the physical accessibility of other schools such as the International University of Rabat (UIR) and Mohammed V University Faculty of Sciences. The second of these categories collected data from interviews with professionals that work in healthcare about their opinions on how to tackle problems that people with disabilities face, especially in school facilities. For the third subcategory, we conducted focus groups and interviews with students in the school to understand the accessibility experiences of people in the FMPR. In order to identify the potential barriers and challenges to accessibility in the school we looked at two groups: students with disabilities and able-bodied students. The Office of Disability Services at Worcester Polytechnic Institute suggested these groups because they would allow us to identify real concerns of our target population and provide us with an alternative view on the possible changes required in the school (A. Curran, personal communication, December 9, 2019).

3.3.1 Observed the physical accessibility of other schools

To understand how accessible other schools in Rabat can be, we visited UIR and Mohammed V Faculty of Sciences. We were accompanied by students who had previously studied at the schools, they showed us around and gave us access to classrooms and other important areas. We observed what aspects of the schools were physically accessible and noted them down. We also took pictures of the accessible points to aid us in our final recommendations for the FMP-Rabat.

3.3.2 Interviewed professionals that work with people with disabilities and school's administration

To complete the first objective, we broadened our perspective of the situation that people with disabilities face. We conducted semi-structured interviews with school administration, disability healthcare professionals, and members of organizations that advocate for people with disabilities. Through our research we discovered that semi-structured interviews (Galletta, 2013) allowed the participants to narrate their experience, while the focus of the questions was carefully tied to our research topic.

We asked disability professionals (Appendix C) and school's administration (Appendix D) a general set of questions that revealed their previous experience working with people with disabilities, positive and negative points regarding the situation that they currently face, and their opinions on further improvements they think benefit this vulnerable community. These personal interviews represented individual opinions of people working closely with people with disabilities. We used this data to provide context and outside perspective on our project and the methodology we developed. The recommendations at the end of the project came from stakeholders as shown in Fig. 6.

Figure 6: Stakeholders that contributed to gaining information about final recommendations. January 16, 2020.

3.3.3 Interview with student with disabilities

We interviewed one student with disability from FMP-Rabat, to understand more about his experience on his studies and how accommodated his needs were. We ensured that the room where we conducted the interview was handicap accessible and everything the participant said would be confidential. We asked the student questions about his experience, the challenges he had faced and any changes he would like to see implemented in his school (Appendix E). At the end of the interview, we provided our contact information and gave him the opportunity to follow up with us for any additional comments.

3.3.4 Focus group with able-bodied students

We decided to conduct a focus group with students, as shown in Fig.7, without disabilities because we were interested in their opinion on accessibility issues in the FMP-Rabat. Moreover, their responses provided us with more data to analyse, which ultimately helped us make a better suggestion to the directors of the FMP-Rabat. We heard students with disabilities opinions on how building accessibility could be improved. Through this focus group we filled a gap in able-students' knowledge regarding struggles of their fellow students with disabilities at their school.

Figure 7: Focus group with students without disabilities at the FMP-Rabat. February 3, 2020.

We introduced ourselves, reviewed the informed consent script, stated our topic and purpose for the focus group, and laid out the ground rules. To guide the discussion, we assigned one of our group members a facilitator role and two other members as note takers during the focus group. We started the focus group with an activity which demonstrated a learning disability (Appendix F). The activity showed one type of disability whose main goal was for the students to see, the daily life of a person with a disability is not easy and they should support them. We then asked the group a series of questions about the accessibility of

the school and disability issues (Appendix G). After having a discussion as a group about the questions we then had them each individually come up with their own recommendations they would give to the school. After letting the participants write down what they thought the most improvements that needed to be made in the school were, we got back together and discussed the main points identified.

The structure of this focus group was a group of six students, the students working with us, and the team members. We provided students with an opportunity to report anything anonymously, by providing paper for any comments or feedback. In the end, we gave our contact information to those interested in giving feedback to our solutions and seeing the final product of our project.

3.4 Proposed recommendations to improve the physical and informational accessibility in the FMP-Rabat

Our third objective was achieved by completing the following four tasks:

1. Organized and analysed the data collected in previous tasks (sec. 3.2, 3.3)
2. Brainstormed solutions based on findings
3. Received feedback on potential solutions from the medical school faculty and students
4. Proposed recommendations to improve the physical and informational accessibility in the FMP-Rabat.

3.4.1 Analysed collected data

Our first data collected was from the accessibility audit checklist. Having different spaces evaluated, we decided to create an excel spreadsheet (Appendix H) with all the places, ADA standards, and our measurements, so this could make our assessment more organized to analyse. From the spreadsheet we were able to determine the accessibility of the different rooms and see where improvement was needed.

To use and analyse the large quantity of subjective responses collected from the interviews and focus group based on the paper “Synthesizing Interview Notes” (University of Maryland, 2016) we developed three main steps that maximize the efficiency of our analysis. The first step was to re-read the notes that helped reacquaint us with the content. Secondly, we developed categories depending on the overlapping questions. These categories included: challenges, current situation and possible improvements. After the answers from each interview were categorized, we identified the abundance of similar answers and came up with the most needed improvements.

3.4.2 Brainstorming

Next, we brainstormed potential solutions that target overlapping issues expressed by the students of the Medical School, while considering any concerns they brought up during the interview process. Completing the previous task, gave us information to run the brainstorming sessions, however, to ensure the sessions were efficient we used the techniques published in the article "4 Steps to Successful Brainstorming" (Adams, 2013). Our session was broken up into four stages:

1. Laid out the problems we wanted to solve
2. Identified the objectives of a possible solution
3. Tried to generate solutions individually
4. Worked as a group

Additionally, while completing this task we reviewed and analysed the solutions proposed during our first focus group in the brainstorming session.

3.4.3 Received feedback from our stakeholders

Upon agreeing on main ideas that might improve the physical and informational accessibility of the FMP-Rabat for students and professors with disabilities, we shared these solutions with our stakeholders and asked for their feedback during our weekly meetings with our advisors, sponsor, and students helping us.

3.4.4 Proposed a plan that improved accessibility for people with disabilities in FMP-Rabat

From the previous three tasks we understood and identified what accessibility issues people with disabilities in the Medical School face. The data analysed from our building assessment, focus groups, and interviews allowed us to pinpoint the main issues that students, faculty and staff were concerned with and included multiple suggestions for each problem. The final recommendations are found in our recommendations chapter.

Once we developed our recommendations, we presented our final product to our sponsors, advisors, and other stakeholders in the form of a presentation of our findings, our final report and had a graphic prototype of the proposed recommendations. For the final presentation, we invited all the people that helped us with our project and ensured that everyone got a copy of our final deliverable.

3.5 Obstacles

As we completed the tasks outlined in each of our objectives, we faced a variety of obstacles during the project. After our first meeting with our sponsor about opinions on physical and informational inequalities that exist within the FMP-Rabat, we expected to get

answers that could change the course of our project. To overcome this obstacle, we incorporated the sponsor's and students' suggestions within our methodology, instead of replacing the old one. We tried to do our best to satisfy everyone's expectations in the amount of time left. Also, the first week we started the project it was not easy to meet with the University students because they had the week off. This also was a factor when it came to getting access to the classrooms to evaluate them and navigate around. We got past this with the help of a security guard at the school. The following week the students were busy with finals, so it was tough to find time to meet with them. A language barrier was an obstacle we faced when we conducted interviews and focus groups. It was difficult to get in touch with professionals and set up meetings because not all of them spoke English. Students helped us with calling organizations to set up meetings and helping with translation in interviews and focus groups.

Another obstacle that prevented us from gathering enough data from people with disabilities themselves was that the students weren't always available because of their own schedules, it was difficult to get participants for the focus groups especially for the participants with a disability being that the students initially only had one friend that they knew had a disability. We assured people with disabilities that everything they said was confidential and their answers helped us come up with recommendations to increase accessibility in the FMP-Rabat. Even with the obstacles we faced, this was a successful project.

Once we analysed and compiled our data, we used it to draw up our recommendations. Our recommendations are based off the data gathered from observations, interviews with professionals and school administration, and focus groups. When the recommendations were completed, we proposed them to our sponsor and the FMP-Rabat. The next chapter will discuss our findings.

4 Findings

We used the data we collected through the accessibility audit, observations of schools, interviews, and focus groups to separate our findings into three main categories: navigation, space accessibility and services. Navigation shows how students get to and from places on campus and the route they follow. Space accessibility refers to the inside of classrooms, bathrooms, laboratories and other spaces that students frequently use. The third is services including the support the school gives to their students, especially to those with disabilities. During the past years, there haven't been many students with disabilities in FMP-Rabat; this year (2019-2020) only two students with visible disabilities are attending the school.

4.1 Navigation

The physical layout of the campus makes it difficult for people with disabilities to navigate. Students must enter the school via steps shown in Fig. 8, and people with disabilities must use an alternative entrance by going through the parking lot.

Figure 8: The steps at the main entrance of the FMP-Rabat. January 16, 2020.

Walking around and observing the FMP-Rabat, we also noticed that the campus has three types of stairs: spiral, straight, and turning, making most of the classrooms inaccessible. The issue with having spiral or turning stairs is, because of their rounded structure, they cannot be easily adjusted. Most of the laboratories in the school are on the third floor, and they have spiral staircases leading up to them as shown in Fig. 9. Even though some laboratories are on the first floor, this is not enough for a student's taking more medical related courses, which requires them to take more lab classes to complete their requirements. The location of regular classes can easily be changed to the first floor, but the labs cannot

Figure 9: Spiral stairs leading to a laboratory in the FMP-Rabat. January 16, 2020.

because of the equipment in the labs such as safety cabinets and chemicals that cannot be moved without specific costs and instructions. This issue puts up a barrier for a student with a disability who wants to pursue a medical career.

There are ramps in certain places around the school, but this only makes one part of the school accessible, which are the library and parts of the first floor. Even though these ramps exist, not all of them meet the ADA standards. For example, ramps outside the library do not have a 1:12 slope, making them steep and difficult for a person in a wheelchair to get up as shown in Fig. 10.

Figure 10: Ramp in front of the library at the FMP-Rabat with slope 1:5. January 16, 2020.

In the common areas where students frequently are in, like the cafeteria, main entrance and school administration, there are no ramps at all. Even though the route to get to the cafeteria is accessible, the entrance is not because of a small step it has as shown in Fig. 11. Other important departments, such as the student administration office, are also not accessible. To get a school document, one student with disability had to ask his friends to retrieve it for him because there was no alternative way, he could access the administration (Y. Gouli, personal communication February 3, 2020).

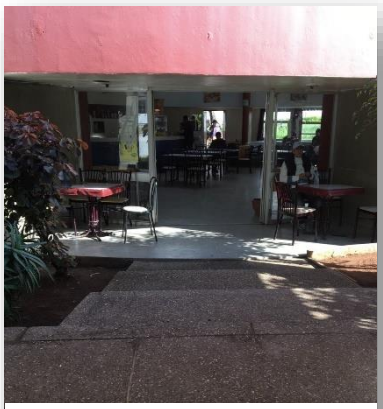


Figure 11: Entrance to the cafeteria at the FMP-Rabat. January 16, 2020.

In areas where there are accessible classrooms, bathrooms, and libraries, signs to show where these areas are located are not frequently used. For example, most bathrooms have accessibility features, but a sign showing the handicap icon is not included. Although there is one sign showing an accessible ramp in the parking lot, it is often blocked by parked cars.

In addition to the issue of not having signs that indicate handicap accessible areas, another important issue that was brought to our attention during the focus group we conducted was the lack of a school map that shows accessible routes and places within the school. In the main entrance of the school, there is a well detailed map of classrooms and main spaces as shown in Fig. 12, but not including the accessibility sign. The students mentioned that adding information about handicap accessible areas to the map can be beneficial for each student in their first year to get to know the campus better. They suggested that if there were an online map, online applicants could see how accessible the school is and this might increase the number of students attending the FMP-Rabat.

Figure 12: A detailed map of the FMP-Rabat at the main entrance. January 16, 2020.

4.2 Space Accessibility

Space accessibility plays an important role in improving the school environment. Even if the pathways are accessible, people with disabilities will still have difficulties if the inside of the rooms do not accommodate their needs. Through our accessibility audit, we found that some door handles on the big lecture halls (amphitheaters) are not easily operable, as shown in Fig. 13, because a hand force is needed to open it. According to ADA Standards, the door handles should not twist the wrist or be opened using a tight grasp.

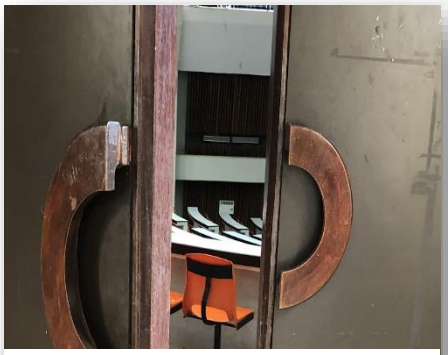


Figure 13: The door handle of an amphitheatre in the FMP-Rabat. January 22, 2020.

The amphitheaters have stairs inside from the door down to the professor's podium as shown in Fig. 14. The only way for a student with a disability to study in this class is to sit in the back. All the desks individually meet ADA standard of having a clearance of at least 68 cm, however, in the last row there are no extra tables or chairs that could easily be accessed for someone in a wheelchair. From the interview with a student with a disability, he mentioned that for people who have a motor wheelchair, the desks should be higher than normal so the transfer from the chair to the desk can be easier (Y. Gouli, personal communication, February 3, 2020).

Figure 14: Amphitheatre Stairs in the FMP-Rabat. January 22, 2020.

According to ADA Standards most of the bathrooms are partially accessible. The bathroom features such as sink clearance, sink height, and faucets meet the ADA standards for most bathrooms as shown in Fig. 15; however, not all bathrooms have a handicap accessible stall with railings for assistance.

Figure 15: Accessible sink height, operable faucet and sink clearance. January 22, 2020.

When evaluating the laboratories, specifically the Biotechnology Lab in the FMP-Rabat, most of the features inside the lab are accessible including the height of the table and having a slip resistant floor. However, the door width does not meet the ADA Standards. As mentioned in section 4.1, this lab is on the third floor and the route to get there is not accessible. Most of the doors in classrooms, labs, and the library once opened, do not immediately close. This was a positive finding, since it allows a person in a wheelchair to have enough time to enter the space.

4.3 Services

Services for people with disabilities can provide them with resources to succeed not only academically, but also in their future career. The Center for Accessibility is one of the services offered to people with disabilities that belongs to all the Mohammed V University. This center aims to give various services starting from classroom changes, exam assistance, to employment opportunities with different employers (H. Mderssi, personal communication, February 25, 2020). They have technologies that help assist students with hearing and visual impairments, for example a printer with braille letters. The center has specific programs for students with disabilities such as the Network of Moroccan Universities (RUMI) for disadvantaged students and the Progression of Accessibility Centres in higher Education for Students with disabilities in North Africa (PACES).

This center is very helpful because students' part of Mohammed V University can find resources that can help them pursue their studies without any barriers. There are 87,000 students in the university, 790 of them have a disability (H. Mderssi, personal communication, February 25, 2020). However, there is a lack of communication between the center, individual Faculties and people with disabilities. For example, during the application process to attend the school, all students must answer the question of whether they have a disability and what kind. Most of the time, this question is only used for data purposes (H. Mderssi, personal communication, February 25, 2020). It is up to the individual Faculties within the Mohammed V University to contact the center if they have students with disabilities attending their school. If the Faculty does not contact the center, most of the assistance for people with disabilities comes from peers and faculty. If students need a classroom change or any extra assistance, they reach out to professors to make the adjustments if the school is not in contact with the center. The FMP-Rabat, as part of Mohammed V University, is aware that this center exists, but because there is not a designated person for people with disabilities in this faculty, it can lead to lack of communication between the center and the school.

There are many aspects of the school that we consider to be inaccessible, but the FMP-Rabat has done a lot to improve the situation for people with disabilities. It was not until recently that the school took initiative to start making improvements to help an individual student who attended the faculty. Professors and peers close with the student that we interviewed made efforts to create a ramp in the parking lot so he could get to his classes. They painted on the ground that this was a handicap accessible space as shown in Fig. 16, but

cars still block it. They also worked to make his class schedule, so all the rooms were on the first floor along with other help that he needed. Currently, the school is working on a project to build three more amphitheaters and move the cafeteria to a new building so it can all be accessible. Most of the services to students with disabilities, so far have come from individual help but we hope that in the future there will be more directed way to solve the issues that people with disabilities face.

Figure 16: The ramp specifically created for one student with a disability. January 16, 2020.

5 Recommendations

The school administration informed us that the reason why it is difficult for students with disabilities to navigate around the school is that many years ago, when the school was built, accessibility for people with disabilities was not taken into consideration (M. Karra, personal communication, February 6, 2020). Therefore, it is now difficult for people with disabilities to have an accessible environment, with ramps, elevators and other handicap features. This chapter provides recommendations as shown in Fig. 17, that would improve accessibility for people with disabilities in the FMP-Rabat.

Figure 17: Review of recommendations. February 17, 2020.

We recommend that the FMP-Rabat install handicap accessible ramps on their campus. For students to comfortably get to class, the routes to and from those areas need to be improved. We recommend that the FMP-Rabat implement ramps at the entrances of important buildings and rooms including the main classrooms, amphitheatres, cafeteria, library, and bathrooms. Some of these ramps can be implemented in a short amount of time. Portable wheelchair ramps can be put at entrances to buildings and classrooms as shown in Fig. 18. Outside of the cafeteria and on the main entrance of the school portable ramps should be implemented.

Figure 18 On the left examples of portable wood and metal ramps, and on the right visual image of how the implementation of the ramps can look like. Adapted from "Metal and wood ramp for supporting disabled people wheelchair" by Chuankul (2020).

More long term recommendations would include updating the ramps that do not comply with ADA standards so that their slope is no greater than 1:12. The ramp that goes up to the printing centre and from the printing centre to the library should be updated because the current slope is 1:5 which makes it too steep. In the long-term instead of using portable ramps on the main entrance stairs, the stairs should be updated to put in permanent ramps. If there are ever to be major renovations to the campus, we recommend that elevators be put in so that the third-floor labs, and all floors of the student administration can be accessed. We

also recommend that a ramp be built leading down from the main entrance building stairs to the classrooms. The stairs are shown in Fig. 19.

Figure 19: Stairs from main entrance building down to classroom area in the FMP-Rabat. January 16, 2020.

We recommend that the FMP-Rabat post handicap accessible signs around campus and update their school map to show accessibility. Even though there are some handicap accessible features in the school like ramps, there is no signage indicating where they are. Accessible points on campus should be highlighted so people who are not very familiar with the school can find where they are. As a short-term solution, we recommend that the current campus map be updated highlighting accessible points around the school and be posted on the school website. The map will have accessible entrances and exits labelled, as well as accessible routes to main buildings on campus. The school can follow examples of other universities like Worcester Polytechnic Institute's accessibility map, and mark with an accessibility icon places where accessible routes are as shown in Fig. 20.

Figure 20: On the left there is an accessibility map of WPI and on the right there is an example of the updated map of the FMP-Rabat. February 17, 2020.

Not only would an accessibility map be beneficial for all the students, but putting signs indicating handicap accessible bathrooms should be hung up around school walls, as well as at entrances to main buildings. At first the signs can be printed on coloured paper and there should also be labelled handicap accessible parking spaces on campus using only paint on the ground, both not requiring a lot of money and time investment. The printed signs would be a quick, short-term solution.

Figure 21: Accessible bathroom sign including Braille letters. Adapted from "ADA Sign Depot", (2020).

Figure 22: Example of handicap accessible parking spot with signs from International University of Rabat (UIR) in Morocco. January 22, 2020.

In the long-term, the updated campus map of the FMP-Rabat should be put on the main entrance of the school, so all the students there can easily have access to it. The signs should be in metal form so it can last longer and have Braille letters as shown in Fig. 21, so it can be read by people who are visually impaired. The parking spots should have a sign showing its accessibility that can be viewed from a certain distance as shown in Fig. 22.

We recommend that the FMP-Rabat improves the space accessibility of their facilities including their classrooms, amphitheatres, administrations, library, cafeteria, etc. We recommend that every classroom have one or two elevated desks with removable chairs so someone in a wheelchair can comfortably sit as shown in Fig. 23. Tables and chairs need no structural changes, so this is an easy strategy to implement right away. There were also no railings around any of the handicap accessible features. For someone to help themselves out of a chair, there should be railings near all handicap accessible features like ramps, desks, and bathroom stalls. In the amphitheatres we recommend that the seats in the back row be removable, since now each seat is attached to the desk. The desk heights should be adjusted depending on the needs of a person in a

Figure 23: Example of Wheelchair Accessible Desk. Adapted from "Educan: Manufacturer Direct", (2020).

wheelchair. If someone uses a motor wheelchair the desk should be higher from its current state and if not, the desk should be lowered so they do not have to transfer to a seat.

Figure 24: Example of Operable Door Handle in the FMP-Rabat. January 22, 2020.

We recommend door handles to be operable so that they do not require tight grasping or twisting of the wrist. Handles should be easy and functional to use as it is necessary in everyday life, for safe exiting and entering in case of an emergency. Fig. 24 shows a metal handle designed for ease of use by people with disabilities.

We recommend that in adapting a bathroom to be handicap accessible, grab bars should be included. If they are installed at the correct location, using the bathroom would be much easier for a person with a disability because the grab bar would help them for a smoother transition from standing to a sitting position. Fig. 25 shows a grab bar installed next to a toilet fixture.

Figure 25: Handicap accessible bathroom. Adapted from "ADA Bathroom" by Our Better Home, (n.d.).

For future renovations, we recommend that the Faculty implement ramps down the stairs to the front of the amphitheatres or create an alternative entrance to the front. Students with disabilities should not have to feel any different from their peers and should be able to access any part of the classroom. In addition, installing automatic doors that open with the push of a button shown in Fig. 26, would be a great addition to help people in wheelchairs easily pass through large doorways. The ADA standards of the time required for the door to automatically close should be followed.

Figure 26: Example of ADA compliant Automatic Door Opener. Adapted from "Secure Lock and Alarm", (2015).

We recommend that the FMP-Rabat improve their student services that support people with disabilities. We found from our interview with the school administration that there is a student affairs office. Currently, there is no office or staff in place that directly assists students with disabilities in the Faculty. Within the student affairs office there should be data on file of students who have disabilities and someone from the office should follow up before and while the student attends the school. We recommend that the school designates someone from the student affairs office to work directly with students with disabilities. This designated staff will work closely with the Center for Accessibility, to raise awareness to the students of the existence of this center, schedule accessible classes, exam rooms and create a supportive learning environment where the student can reach their full potential. This will not only increase the collaboration between the Faculty and the Center for Accessibility, but it will also provide resources to students, helping them with their schoolwork and with future employment opportunities. It is also beneficial to have a designated person assisting people with disabilities, so if a student is temporarily injured, the staff can respond quickly and in a timely manner to provide this student with accommodations required.

We also recommend that the school have a psychologist to provide counseling for not only students with disabilities, but for all students at the Faculty. During the focus groups, students mentioned that this would be beneficial because for any issues they may have, they can go to a confidential person that could help them. This was even further supported by the interview with a psychology student, who mentioned that having a psychologist within the school can help students and teachers to achieve academic success, psychological health and social wellbeing (F. Grichi, personal communication, February 18, 2020).

Finally, we recommend that the school encourages students to volunteer to help students with disabilities. The students can volunteer to take lesson notes for someone who is unable to or assist them with other needs based on their disability. This is also implemented

in different universities. For example, at Worcester Polytechnic Institute, if there is a student with a disability in a certain class, the school sends email to students in that class to volunteer to take notes. Once a student has volunteered, the disability offices connects the two students with each other, and they work together throughout the semester. This will create a more supportive environment for people with disabilities and sensitize other students that everyone should have equal access to classrooms, course material, and all resources that the school has to offer.

Conclusion

The FMP-Rabat is a higher-educational institution which is continually improving its environment to make it fully accessible for students who are pursuing their studies. Our project identified accessibility problems and recommended solutions to improve the existing facilities at the FMP-Rabat. The school's administration and faculty are aware of these issues and continues to welcome its students' feedback as a catalyst for FMP-Rabat to become more accessible.

For seven weeks, our team conducted observations, interviews and a focus group to gain an understanding on the issues that people with disabilities face. We recommended some beneficial actions the school could take that would improve overall student's experience. Finally, we assessed classrooms, bathrooms, and ramps using the Americans with Disabilities Act (ADA) standards to recommend future improvements.

We were motivated to complete our work by our sponsor, advisors, students at the school, and people who helped us with our research, whose vision was for the school to be more accessible. The FMP-Rabat's intention to increase accessibility for its students with disabilities is evident from hosting our project and the work they are continuing to undertake on their facilities. With the school building three new amphitheaters where the disability standards are being taken into consideration, it shows the commitment the FMP-Rabat has in making their school more accessible for people with disabilities.

Bibliography

ADA Compliance Directory. (2016). Space allowance & reach ranges. Retrieved from https://www.ada-compliance.com/space-allowance-reach-ranges#:~:targetText=4* Clear Floor or Ground Space for Wheelchairs. &target Text=The minimum clear floor or, parallel approach to an object.

Adams, S. (March 5, 2013). 4 steps to successful brainstorming. *Forbes*. Retrieved from https://www.forbes.com/sites/susanadams/2013/03/05/4-steps-to-successful-brainstorming/#359092ee5992.

Al-Aoufi, H., Al-Zyoud, N., & Shahminan, N. (2012). Islam and the cultural conceptualisation of disability. *International Journal of Adolescence and Youth*, *17*(4). Retrieved from https://doi.org/10.1080/02673843.2011.649565.

Albrecht, G., Devliger, P., & Hove, G. (2007). The experience of disability in plural societies. *Science Direct,* 2(1). Retrieved from https://doi.org/10.1016/j.alter.2007.09.002.

Arssi, A. (2017). Disability and employment in Morocco. *Journal of Scientific & Engineering Research*, *8*(12), 585–598. Retrieved from https://www.academia.edu/37218883/Disability_and_Employment_in_Morocco.

Bond, S. (2015). African Disability Rights Yearbook. Retrieved January 15, 2020, from http://www.adry.up.ac.za/index.php/section-b-country-reports/morocco.

Burton, L. (2018). Workplace Adjustments: Employer Guidance. Retrieved from https://www.highspeedtraining.co.uk/hub/workplace-adjustments-disabilities/.

Child Fund. Poverty and Education. (2020). Retrieved 21 January 2020, from https://www.childfund.org/poverty-and-education/.

Community Tool Box (2019). Section 4. Ensuring Access for People with Disabilities. Retrieved from https://ctb.ku.edu/en/table-of-contents/implement/physical-social-environment/housing-accessibility-disabilities/main.

Compilation of UN Human Rights Recommendations-Morocco. (2016). Retrieved November 5, 2019, from http://www.internationaldisabilityalliance.org/countries/MAR.

Factsheet on Persons with Disabilities | United Nations Enable. (2020). Retrieved 23 January 2020, from https://www.un.org/development/desa/disabilities/resources/factsheet-on-persons-with-disabilities.html.

FMP- Rabat [website] n.d, Inauguration of the new Faculty of Medicine. (n.d.). Retrieved January 30, 2020 from http://fmp.um5.ac.ma/node/612.

Gal, E, Schreur, N, & Engel-Yeger, B. (2009). Inclusion of children with disabilities: Teachers' attitudes and requirements for environmental accommodations. Retrieved from https://eric.ed.gov/?id=EJ890588.

Galletta, A., & Cross, W. (2013). *Mastering the semi-structured interview and beyond: From research design to analysis and publication*. Retrieved from https://www.jstor.org/stable/j.ctt9qgh5x.

Hicks, C. (2015 December 3). Morocco: Activists claim draft rights law fails to treat disabled people as equals. *Morocco World News.* Retrieved from https://www.theguardian.com/global-development/2015/dec/03/morocco-disabled-people-draft-law-97-13-human-rights-equality.

Human Rights Council. (2017). National report submitted in accordance with paragraph 5 of the annex to Human Rights Council resolution 16/2. [pdf]. Retrieved from https://documents-dds-ny.un.org/doc/UNDOC/GEN/G17/037/94/PDF/G1703794.pdf?OpenElement.

Human Rights Watch. (2017). HRW Submission to the CRPD on Morocco. Retrieved January 15, 2020, from https://www.hrw.org/news/2017/02/27/hrw-submission-crpd-morocco.

Humanity & Inclusion (2016) [news]., Equal rights for people with disabilities. (n.d.). Retrieved from https://www.hi-us.org/equal_rights_for_people_with_disabilities.

Ichen, E. H. (n.d.). Accessibility. *Disabled Tourist Guide.* Retrieved November 6 2019 from https://disabled-tourist-guide.com/accessibilty/.

Isakova, K (2011). *Lack of Education Today – Unemployment Tomorrow.* American University of Central Asia. Retrieved from: https://auca.kg/uploads/Migration_Database/Lack%20of%20Education%20Today,%20Unemployment%20Tomorrow.pdf.

Legrouri, A. (2013). Education for Sustainable Development in Morocco. Retrieved from https://www.researchgate.net/publication/312057668_Education_for_Sustainable_Development_in_Morocco.

Marshall, C. A., Kendall, E., Grover, R (2009). Disability in Arab Societies. *Disabilities: insights from across fields and around the world* (Chapter 6). Westport, CT: Praeger.

McIvor, C. (2002). In our own words: investigating disability in Morocco. [pdf]. Retrieved from https://pubs.iied.org/pdfs/G02025.pdf.

Morocco Unemployment Rate [1999 - 2019] [Data & Charts]. (2019). Retrieved from https://www.ceicdata.com/en/indicator/morocco/unemployment-rate.

Research Triangle Institute International (RTI). (2016). Situation and needs assessment for inclusion of students who are blind/low vision or deaf/hard of hearing in Morocco. USAID`. [pdf]. Retrieved from https://ierc-publicfiles.s3.amazonaws.com/public/resources/Morocco Inclusion Study Report ENGLISH.pdf.

Right to Education Initiative. (2018). *Issues.* Retrieved February 10, 2020 from https://www.right-to-education.org/issue-page/marginalised-groups/persons-disabilities

Rohwerder, B. (2018) *Disability in North Africa*. [pdf]. Retrieved from https://assets.publishing.service.gov.uk/media/5b2378d340f0b634cb3dd823/Disability_in_North_Africa.pdf.

Sarsak, Hassan. (2018). Assessing building accessibility for university students with disabilities. MOJ Yoga & Physical Therapy. 3. 10.15406/mojypt.2018.03.00047.

School accessibility. (n.d.). Retrieved January 15, 2020 from https://www.nidirect.gov.uk/articles/school-accessibility.

Spinner, J. (2017). Special needs parenting in Morocco. The Washington Post. Retrieved from https://www.washingtonpost.com/news/parenting/wp/2017/11/15/special-needs-parenting-in-morocco/.

Texas University (2016). The Basics: Providing Accommodations. Retrieved from https://diversity.utexas.edu/disability/providing-accommodations-a-quick-reference/.

The Lancet. (2006). The definition of disability: what is in a name? *The Lancet 368,* 1219-1221. Retrieved from http://public-files.prbb.org/publicacions/9906-Lancet%20Leonardi.pdf.

Touhami, Z. E. O. (2015). Moroccan experience on disability statistics. [pdf]. Retrieved from https://www.cdc.gov/nchs/data/washington_group/meeting15/WG15_Session_8_4_Touhami.pdf.

Trani, J.-F., Bakhshi, P., Tlapek, S. M., Lopez, D., & Gall, F. (2015). Disability and Poverty in Morocco and Tunisia: A multidimensional approach. *Health, Disability and the Capability Approach. Journal of Human Development and Capabilities*. 16(4). Retrieved from https://doi.org/10.1080/19452829.2015.1091808.

United Nations. Committee on the Rights of Persons with Disabilities (CRDP). (2017). Concluding observations on the initial report of Morocco. UNCRPD. Retrieved from https://www.un.org/development/desa/disabilities/convention-on-the-rights-of-persons-with-disabilities/committee-on-the-rights-of-persons-with-disabilities-3.html.

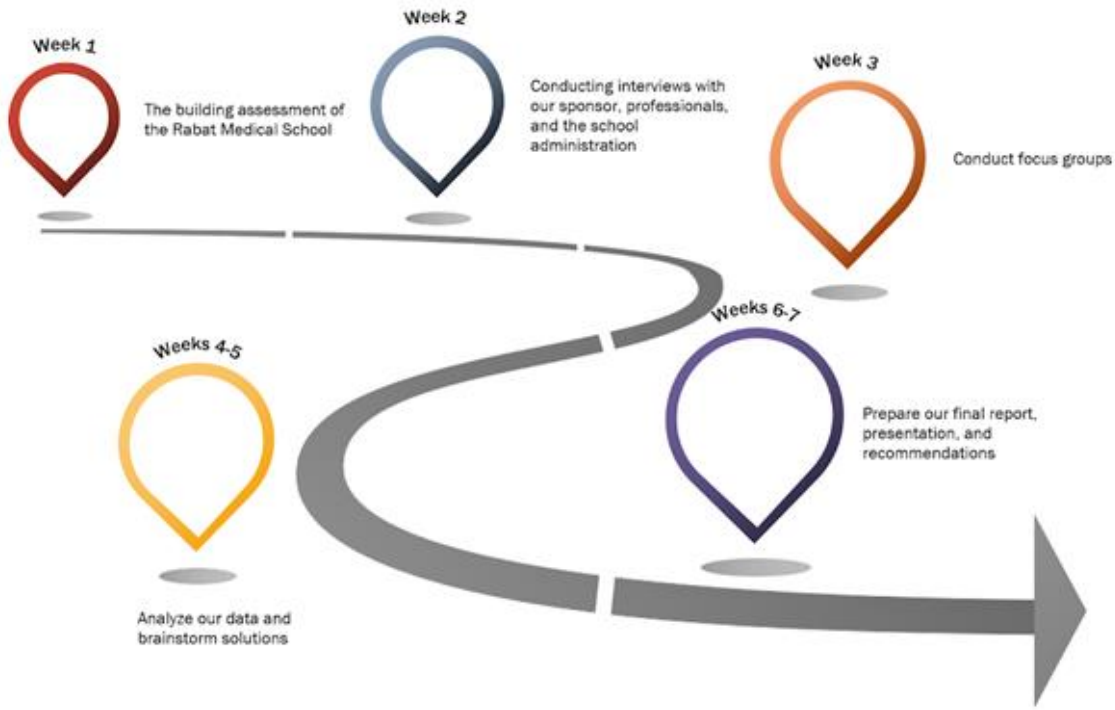
University of Maryland. (2016). How to Synthesize Interviews. [pdf] Retrieved from https://it.umd.edu/sites/default/files/UPI/HowToSynthesizeInterviews.pdf.

Wheelchair Traveling. (2017). Morocco, Africa: Travel and accessibility. Retrieved from http://wheelchairtraveling.com/tour-morocco-in-a-wheelchair-is-accessible-and-easy-for-seniors-travel/.

World Bank. (2014) *Morocco - National Initiative for Human Development Support Project*. Retreived from http://documents.worldbank.org/curated/en/817541475092702301/Morocco-National-Initiative-For-Human-Development-Support-Project-INDH.

Zero Project. (2018) Improving deaf children's reading through technology. Retrieved from https://zeroproject.org/practice/pra181033mor-factsheet/.

APPENDIX A: TIMELINE



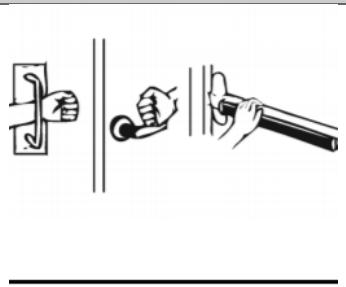
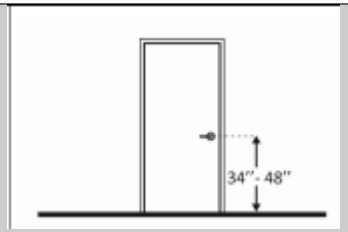
APPENDIX B: BUILDING ASSESSMENT FORM

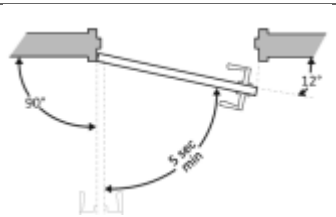
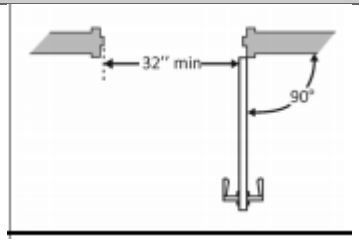
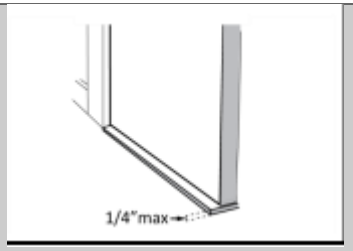
This building assessment form was adapted by American Disability Act (ADA 2016) form on how to evaluate a building.

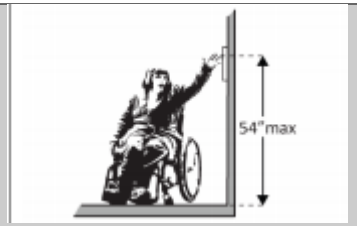
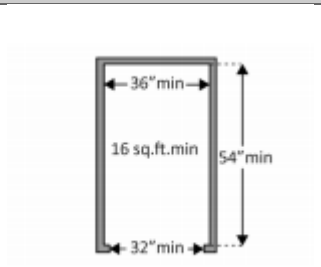
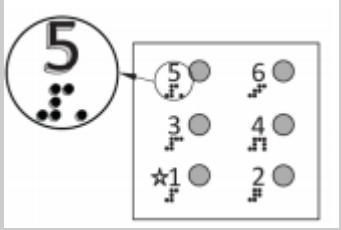
Observer: _____ Date: _____

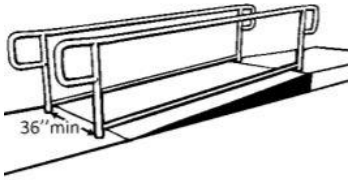
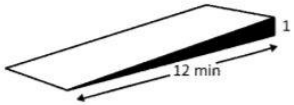
Is this a: Classroom/Hall/Bathroom/Laboratory/Outside Space

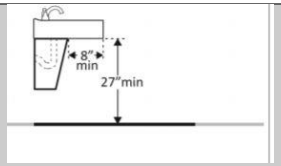
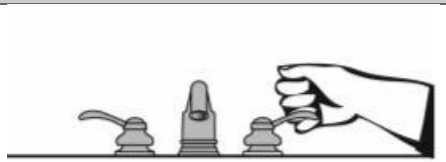
BUILDING ASSESSMENT FORM

Door				
Is the door equipped with hardware that is operable with one hand and does not require tight grasping, pinching or twisting of the wrist?	☐ Yes ☐ No			
Are the operable parts of the door hardware no less than 34 inches and no greater than 48 inches above the ground surface?	☐ Yes ☐ No Measurement:			

If the door has a closer, does it take at least 5 seconds to close from an open position of 90 degrees to a position of 12 degrees from the latch?	☐ Yes ☐ No Measurement:			
If the space is accessible, is there a sign at the door with the International Symbol of Accessibility?	☐ Yes ☐ No			
Is the clear opening width of the accessible entrance door at least 32 inches, between the face of the door and the stop, when the door is open 90 degrees?	☐ Yes ☐ No Measurement:			
If the threshold is vertical is it no more than ¼ inch high?	☐ Yes ☐ No Measurement:			
Elevators				

If there is a full-size elevator, are the call buttons no higher than 54 inches above the floor?	☐ Yes ☐ No Measurement:			
If there is a full-size elevator, is the interior at least 54 inches deep by at least 36 inches wide with at least 16 sq.ft. of clear floor area? Is the door opening width at least 32 inches?	☐ Yes ☐ No Measurement: ☐ Yes ☐ No Measurement:			
If there is a full-size elevator, are the control buttons designated with raised characters? Are the control buttons designated with Braille?	☐ Yes ☐ No ☐ Yes ☐ No			
Space				
Are floor surface stable, firm, and slip resistant?	☐ Yes ☐ No			

If there is carpet: Is it no higher than ½ inch? Is it securely attached along the edges?	☐ Yes ☐ No Measurement: ☐ Yes ☐ No			
Ramps				
If there is a ramp, is it at least 36 inches wide?	☐ Yes ☐ No Measurement:			
Is the surface stable, firm and slip resistant?	☐ Yes ☐ No			
For each section of the ramp, is the running slope no greater than 1:12?	☐ Yes ☐ No Measurement:			
Toilet Rooms				
If toilet rooms are available, is at least one toilet room accessible?	☐ Yes ☐ No			

Are there signs at inaccessible toilet rooms that give directions to accessible toilet rooms?	☐ Yes ☐ No			
Is there an accessible route to the accessible toilet room?	☐ Yes ☐ No			
Is there at least 27 inches clearance from the floor to the bottom of the lavatory that extends at least 8 inches under the lavatory for knee clearance?	☐ Yes ☐ No Measurement:			
Can the faucet be operated without tight grasping, pinching, or twisting of the wrist?	☐ Yes ☐ No			

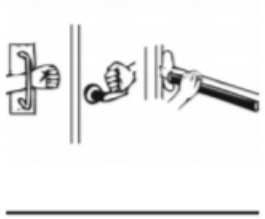
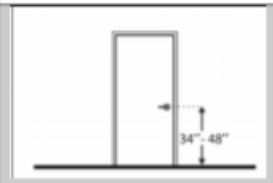
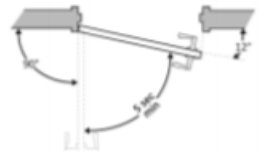
Staff Administration

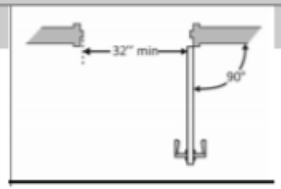
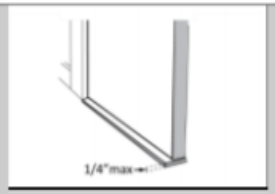
Building Assessment Form

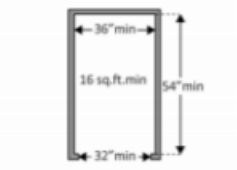
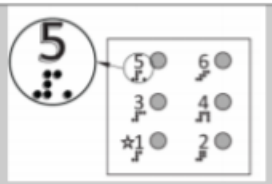
This building assessment form was adapted by American Disability Act (ADA 2016) form on how to evaluate a building.

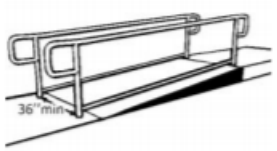
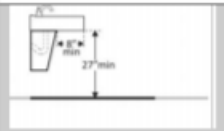
Observer: Chris Date: 1/22/2020

Is this a: Classroom/Hall/Bathroom/Laboratory/Outside Space

BUILDING ASSESSMENT FORM				
Door				
Is the door equipped with hardware that is operable with one hand and does not require tight grasping, pinching or twisting of the wrist?	Yes No			
Are the operable parts of the door hardware no less than 34 inches and no greater than 48 inches above the ground surface?	Yes No Measurement: 111 cm			
If the door has a closer, does it take at least 5 seconds to close from an open position of 90 degrees to a position of 12 degrees from the latch?	Yes No Measurement:		Door Stays Open	
If the space is accessible, is there	Yes			

a sign at the door with the International Symbol of Accessibility?	No			
Is the clear opening width of the accessible entrance door at least 32 inches, between the face of the door and the stop, when the door is open 90 degrees?	Yes No Measurement: 87.4 cm			
If the threshold is vertical is it no more than ¼ inch high?	Yes No Measurement:		N/A	
Elevators				
If there is a full-size elevator, are the call buttons no higher than 54 inches above the floor?	Yes No Measurement: 105.5 cm			
If there is a full-size elevator, is the interior at least 54 inches deep by at least 36 inches wide with at least 16 sq.ft. of clear floor area?	Yes No Measurement: Yes		N/A	

Is the door opening width at least 32 inches?	No Measurement: 75.2 cm			
If there is a full-size elevator, are the control buttons designated with raised characters? Are the control buttons designated with Braille?	Yes No Yes No		N/A	
Space				
Are floor surface stable, firm, and slip resistant?	Yes No			
If there is carpet: Is it no higher than ½ inch? Is it securely attached along the edges?	Yes No Measurement: Yes No N/A			
Ramps				

If there is a ramp, is it at least 36 inches wide?	Yes No Measurement:		N/A	
Is the surface stable, firm and slip resistant?	Yes No		N/A	
For each section of the ramp, is the running slope no greater than 1:12?	Yes No Measurement:		N/A	
Toilet Rooms				
If toilet rooms are available, is at least one toilet room accessible?	Yes No		Same Bathroom as Amphitheater	
Are there signs at inaccessible toilet rooms that give directions to accessible toilet rooms?	Yes No			
Is there an accessible route to the accessible toilet room?	Yes No			
Is there at least 27 inches clearance from the floor to the bottom of the lavatory that extends at least 8 inches under the lavatory for knee clearance?	Yes No Measurement:			

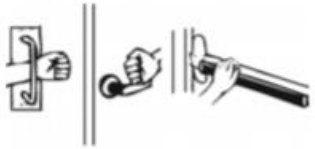
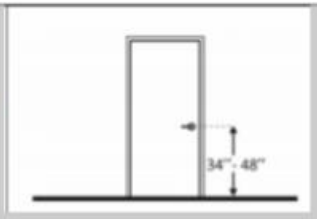
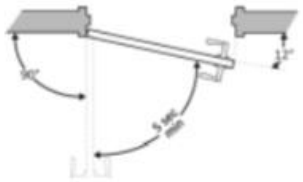
Student Administration 1

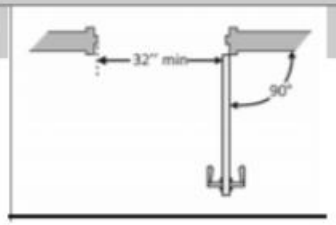
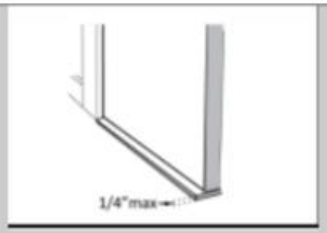
Building Assessment Form

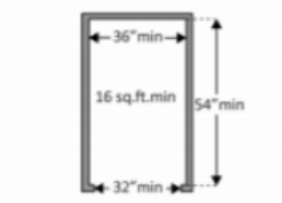
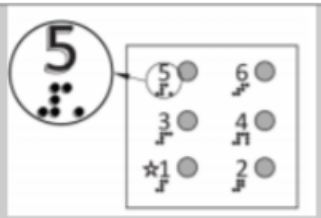
This building assessment form was adapted by American Disability Act (ADA 2016) form on how to evaluate a building.

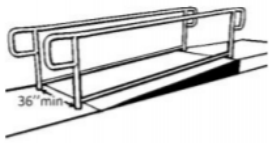
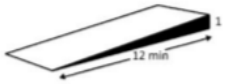
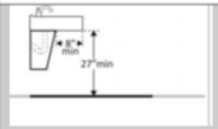
Observer: Chris Date: 1/22/2020

Is this a: Classroom/Hall/Bathroom/Laboratory/Outside Space

BUILDING ASSESSMENT FORM				
Door				
Is the door equipped with hardware that is operable with one hand and does not require tight grasping, pinching or twisting of the wrist?	Yes No			
Are the operable parts of the door hardware no less than 34 inches and no greater than 48 inches above the ground surface?	Yes No Measurement: 110.5 cm		Office Door	
If the door has a closer, does it take at least 5 seconds to close from an open position of 90 degrees to a position of 12 degrees from the latch?	Yes No Measurement:		Door Stays Open	
If the space is accessible, is there	Yes			

a sign at the door with the International Symbol of Accessibility?	No			
Is the clear opening width of the accessible entrance door at least 32 inches, between the face of the door and the stop, when the door is open 90 degrees?	Yes No Measurement: 72.5 cm		Office Door	
If the threshold is vertical is it no more than ¼ inch high?	Yes No Measurement:		N/A	
		Elevators		
If there is a full-size elevator, are the call buttons no higher than 54 inches above the floor?	Yes No Measurement: 104 cm		N/A Countertop Height	
If there is a full-size elevator, is the interior at least 54 inches deep by at least 36 inches wide with at least 16 sq.ft. of clear floor area?	Yes No Measurement: Yes		N/A	

Is the door opening width at least 32 inches?	No Measurement:		N/A	
If there is a full-size elevator, are the control buttons designated with raised characters? Are the control buttons designated with Braille?	Yes No Yes No		N/A	
Space				
Are floor surface stable, firm, and slip resistant?	Yes No			
If there is carpet: Is it no higher than ½ inch? Is it securely attached along the edges?	Yes No Measurement: Yes No N/A			
Ramps				

If there is a ramp, is it at least 36 inches wide?	Yes No Measurement:		N/A	
Is the surface stable, firm and slip resistant?	Yes No		N/A	
For each section of the ramp, is the running slope no greater than 1:12?	Yes No Measurement:		N/A	
Toilet Rooms				
If toilet rooms are available, is at least one toilet room accessible?	Yes (No)			
Are there signs at inaccessible toilet rooms that give directions to accessible toilet rooms?	Yes No		N/A	
Is there an accessible route to the accessible toilet room?	Yes No		N/A	
Is there at least 27 inches clearance from the floor to the bottom of the lavatory that extends at least 8 inches under the lavatory for knee clearance?	Yes (No) Measurement: 77 cm 18 cm			

Can the faucet be operated without tight grasping, pinching, or twisting of the wrist?	Yes (No)			

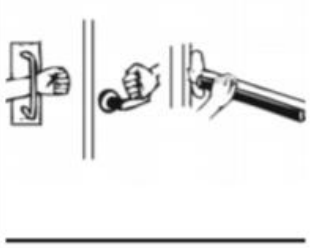
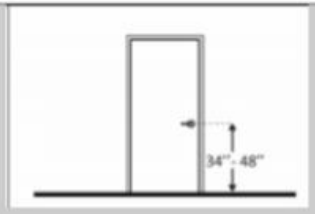
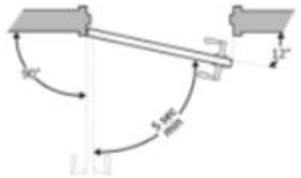
Student Administration 2

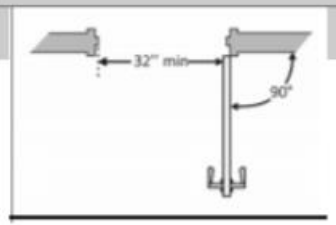
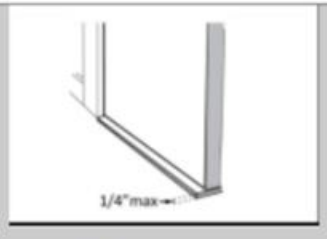
Building Assessment Form

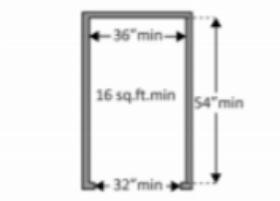
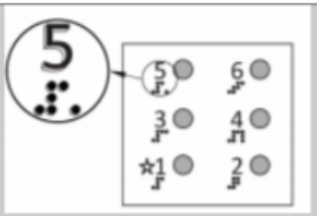
This building assessment form was adapted by American Disability Act (ADA 2016) form on how to evaluate a building.

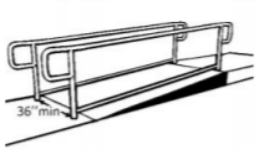
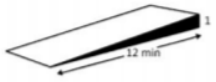
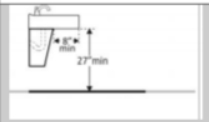
Observer: Chris Date: 1/22/2020

Is this a: Classroom/Hall/Bathroom/Laboratory/Outside Space

BUILDING ASSESSMENT FORM				
Door				
Is the door equipped with hardware that is operable with one hand and does not require tight grasping, pinching or twisting of the wrist?	Yes No			
Are the operable parts of the door hardware no less than 34 inches and no greater than 48 inches above the ground surface?	Yes No Measurement: 110 cm		Office Door	
If the door has a closer, does it take at least 5 seconds to close from an open position of 90 degrees to a position of 12 degrees from the latch?	Yes No Measurement:		Door Stays Open	
If the space is accessible, is there	Yes			

a sign at the door with the International Symbol of Accessibility?	No			
Is the clear opening width of the accessible entrance door at least 32 inches, between the face of the door and the stop, when the door is open 90 degrees?	Yes No Measurement: 78 cm			
If the threshold is vertical is it no more than ¼ inch high?	Yes No Measurement:		N/A	
Elevators				
If there is a full-size elevator, are the call buttons no higher than 54 inches above the floor?	Yes No Measurement: 104 cm		N/A Countertop Height	
If there is a full-size elevator, is the interior at least 54 inches deep by at least 36 inches wide with at least 16 sq.ft. of clear floor area?	Yes No Measurement: Yes		N/A	

Is the door opening width at least 32 inches?	No Measurement:		N/A	
If there is a full-size elevator, are the control buttons designated with raised characters? Are the control buttons designated with Braille?	Yes No Yes No		N/A	
Space				
Are floor surface stable, firm, and slip resistant?	Yes No			
If there is carpet: Is it no higher than ½ inch? Is it securely attached along the edges?	Yes No Measurement: Yes No N/A			
Ramps				

If there is a ramp, is it at least 36 inches wide?	Yes No Measurement:		N/A	
Is the surface stable, firm and slip resistant?	Yes No		N/A	
For each section of the ramp, is the running slope no greater than 1:12?	Yes No Measurement:		N/A	
Toilet Rooms				
If toilet rooms are available, is at least one toilet room accessible?	Yes No			
Are there signs at inaccessible toilet rooms that give directions to accessible toilet rooms?	Yes No		N/A	
Is there an accessible route to the accessible toilet room?	Yes No		N/A	
Is there at least 27 inches clearance from the floor to the bottom of the lavatory that extends at least 8 inches under the lavatory for knee clearance?	Yes No Measurement: 77 cm 18 cm			

Can the faucet be operated without tight grasping, pinching, or twisting of the wrist?	Yes No			

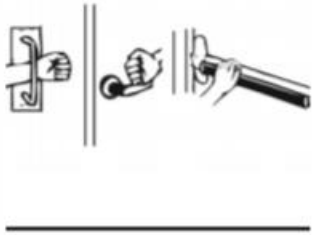
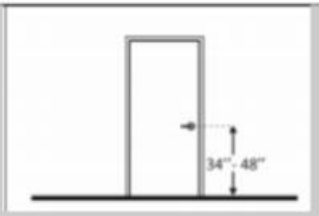
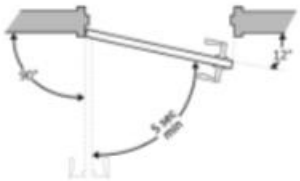
Second Floor Classroom

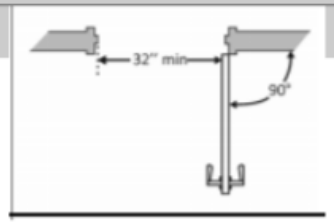
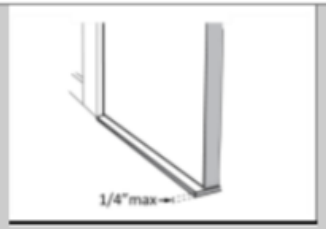
Building Assessment Form

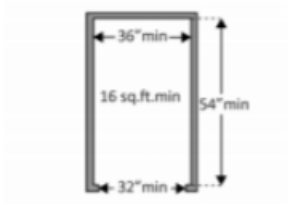
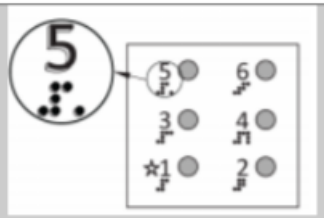
This building assessment form was adapted by American Disability Act (ADA 2016) form on how to evaluate a building.

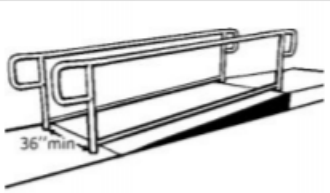
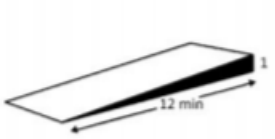
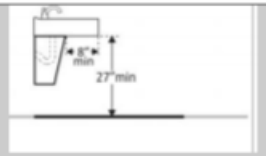
Observer: Marina Date: 1/22/2020

Is this a: Classroom/Hall/Bathroom/Laboratory/Outside Space

BUILDING ASSESSMENT FORM				
Door				
Is the door equipped with hardware that is operable with one hand and does not require tight grasping, pinching or twisting of the wrist?	(Yes) No			
Are the operable parts of the door hardware no less than 34 inches and no greater than 48 inches above the ground surface?	(Yes) No Measurement: 112 cm			
If the door has a closer, does it take at least 5 seconds to close from an open position of 90 degrees to a position of 12 degrees from the latch?	(Yes) No Measurement:		Door Stays Open	
If the space is accessible, is there	Yes			

a sign at the door with the International Symbol of Accessibility?	No			
Is the clear opening width of the accessible entrance door at least 32 inches, between the face of the door and the stop, when the door is open 90 degrees?	Yes No Measurement: 131 cm			
If the threshold is vertical is it no more than ¼ inch high?	Yes No Measurement: 1.4 cm			
Elevators				
If there is a full-size elevator, are the call buttons no higher than 54 inches above the floor?	Yes No Measurement:		N/A	
If there is a full-size elevator, is the interior at least 54 inches deep by at least 36 inches wide with at least 16 sq.ft. of clear floor area?	Yes No Measurement: Yes		N/A	

Is the door opening width at least 32 inches?	No Measurement:		N/A	
If there is a full-size elevator, are the control buttons designated with raised characters? Are the control buttons designated with Braille?	Yes No Yes No		N/A	
Space				
Are floor surface stable, firm, and slip resistant?	Yes No			
If there is carpet: Is it no higher than ½ inch? Is it securely attached along the edges?	Yes No Measurement: Yes No N/A			
Ramps				

If there is a ramp, is it at least 36 inches wide?	Yes No Measurement:		N/A	
Is the surface stable, firm and slip resistant?	Yes No		N/A	
For each section of the ramp, is the running slope no greater than 1:12?	Yes No Measurement:		N/A	
Toilet Rooms				
If toilet rooms are available, is at least one toilet room accessible?	Yes No		N/A	
Are there signs at inaccessible toilet rooms that give directions to accessible toilet rooms?	Yes No		N/A	
Is there an accessible route to the accessible toilet room?	Yes No		N/A	
Is there at least 27 inches clearance from the floor to the bottom of the lavatory that extends at least 8 inches under the lavatory for knee clearance?	Yes No Measurement:		N/A	

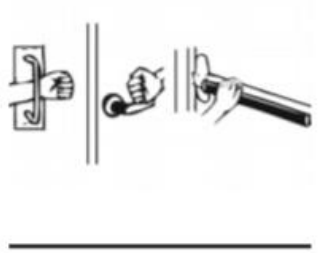
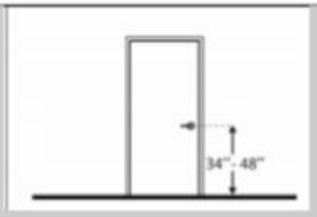
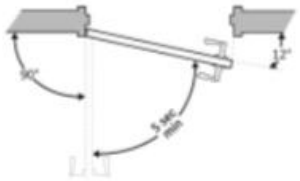
First Floor Classroom/Theater

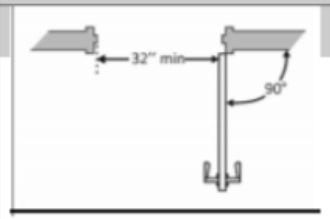
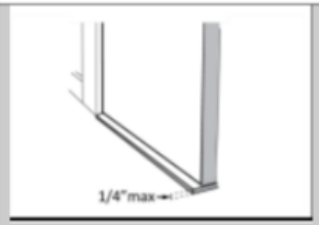
Building Assessment Form

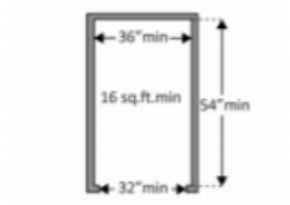
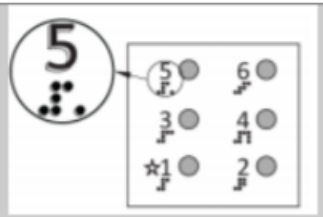
This building assessment form was adapted by American Disability Act (ADA 2016) form on how to evaluate a building.

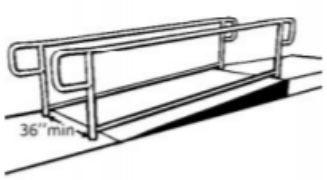
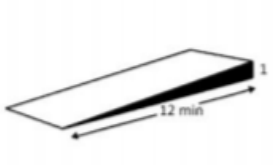
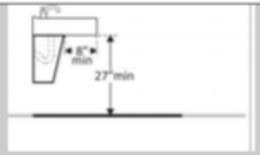
Observer: Chris Date: 1/22/2020

Is this a: Classroom/Hall/Bathroom/Laboratory/Outside Space

BUILDING ASSESSMENT FORM				
Door				
Is the door equipped with hardware that is operable with one hand and does not require tight grasping, pinching or twisting of the wrist?	(Yes) No			
Are the operable parts of the door hardware no less than 34 inches and no greater than 48 inches above the ground surface?	(Yes) No Measurement: 92.5 cm			
If the door has a closer, does it take at least 5 seconds to close from an open position of 90 degrees to a position of 12 degrees from the latch?	(Yes) No Measurement:		Door Stays Open	
If the space is accessible, is there	Yes			

a sign at the door with the International Symbol of Accessibility?	No			
Is the clear opening width of the accessible entrance door at least 32 inches, between the face of the door and the stop, when the door is open 90 degrees?	Yes No Measurement: 86.5 cm			
If the threshold is vertical is it no more than ¼ inch high?	Yes No Measurement: 7 cm			
Elevators				
If there is a full-size elevator, are the call buttons no higher than 54 inches above the floor?	Yes No Measurement:		N/A	
If there is a full-size elevator, is the interior at least 54 inches deep by at least 36 inches wide with at least 16 sq.ft. of clear floor area?	Yes No Measurement: Yes		N/A	

Is the door opening width at least 32 inches?	No Measurement:		N/A	
If there is a full-size elevator, are the control buttons designated with raised characters? Are the control buttons designated with Braille?	Yes No Yes No		N/A	
Space				
Are floor surface stable, firm, and slip resistant?	Yes No			
If there is carpet: Is it no higher than ½ inch? Is it securely attached along the edges?	Yes No Measurement: Yes No N/A			
Ramps				

If there is a ramp, is it at least 36 inches wide?	Yes No Measurement:		N/A	
Is the surface stable, firm and slip resistant?	Yes No		N/A	
For each section of the ramp, is the running slope no greater than 1:12?	Yes No Measurement:		N/A	
Toilet Rooms				
If toilet rooms are available, is at least one toilet room accessible?	Yes No		Same Bathroom as Library/Printing Office	
Are there signs at inaccessible toilet rooms that give directions to accessible toilet rooms?	Yes No			
Is there an accessible route to the accessible toilet room?	Yes No			
Is there at least 27 inches clearance from the floor to the bottom of the lavatory that extends at least 8 inches under the lavatory for knee clearance?	Yes No Measurement:			

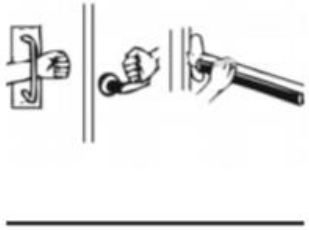
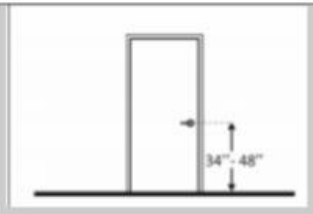
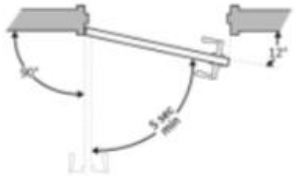
Printing Office

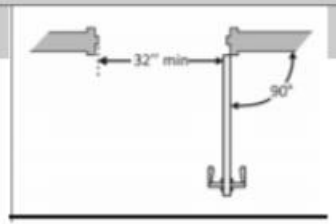
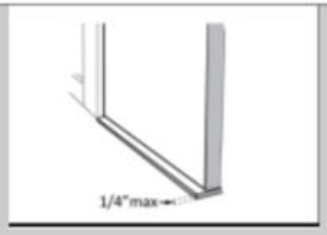
Building Assessment Form

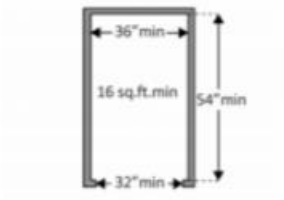
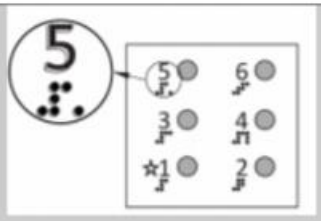
This building assessment form was adapted by American Disability Act (ADA 2016) form on how to evaluate a building.

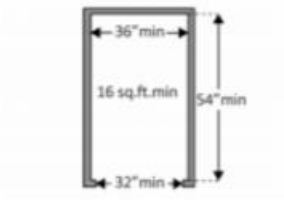
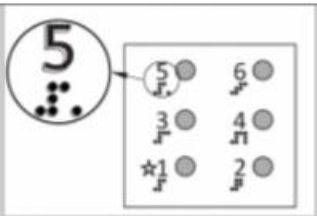
Observer: Chris Date: 1/22/2020

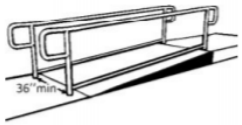
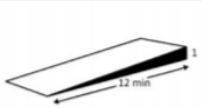
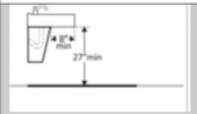
Is this a: Classroom/Hall/Bathroom/Laboratory/Outside Space

BUILDING ASSESSMENT FORM				
Door				
Is the door equipped with hardware that is operable with one hand and does not require tight grasping, pinching or twisting of the wrist?	Yes No		Door Stays Open	
Are the operable parts of the door hardware no less than 34 inches and no greater than 48 inches above the ground surface?	Yes No Measurement:			
If the door has a closer, does it take at least 5 seconds to close from an open position of 90 degrees to a position of 12 degrees from the latch?	Yes No Measurement:			
If the space is accessible, is there	Yes			

a sign at the door with the International Symbol of Accessibility?	No			
Is the clear opening width of the accessible entrance door at least 32 inches, between the face of the door and the stop, when the door is open 90 degrees?	Yes No Measurement: 93 cm			
If the threshold is vertical is it no more than ¼ inch high?	Yes No Measurement: 4 cm			
Elevators				
If there is a full-size elevator, are the call buttons no higher than 54 inches above the floor?	Yes No Measurement:		N/A	
If there is a full-size elevator, is the interior at least 54 inches deep by at least 36 inches wide with at least 16 sq.ft. of clear floor area?	Yes No Measurement: Yes		N/A	

Is the door opening width at least 32 inches?	No Measurement:		N/A	
If there is a full-size elevator, are the control buttons designated with raised characters? Are the control buttons designated with Braille?	Yes No Yes No		N/A	
Space				
Are floor surface stable, firm, and slip resistant?	Yes No			
If there is carpet: Is it no higher than ½ inch? Is it securely attached along the edges?	Yes No Measurement: Yes No N/A			
Ramps				

Is the door opening width at least 32 inches?	No Measurement:		N/A	
If there is a full-size elevator, are the control buttons designated with raised characters? Are the control buttons designated with Braille?	Yes No Yes No		N/A	
Space				
Are floor surface stable, firm, and slip resistant?	Yes No			
If there is carpet: Is it no higher than ½ inch? Is it securely attached along the edges?	Yes No Measurement: Yes No N/A			
Ramps				

If there is a ramp, is it at least 36 inches wide?	(Yes) No Measurement:		Route	
Is the surface stable, firm and slip resistant?	(Yes) No			
For each section of the ramp, is the running slope no greater than 1:12?	Yes (No) Measurement:		Height: 56 cm Length: 425 cm	
Toilet Rooms				
If toilet rooms are available, is at least one toilet room accessible?	Yes (No)			
Are there signs at inaccessible toilet rooms that give directions to accessible toilet rooms?	Yes (No)			
Is there an accessible route to the accessible toilet room?	(Yes) No			
Is there at least 27 inches clearance from the floor to the bottom of the lavatory that extends at least 8 inches under the lavatory for knee clearance?	(Yes) No Measurement: 74.5 cm 32 cm			

Can the faucet be operated without tight grasping, pinching, or twisting of the wrist?	(Yes) No		Push Faucet	

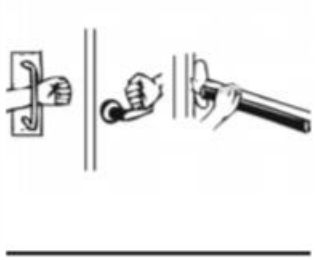
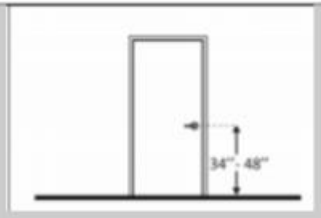
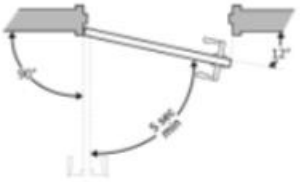
Labs

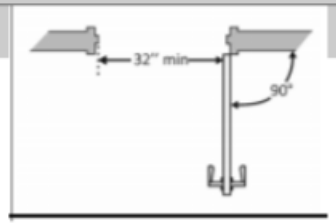
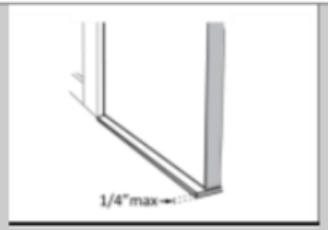
Building Assessment Form

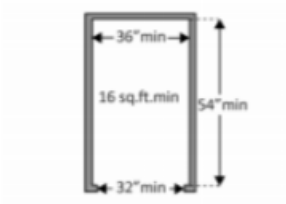
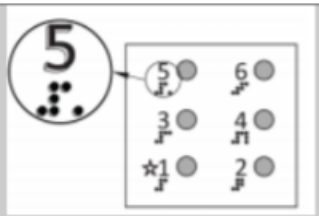
This building assessment form was adapted by American Disability Act (ADA 2016) form on how to evaluate a building.

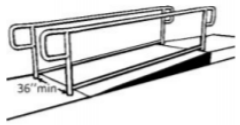
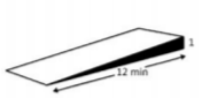
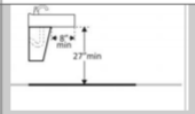
Observer: Chris Date: 1/22/2020

Is this a: Classroom/Hall/Bathroom/Laboratory/Outside Space

BUILDING ASSESSMENT FORM				
Door				
Is the door equipped with hardware that is operable with one hand and does not require tight grasping, pinching or twisting of the wrist?	Yes No		Door Stays Open	
Are the operable parts of the door hardware no less than 34 inches and no greater than 48 inches above the ground surface?	Yes No Measurement:			
If the door has a closer, does it take at least 5 seconds to close from an open position of 90 degrees to a position of 12 degrees from the latch?	Yes No Measurement:			
If the space is accessible, is there	Yes			

a sign at the door with the International Symbol of Accessibility?	No			
Is the clear opening width of the accessible entrance door at least 32 inches, between the face of the door and the stop, when the door is open 90 degrees?	Yes No Measurement: 79 cm			
If the threshold is vertical is it no more than ¼ inch high?	Yes No Measurement:		N/A	
Elevators				
If there is a full-size elevator, are the call buttons no higher than 54 inches above the floor?	Yes No Measurement:		N/A	Tables Height: 87.8 cm
If there is a full-size elevator, is the interior at least 54 inches deep by at least 36 inches wide with at least 16 sq.ft. of clear floor area?	Yes No Measurement: Yes		N/A	

Is the door opening width at least 32 inches?	No Measurement:		N/A	
If there is a full-size elevator, are the control buttons designated with raised characters? Are the control buttons designated with Braille?	Yes No Yes No		N/A	
Space				
Are floor surface stable, firm, and slip resistant?	Yes No			
If there is carpet: Is it no higher than ½ inch? Is it securely attached along the edges?	Yes No Measurement: Yes No N/A			
Ramps				

If there is a ramp, is it at least 36 inches wide?	Yes No Measurement:		N/A	
Is the surface stable, firm and slip resistant?	Yes No		N/A	
For each section of the ramp, is the running slope no greater than 1:12?	Yes No Measurement:		N/A	
Toilet Rooms				
If toilet rooms are available, is at least one toilet room accessible?	Yes No			
Are there signs at inaccessible toilet rooms that give directions to accessible toilet rooms?	Yes No			
Is there an accessible route to the accessible toilet room?	Yes No			
Is there at least 27 inches clearance from the floor to the bottom of the lavatory that extends at least 8 inches under the lavatory for knee clearance?	Yes No Measurement: 67 cm 30 cm			

Can the faucet be operated without tight grasping, pinching, or twisting of the wrist?	Yes No			

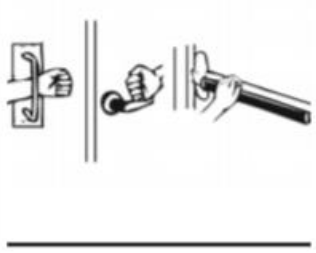
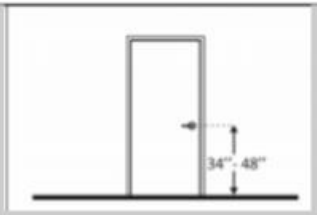
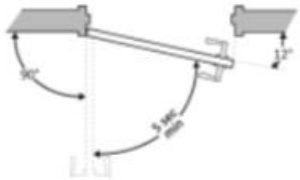
Cafeteria

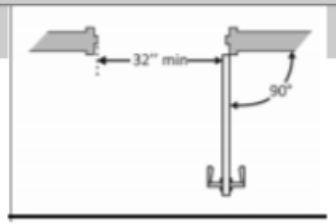
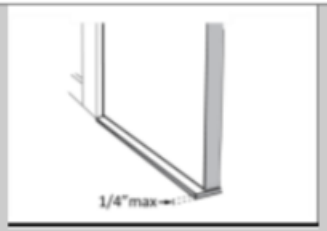
Building Assessment Form

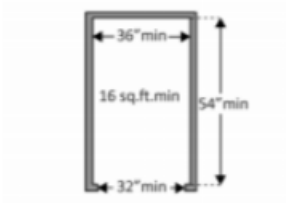
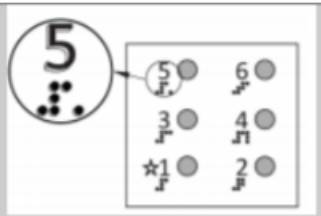
This building assessment form was adapted by American Disability Act (ADA 2016) form on how to evaluate a building.

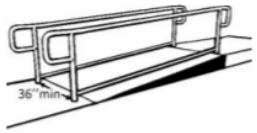
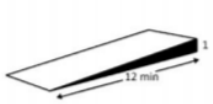
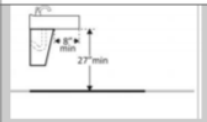
Observer: Chris Date: 1/22/2020

Is this a: Classroom/Hall/Bathroom/Laboratory/Outside Space

BUILDING ASSESSMENT FORM				
Door				
Is the door equipped with hardware that is operable with one hand and does not require tight grasping, pinching or twisting of the wrist?	Yes No		Door Stays Open	
Are the operable parts of the door hardware no less than 34 inches and no greater than 48 inches above the ground surface?	Yes No Measurement:			
If the door has a closer, does it take at least 5 seconds to close from an open position of 90 degrees to a position of 12 degrees from the latch?	Yes No Measurement:			
If the space is accessible, is there	Yes			

a sign at the door with the International Symbol of Accessibility?	No			
Is the clear opening width of the accessible entrance door at least 32 inches, between the face of the door and the stop, when the door is open 90 degrees?	Yes No Measurement:			
If the threshold is vertical is it no more than ¼ inch high?	Yes No Measurement:		N/A	
		Elevators		
If there is a full-size elevator, are the call buttons no higher than 54 inches above the floor?	Yes No Measurement:		N/A	Tables Height: 73 cm Counter Height: 110 cm
If there is a full-size elevator, is the interior at least 54 inches deep by at least 36 inches wide with at least 16 sq.ft. of clear floor area?	Yes No Measurement: Yes		N/A	

Is the door opening width at least 32 inches?	No Measurement:		N/A	
If there is a full-size elevator, are the control buttons designated with raised characters? Are the control buttons designated with Braille?	Yes No Yes No		N/A	
Space				
Are floor surface stable, firm, and slip resistant?	Yes No			
If there is carpet: Is it no higher than ½ inch? Is it securely attached along the edges?	Yes No Measurement: Yes No N/A			
Ramps				

If there is a ramp, is it at least 36 inches wide?	Yes No Measurement:		N/A	
Is the surface stable, firm and slip resistant?	Yes No		N/A	
For each section of the ramp, is the running slope no greater than 1:12?	Yes No Measurement:		N/A	
Toilet Rooms				
If toilet rooms are available, is at least one toilet room accessible?	Yes (No)			
Are there signs at inaccessible toilet rooms that give directions to accessible toilet rooms?	Yes (No)			
Is there an accessible route to the accessible toilet room?	Yes (No)			
Is there at least 27 inches clearance from the floor to the bottom of the lavatory that extends at least 8 inches under the lavatory for knee clearance?	Yes (No) Measurement: 67 cm 38 cm			

Can the faucet be operated without tight grasping, pinching, or twisting of the wrist?	(Yes) No			

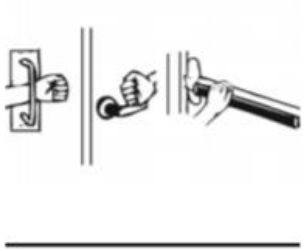
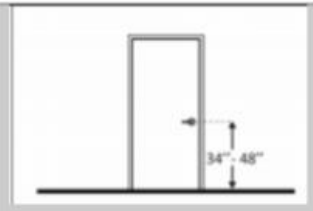
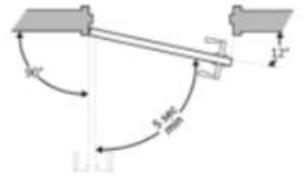
Amphitheater

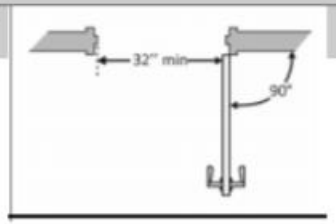
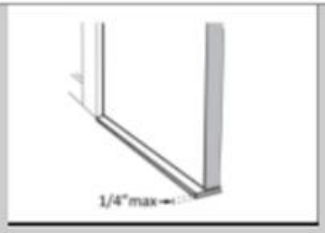
Building Assessment Form

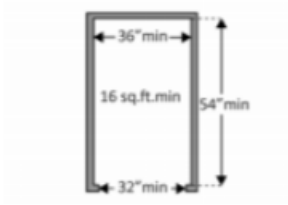
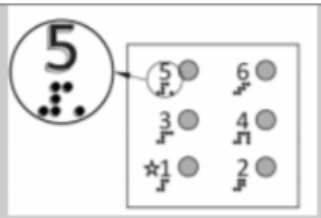
This building assessment form was adapted by American Disability Act (ADA 2016) form on how to evaluate a building.

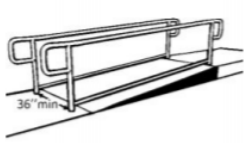
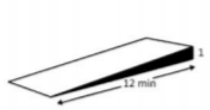
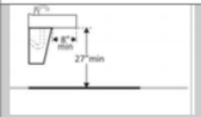
Observer: Marina Date: 1/22/2020

Is this a: Classroom/Hall/Bathroom/Laboratory/Outside Space

BUILDING ASSESSMENT FORM				
Door				
Is the door equipped with hardware that is operable with one hand and does not require tight grasping, pinching or twisting of the wrist?	Yes (No)			
Are the operable parts of the door hardware no less than 34 inches and no greater than 48 inches above the ground surface?	(Yes) No Measurement:			
If the door has a closer, does it take at least 5 seconds to close from an open position of 90 degrees to a position of 12 degrees from the latch?	Yes (No) Measurement:			
If the space is accessible, is there	Yes			

a sign at the door with the International Symbol of Accessibility?	No			
Is the clear opening width of the accessible entrance door at least 32 inches, between the face of the door and the stop, when the door is open 90 degrees?	Yes No Measurement: 103 cm			
If the threshold is vertical is it no more than ¼ inch high?	Yes No Measurement:		N/A	
		Elevators		
If there is a full-size elevator, are the call buttons no higher than 54 inches above the floor?	Yes No Measurement:		N/A	
If there is a full-size elevator, is the interior at least 54 inches deep by at least 36 inches wide with at least 16 sq.ft. of clear floor area?	Yes No Measurement: Yes		N/A	

Is the door opening width at least 32 inches?	No Measurement:		N/A	
If there is a full-size elevator, are the control buttons designated with raised characters? Are the control buttons designated with Braille?	Yes No Yes No		N/A	
Space				
Are floor surface stable, firm, and slip resistant?	Yes No			
If there is carpet: Is it no higher than ½ inch? Is it securely attached along the edges?	Yes No Measurement: Yes No			
Ramps				

If there is a ramp, is it at least 36 inches wide?	Yes No Measurement:		N/A	
Is the surface stable, firm and slip resistant?	Yes No		N/A	
For each section of the ramp, is the running slope no greater than 1:12?	Yes No Measurement:		N/A	
Toilet Rooms				
If toilet rooms are available, is at least one toilet room accessible?	(Yes) No		Only Boys Bathroom	
Are there signs at inaccessible toilet rooms that give directions to accessible toilet rooms?	Yes (No)			
Is there an accessible route to the accessible toilet room?	(Yes) No			
Is there at least 27 inches clearance from the floor to the bottom of the lavatory that extends at least 8 inches under the lavatory for knee clearance?	Yes (No) Measurement: 80 cm 23 cm			

Can the faucet be operated without tight grasping, pinching, or twisting of the wrist?	(Yes) No			

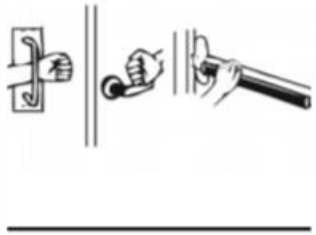
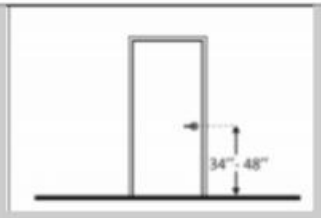
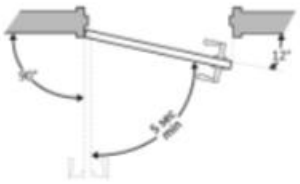
Library

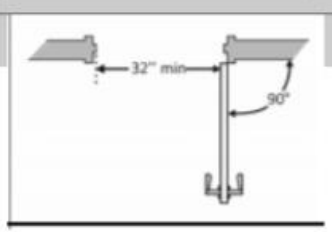
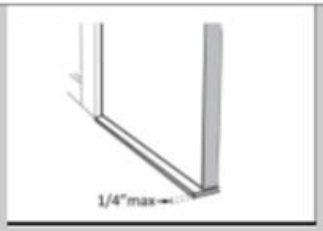
Building Assessment Form

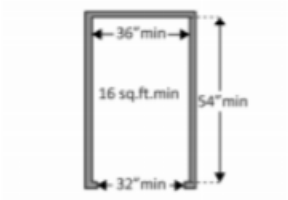
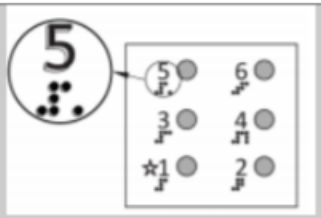
This building assessment form was adapted by American Disability Act (ADA 2016) form on how to evaluate a building.

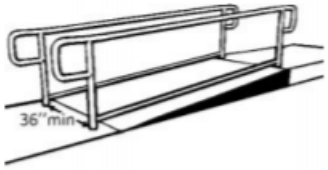
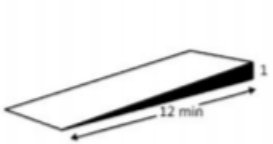
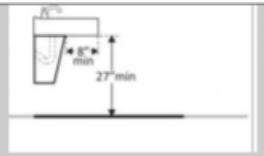
Observer: Marina Date: 1/22/2020

Is this a: Classroom/Hall/Bathroom/Laboratory/Outside Space

BUILDING ASSESSMENT FORM				
Door				
Is the door equipped with hardware that is operable with one hand and does not require tight grasping, pinching or twisting of the wrist?	(Yes) No			
Are the operable parts of the door hardware no less than 34 inches and no greater than 48 inches above the ground surface?	(Yes) No Measurement:112.5 cm			
If the door has a closer, does it take at least 5 seconds to close from an open position of 90 degrees to a position of 12 degrees from the latch?	Yes (No) Measurement:			
If the space is accessible, is there	Yes			

a sign at the door with the International Symbol of Accessibility?	No			
Is the clear opening width of the accessible entrance door at least 32 inches, between the face of the door and the stop, when the door is open 90 degrees?	Yes No Measurement: 90 cm			
If the threshold is vertical is it no more than ¼ inch high?	Yes No Measurement:		N/A	
Elevators				
If there is a full-size elevator, are the call buttons no higher than 54 inches above the floor?	Yes No Measurement:		N/A	
If there is a full-size elevator, is the interior at least 54 inches deep by at least 36 inches wide with at least 16 sq.ft. of clear floor area?	Yes No Measurement: Yes		N/A	

Is the door opening width at least 32 inches?	No Measurement:		N/A	
If there is a full-size elevator, are the control buttons designated with raised characters? Are the control buttons designated with Braille?	Yes No Yes No		N/A	
Space				
Are floor surface stable, firm, and slip resistant?	Yes No			
If there is carpet: Is it no higher than ½ inch? Is it securely attached along the edges?	Yes No Measurement: Yes No N/A			
Ramps				

If there is a ramp, is it at least 36 inches wide?	Yes No Measurement: 100 cm		Route	
Is the surface stable, firm and slip resistant?	Yes No			
For each section of the ramp, is the running slope no greater than 1:12?	Yes No Measurement: 1:5			
Toilet Rooms				
If toilet rooms are available, is at least one toilet room accessible?	Yes No		N/A	
Are there signs at inaccessible toilet rooms that give directions to accessible toilet rooms?	Yes No		N/A	
Is there an accessible route to the accessible toilet room?	Yes No		N/A	
Is there at least 27 inches clearance from the floor to the bottom of the lavatory that extends at least 8 inches under the lavatory for knee clearance?	Yes No Measurement:		N/A	

APPENDIX C: INTERVIEW QUESTIONS WITH DISABILITY PROFFESSIONALS

Preamble: We are students from Worcester Polytechnic Institute (WPI) that are conducting research about people with disabilities to learn more about the challenges they face, the accessibility of the resource they have and what improvements need to be done on the facilities they frequent. We are going to specifically focus to Rabat Medical School and we strongly believe that this kind of research will benefit not only the students with disabilities but also every person that frequents the school. In the beginning of our project, we would like to gain a general overview and hear some opinions of people that already have worked or have experience with people with disabilities that will give us some more insight in their community from outside perspective. Your participation in this interview is voluntary and you may withdraw at any time. Your answers will remain confidential, unless you give us consent to share your name. On our project report we will not publish any names. This project is a collaboration between WPI and Dr. Azeddine Ibrahimi, who is a professor at Rabat Medical School; your participation is greatly appreciated. If you are interested, we can provide you with the results from our research and the conclusion of the study.
If you would like additional information, please feel free to contact as at gr-APD-C20@wpi.edu. You can also reach to our faculty advisors, Laura Roberts (lroberts@wpi.edu) and Mohammed El Hamzaoui (melhamzaoui@wpi.edu) .

- Can you tell us more about your organization? What is its mission and projects related to people with disabilities?
- What do you think about the rights that people with disabilities have in Morocco? How do you think they are viewed?
- How much do you think Morocco's infrastructure accommodates people with disabilities?
- Have you worked on a project that improves physical or information accessibility for people with disabilities?
- What challenges do people with disabilities face in the community they live, from any previous talk with any of person with disability?

- What resources are available and how would you describe the accessibility to these resources for people with disabilities, like education, healthcare, legislations?
- How do you think physical and information accessibility can be improved?
- If you were able to make certain changes, or recommend changes to someone in government that can implement them, what would they be?

Sarah Cox, Peace Corps - Supporting People with Special Needs Committee
2/18/2020
We introduced our project first then asked her the following questions.

- **Can you tell us more about the program?**

There are 4 different committees: gender and development, multimedia, supporting people with special needs then elected positions. You apply to be on a committee, some have previous experience, and some are interested in being on a committee that spreads awareness about the issue. They mainly promote awareness and provide resources to volunteers in Morocco working with people with special needs. Currently working on the gender committee to raise awareness within the community. They also work with other associations in Morocco.

- **Have people with disabilities contacted the Peace Corps with issues?**

Mainly volunteers have come to them. People with disabilities do not really have the resources to contact them.

- **What are some of the challenges people with disabilities face here in Morocco?**

There is a little bit of a stigma if you have a disability. Lack of education and employment are some of the main challenges. There are certain organizations or schools that help students with disabilities and families may just want their kids to go to regular schools. But the teachers are not well equipped and getting there is difficult. There is a lack of opportunities in employment - because of discrimination and stigma. There is discrimination within gender too in education and employment.

- **Have you visited any universities or schools?**

I have not and I don't think anyone in my committee has.

- **Do you think cities in Morocco accommodate physical disabilities?**

There is a divide between rural and urban settings. Rural areas may not have the funding or resources to accommodate.

- **Have you ever helped with any campaigns or awareness activities advocating for people with disabilities? If so, can you tell us more about it?**

International awareness of disability day
Partnered to do a social media campaign to spread awareness about the day. They translated it into Arabic. It got the conversation going with students.

- **What are the biggest challenges you face in your field of work?**

Do not directly work with people with special needs. Volunteers that work with disabled persons in their site- the stigma is the biggest challenge. They know there are people with

disabilities in the town where they organize an event, but they do not attend. They are not allowed to leave the house a lot of the time. It is difficult to accommodate different types of disabilities within an event. Proper diagnosis is also a problem

- **Updating web pages**

They are trying to make a lesson plan to incorporate gender discrepancies with MWDs. There is not much information on the subject, which makes it difficult to make the lesson plan. There should be more research on the subject.

- **How long has the program been in Morocco?**

About 7 years

Rachid Touh Touh

1/29/2020

On 1/29 we met with Rachid Touh Touh and discussed with him our project and got his insight and advice. He reiterated that Morocco is a low-income country where lots of people live in poverty. Moroccans are just beginning the discussion on disabilities. There are no discriminatory laws against people with disabilities and even the 2013-14 national congress started to discuss disability in public spaces. They have introduced a quota system giving a certain percentage of jobs to people with disabilities. He also reminded us that the gender discrepancies are important to note, as women and men with disabilities have different experiences. We then asked Professor Touh Touh what problems he thought were the most extreme and needed to be corrected. He said housing is a big problem as not all buildings have access to the main entrance. He also told us that since Morocco is a low-income country there is a lack of disability equipment such as wheelchairs, walkers, and elevators. He also said schools and employers should be providing flexible schedules for those with disabilities in addition to transportation because it is expensive for the families providing them care. Families also will keep their kids out of the public, in the house because they are embarrassed of them.

We then asked him if he knew of any other professionals or organizations that could be helpful for our project. He gave us the information of some people and a few organizations that we could contact. There is a school of the blind and deaf in the same area as Rabat Medical School which was founded by princess Lalla Asmae. It would be good to visit it to get an idea on how education is provided to the students. Sarah from AMSAT, which is an organization helping children with down syndrome is also another helpful contact. Ibn Baitar who founded a school for people with disabilities. I will also follow up on an email with contacts.

In order to see your recommendations or suggestions followed through with there are two paths. Getting funds depends on Mohammed V university. The Faculty of Medicine would present the project to the board of the presidency, if the board accepts then funding would be granted. This would require some mobilization and lobbying. The other way is to get funding from outside sources from research. Partnerships with the minister of health or world health organizations is very helpful for low-income countries. It is easier to get funding from outside donors.

OTAM Interview

2/19/2020

Said Nafai

- **Can you tell us a little more about OTAM?**

Was founded in 2016, the goal is to promote occupational therapy. The first group studying will be graduating in 2020 and practicing occupational therapy. The association had a conference in Tangier this past January.

- **What are some of the projects you are working on?**

The association has volunteers and they promote awareness about what occupational therapy is and how people with disabilities can be dependent and get access to education.

- **What is a barrier to accessing education?**

Learning disabilities, teachers are not trained to teach special education. They do not have the experience. Through occupational therapy they work with children to help.

- **How do you think people with disabilities are viewed in Morocco?**

There is a lot of stigma, people think they cannot do a lot, and cannot access the job market or education.

- **How much do you think Morocco's infrastructure accommodates people with disabilities?**

The disability is not always the problem, but the infrastructure is. If you are in a wheelchair you may not be able to be independent because of the sidewalks and lack of ramps. It is dangerous to be in a wheelchair and have to ride on the street. The environment is not great for people without disabilities either.

- **How do you think schools accommodate students with disabilities?**

If the child has a disability and they cannot get into the school, they will not have the ability to be there. In rural areas the schools are very far from their homes. Most of the time the family members must help get them there, it is hard to be independent

- **What do you think are helpful recommendations that schools could implement to make them more accessible?**

The ADA has a lot of good standards. The outside environment needs to be improved, are the doors wide enough, are there ramps. Disabilities are not just people in wheelchairs, they could be blind or have a learning disability. The doors in schools should also be automatic so they do not have to rely on others to get the door open.

- **Do you think support plays an important role in advocating for people with disabilities?**

Yes definitely. Advocating for others is important and people should be aware because no one chooses to have a disability. It could happen to anyone at any time for example a car accident that leaves someone in a wheelchair. Educating people can be very helpful.

2/6/2020

Dr. Mohamed Tricha

Head of the Physical Medicine and Rehabilitation Service in the National Rehabilitation and Neuroscience Center (CNRN)

Dr. Tricha showed us around the rehabilitation center, explaining to us some of the work he does and the types of patients that are in the hospital.

- He works in a service of medicine that works with other handicap facilities
- Rehabilitates handicap individuals back into their normal lives
- He integrates his patients through his hobbies
    - Golf, horses, diving
- He is the Moroccan head of golf rehabilitation
- In the center there are therapy groups for different diseases
- On the 23rd of February it is the hospital day of activities- they have different fun activities for the patients
- Dr. Tricha showed us to activity tables that people with Parkinson's disease or autism use
- They show and help people in wheelchairs how to use the bathroom with their chair
- We asked, "How affordable is it to receive treatment?" It differs by insurance agency (private). If you do not have insurance there is a special program like Medicare in the US, for Moroccans to get insurance (public).
- The hospital is well equipped to treat Moroccans with disabilities
- We were introduced to someone who works in speech therapy

2/10/2020

Handicap International Interview

We introduced our project to Khaoula Hajrabi who works with Handicap International.

- **What do you do here in Morocco? Can you tell us more about the organization?**
  It is a network of NGOs. The branch in Morocco was founded in 1996. They mainly work on inclusive education which is the first step to empowering people with disabilities. They had an expansion in programs. Now they are integrating people in professional settings such as the workplace. They try to link what they do in the field of education and work with the universities.
- **What do you think about the rights that people with disabilities have in Morocco? How do you think they are viewed?**
  There is discrimination worldwide. Morocco's legal framework has changed a lot in the past year- UN committee on rights of persons with disabilities. There is always a gap between what is written and what is done. What allows for discrimination to happen are the documents that need to go through the ministries. For example, the director of a school decides to discriminate against MWDs because they do not apply the law. There is a gap between what is written and what is done. It took Morocco a long time to implement their law on accessibility, the guidelines were produced 10 years after the adoption of the law. There were no guidelines, so buildings were being made without the law being applied.
  Representations (how they are viewed)
  It depends on the setting, type of disability. People do not understand a mental or intellectual disability as much as a physical disability. It depends a lot on the family and level of education. It is not a systematic problem; it is a social problem.
- **How much do you think Morocco's infrastructure accommodates people with disabilities?**
  Infrastructure can even cause disability; it is not accommodating at all.
- **Are you working on any projects that improve the physical infrastructure?**
  Private companies can pay for their own accessibility improvements or have implemented programs to help it. There is a huge focus on people with wheelchairs even though they are a small percent. People with hearing or visual impairments are

not considered enough. The signs- colors, size of letters, announcements are a big issue.

- **How do you think physical and information accessibility can be improved?**
  Have people with different types of disabilities move around the space and give their feedback.
- **What do you think are the main issues that people with disabilities face in school?**
  There is a clear link between poverty and disability. When it is not taken care of by the state the families are the ones who are paying out of pocket. Many cannot attend school because medical bills are so expensive. The attitudes of the environment- teachers, administration, and families contribute to the struggles in school. People in Morocco think that MWDs can only do a specific type of job. Families may not believe in the person. Teachers do not know how to adapt their teaching styles. A lot of associations created parallel systems of teaching in the 70s. People now think that MWDs need their own system separate from everyone else.
- **Do you think desensitization plays an important role? Do you know of any campaigns advocating for people with disabilities?**
  Yes, there are a lot of misconceptions and fears as MWDs are not visible in society. Raising awareness to the general public is very important.

We then told her about our project in more detail

Disabilities are more about the social environment.

Center for reception-University of Mohammed V is a career center that helps people with specific needs. They have a database of students with disabilities.

Only two people with physical disabilities in FMP-Rabat, and people with disabilities are excluded from the faculty in many schools.

There is a huge focus on the medical aspect of disabilities. They are seen as needing to be fixed.

Disability is not an individual problem - schools, companies have a role to play to make them feel welcome.

Fatima Grichi - Attends Faculty of Human Sciences studying Psychology
2/18/2020
We introduced ourselves and our project then asked the following questions.

- **Can you tell us a little bit about what you do?**

Third year student, studying psychology. She will be a clinical psychologist.

- **Why did you choose to work with people with disabilities?**

For her internship she chose to work with MWDs to do any tests or studies to help them in terms of psychology.

- **What does a typical day look like in the health center?**

There are a lot of people with disabilities. She looks at the interaction between the doctor and the patient.

- **What is the most difficult part of the job?**

Dealing with the patient, they do not really understand what is going on. Some patients do not communicate with the doctors

- **How do you think people with disabilities are viewed in Morocco?**

Moroccan people are starting to take this subject more seriously. People with disabilities need to work, study. There are people in wheelchairs at her school.

- **From your experience, do you think that your school is accessible?**

Students with disabilities in her school cannot go up to some of the floors, she is not sure if it is accessible. The other students really try to help them. If there is a class on the top floor they should be moved.

- **Do you think a psychologist would be beneficial for students? Why?**

There is not one currently, but it would be helpful. They should be there for students with disabilities and without disabilities. It is so beneficial for both the students and faculty.
If the psychologist is there and lets the students know they can come talk to them, it can be very good for students to go and talk about any problems they have.

- **What are some of the problems that families face if they have a member with a disability?**

It is very difficult, especially when it comes to money. They have to go to the doctor more often than other people, they may need assistive technologies, and may need to be in physical therapy. People may also see someone with a disability and their family as being inferior. People with disabilities may not be able to get a job even after school.

- **Do you think Morocco has enough disability equipment?**

Yes, especially in the rehab center.

- **Has working at the center changed your perception?**

Yes, I can see that they can do a lot of things. Just because they have a disability does not mean they cannot do as much as a fully abled individual.

- **Do you think sensibilization is important?**

Yes of course, people's negative views can be changed with time and education.

- **What do you think would be important for people to know about a MWD?**

For them to not look at people with disabilities as being inferior. They do not have to feel uncomfortable. It is all about supporting, and they must make them feel comfortable.

- **In general, from what you have seen, what would you recommend making schools more accessible?**

Make the classrooms accessible. Other students within the school must support students with disabilities. The teachers must be sensible to people with disabilities and let them know that what they are doing is important.

Center for Reception, Information, Orientation, and Monitoring - Center for Accessibility
Hafida Mderssi
2/25/2020

- **Can you tell us a little more about what your office does?**
  The center belongs to all the Mohammed V University. The center aims to give services to any students- language, CS, self-skills. They also have specific projects for students with disabilities. First, the Network of Moroccan Universities (RUMI), is for students who are disadvantaged. Progression of Accessibility Centers in higher Education for Students with disabilities in North Africa (PACES) is just for people with disabilities, it is an international program funded by the European Union. There is a printer with braille technology in the center. They are trying to get new materials to serve students with disabilities
- **What problems do students with disabilities come to your office for?**
  Students ask for accessibility to classrooms on the first floors, more times for exams than other students- because they need more time to write if someone else needs to do it for them. They are working to integrate them into the professional market. They help them find jobs. Recently a ministry in Morocco launched job opportunities extended to 200 people with disabilities, 138 came from the university for this opportunity, 21 got the job they wanted, 71 got on the waiting list. The office helped connect them with this opportunity.
- **What is the job market like for students with disabilities? What types of fields do you usually connect students with?**
  The problem is not with visibility, it is with self-skills. People have degrees but they do not have the skills to get a job. We work on reprofiling, we work on helping them move from one field to another. For example, moving them to another sector. For people with disabilities it's not based on physical discrimination, they have problems with self-confidence. The technology sector employs people with disabilities, as well as the art and cultural sector, for example someone who is blind works in radio. Also the economic and social sector. They can work with anyone because it is based on what they know not their physical abilities. There is a center in Sale that educates people with disabilities. They give them psychological and medical services.

- **Do you have any statistics about students with disabilities in the Mohammed V schools?**

  About 790 students with disabilities in the Mohammed V University. There are 87,000 students in the University. The problem comes from the people itself; they do not come to the university. They are trying to make some workshops to educate people with disabilities to give them skills and have volunteers to help with.
- **Do you think it would be beneficial to have someone in each faculty designated to helping students with disabilities?**

  So far there is just one center. This is because there is international collaboration between Mohammed V and the center. When there is international collaboration, they just create one center. The problems for the treatment are mainly caused by families, sometimes they will not let their kids out of the house if they have a disability. Organizations started the movement, then the ministries. Some professors volunteered to work with the center. It is up to the vice president or the school administration to contact and help students with disabilities.

  The question about whether you have a disability while applying is just for data.

  For the center they first start informing other students in faculties that they exist, then they look for collaboration within the faculty to work with them. They will always refer to the president of the center.
- **How often do you contact students with disabilities to follow up? Do you contact them before they attend any of the facilities?**

  The main way is through their Facebook page. People will contact them through Facebook for workshops. They send a letter from the university president to each Faculty and each Faculty should contact the center if they have students with disabilities attending their school.
- **How well do schools accommodate people with disabilities (physical infrastructure)?**

  Mainly now they try to provide classes on the first floor, in old faculties there are ramps to the classrooms. They created a group that contains professors from each Faculty to better the accessibility by choosing two Faculties each year to improve it. The project will start soon, after a meeting with the minister. For the projects the EU gives the project three years, in order to continue they create associations.
- **Is there anything that could improve our recommendations?**

Physical accessibility- elevators, ramps. Each faculty should have volunteers to help students with disabilities- such as someone to write for a student who is blind, or to help them get to classes. They should have a coach for psychological support. We shouldn't take them as people who need pity, they are just as capable as us. Compared to other African countries we are advanced, we should not be compared to Americans.

APPENDIX D: INTERVIEW QUESTIONS WITH SCHOOL ADMINISTRATION

Preamble: We are students from Worcester Polytechnic Institute (WPI) that are conducting research about people with disabilities to learn more about the challenges they face when it comes to accessing resources on campus and what improvements need to be done on the facilities they frequent. We are going to specifically focus on the Rabat Medical School and we strongly believe that this kind of research will benefit not only the students with disabilities but also every person that frequents the school. To start our project, we would like to interview individuals that have worked with people with disabilities in the past, to gain a general overview and hear some opinions about the challenges that students with disabilities face in RMS. Your participation in this interview is voluntary and you may withdraw at any time.

Your answers will remain confidential, unless you give us consent to share your name for our final product presentation. On our project report we will not publish any names. The project is a result of collaboration between WPI and Dr. Azeddine Ibrahimi, who is a professor at Rabat Medical School; your participation is greatly appreciated. If you are interested, we can provide you with the results from our research and the conclusion of the study.

If you would like additional information, please feel free to contact as at gr-APD-C20@wpi.edu. You can also reach to our faculty advisors, Laura Roberts (lroberts@wpi.edu) and Mohammed El Hamzaoui (melhamzaoui@wpi.edu) .

2/6/2020

Mohammed Karra

Secretary from School Administration

- **How does the school administration aid those with a disability?** For courses they stand at the back in the amphitheatre, and for the practical sessions they have their friends help them get there. They try to give them classes on the first floor where they can reach. For an exam they put a student in the last row so they wouldn't have to go downstairs.
- **When you apply there is a section where you mark whether they have a disability, does the administration follow up with them?** The university does not usually follow up, each faculty tries to manage it themselves, and help them separately. There is no real procedure or policy for someone who attends the school

with a disability. A lot of times people do not mention they are handicapped before they come for an exam.

- **Does the school have a budget for handicap improvements?** No, it is just taken into account when improvements are being made. There is no separate fund.
- **Does the school administration check with the student with disabilities on their experience throughout school?** It is at a personal level with the faculty because there are so few people with disabilities. There are no administrative check-ups. Checking in with Yassine is a very personal affair but there should be routine and structure to it.
- **Is there a student affairs office?** Yes. Could there be someone in the office who helps someone with disabilities (Laura Roberts)? It would be nice to have someone who is designated because sometimes people have temporary disabilities. Could be implemented (brahimi)

Are there any other projects being implemented where handicap accessibility is being considered? All the projects are beginning to take this into account -Library, three amphitheatres, new cafeteria will be accessible, biotechnology centre.

APPENDIX E: INTERVIEW QUESTIONS WITH STUDENT WITH DISABILITY

Preamble: We are students from Worcester Polytechnic Institute (WPI) that are conducting research about people with disabilities to learn more about the challenges they face, the accessibility of the resource they have and what improvements need to be done on the facilities they frequent. We are going to specifically focus on the Faculty of Medicine and Pharmacy and we strongly believe that this kind of research will benefit not only the students with disabilities but also every person that frequents the school. In the beginning of our project, we would like to gain a general overview and hear some opinions of people that already have worked or have experience with people with disabilities that will give us some more insight in their community from outside perspective. Your participation in this interview is voluntary and you may withdraw at any time. Your answers will remain confidential, unless you give us consent to share your name. On our project report we will not publish any names. This project is a collaboration between WPI and Dr. Azeddine Ibrahimi, who is a professor at the Faculty of Medicine and Pharmacy; your participation is greatly appreciated. If you are interested, we can provide you with the results from our research and the conclusion of the study.
If you would like additional information, please feel free to contact us at gr-APD-C20@wpi.edu. You can also reach our faculty advisors, Laura Roberts (lroberts@wpi.edu) and Mohammed El Hamzaoui (melhamzaoui@wpi.edu) .

Interview with Yassine Gouli
2/3/2020
We first introduced ourselves and gave an overview of our project. Then we asked him a series of questions.

- **How would you describe the accessibility of the school's facilities, classrooms, etc.?**
  If I had to rate the accessibility of the school, I would say it is about 25% accessible. The Faculty of Science was more accessible, all the classes I had were on the first floor.
- **Are there any tasks that are more difficult for you to complete than your peers?**

It is difficult for me to get to certain parts of the school because if I need any papers from the student administration, I need one of my friends to get it for me. I was not able to take any lab classes, and if I had a course in a lab area, I needed help getting there.

- **What barriers are affecting you from accessing what you need?**
  When I first came here, I was scared because I did not know if I could get into the classes. The ramps are very hard to get up because they are steep so it would be very difficult to do if I did not have an electric chair. The chairs in the classroom are too low so it is very tough for me to transition from my wheelchair to the desk chair. Also, it would be very helpful if there were railings because it is hard for me to get out of my chair without anything to hold onto.
- **Are there services at the school that accommodate people with disabilities?**
  If I have any problems with my classes, I talk to my professor and he helps me work around it. The school does not directly provide any services, but I receive a lot of help from my friends and peers. When I first applied to the school, they asked if I had a disability and what kind, but never followed up on what help i needed. I first chose the school because of the field and didn't think about how to get there until after. To have a counsellor is a good idea for everyone.
- **What improvements do you want to see happen to improve your experience at the school?**
  I think the most important improvements that need to be made are making ramps to the bathrooms, the cafeteria, and administration. The chairs need to be higher so I can transfer from my wheelchair to the desk. Many people do not think about people with disabilities, so it does not feel like they need to make a change.
- **From the results of our building assessment, do you think making these improvements would help people with accessing parts of the school?**
  I think for someone that is new to the school, it would be helpful to have signs to show where there are accessible ramps and bathrooms. It would also be helpful to have a map of the school showing where the ramps and other things are.

APPENDIX F: FOCUS GROUP ACTIVITY

"Say what?" (Adcock, 2018)

-We will show the words below overhead, so every participant can see them.

-We will have the participants read it out loud. (They should read the colour the word is written, not the word itself.)

-We will discuss how the brain wants to read the actual words and explain that even if you want to read it correctly, you read it slower than normal.

-We will relate this activity with the topic of students that can have a learning disability and how they struggle to make the word come out even if their brain understands what it needs to be done. It doesn't mean you are not smart; it just means the brain wants to do something different.

This activity will be just an example of one type of disability, but it will show all students on what struggles people with any type of disability face in their everyday life and the support to them is very important.

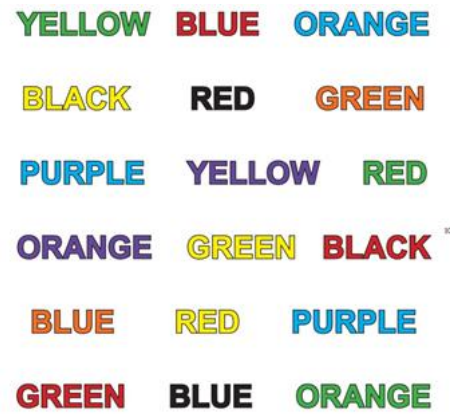


Figure __ The coloured words that will be shown for the activity

APPENDIX G: FOCUS GROUP PROMPT

Preamble: We are students from Worcester Polytechnic Institute (WPI) that are conducting research about people with disabilities to learn more about the challenges they face when it comes to accessing resources on campus and what improvements need to be done on the facilities they frequent. We are going to specifically focus on the Faculty of Medicine and Pharmacy of Rabat and we strongly believe that this kind of research will benefit not only the students with disabilities but also every person that frequents the school. We hope that this focus group will allow us to better understand your needs and challenges that you face in the FMP-Rabat on a daily basis. In the second part of this activity we will perform a brainstorming session to generate some successful strategies that will improve your studying experience in the FMP-Rabat.

Your participation in this focus group is voluntary and you may withdraw at any time. On our project report we will not publish any names. This project is a collaboration between WPI and Dr. Azzedine Ibrahimi, who is a professor at Medical School; your participation is greatly appreciated. If you are interested, we can provide you with the results from our research and the conclusion of the study.

If you would like additional information, please feel free to contact us at gr-APD C20@wpi.edu. You can also reach out to our faculty advisors, Laura Roberts (lroberts@wpi.edu) and Mohammed El Hamzaoui (melhamzaoui@wpi.edu).

Part 1: Introduction

- Introduce everyone in the focus group and describe their role
- Ask for the participants consent to record the session

Part 2: Questions

- How would you describe the accessibility of the school's facilities, classrooms, etc.?
- Are there services at the school that accommodate people with disabilities?
- Approximately how long does it take you to get from the classrooms to the facilities, other classrooms, common spaces frequently used?
- What tasks do you see your peers with disabilities struggle with?
- What improvements do you want to see happen to improve people's experience at school?
- From the results of our building assessment, do you think making these improvements would help people with accessing parts of the school?

Part 3: Brainstorm

- Distribute post-it notes and for them to write their individual ideas on
- We aren't going to judge comments
- Encourage them to think freely about our topic
- Put their post-it notes on blank paper around the question
- Discuss together the recommendations

Focus group with able-bodied students

2/3/2020

To begin we first introduced ourselves and gave an overview of the project. We then asked a series of questions meant to lead a discussion. We then gave them the activity. Two different students did the activity that was meant to represent a learning disability.

- **How long have you been studying in Rabat Medical School?**
  Most of the students have been studying at the Faculty of Medicine and Pharmacy of Rabat for 2 years in the master's program. There are two PhD students
- **What is your impression of the current available accessibility for students with disabilities?**
  When asked to give a percentage, the students agreed upon the school being about 10-20% accessible.
- **How would you describe the quality of the environment that students with disability study?**
  The students gave us the overall opinion that serious changes needed to be made to the school in terms of handicap accessibility. They said that the main entrance is accessible, but most of the rooms are not. People with disabilities can access classes that are on the first floor
- **How much involvement does the school staff have on supporting students with disabilities?**
  The professors and other students help a lot in supporting students with disabilities. In the case with Yassine, he would go to Professor Ibrahimi with any issues or concerns. His professor would help schedule his classes so they were all on the first floor and had them build a ramp in the parking lot so he could get to his classes. Yassine's friends would stay with him at the top of the Amphitheatre to for class to eat lunch. He receives a lot of support from his friends.

- **Have you ever seen any extreme need for change in any of the places in school, that might not be safe for students with disabilities?**
  There is no way for someone in a wheelchair to get up to the laboratory classes on the second and third floors because there are only stairs.
- **When you are applying, is there any point where you should mention if you have or not a disability?**
  The application process for the school does ask the question of if someone has a disability and what kind. However, after answering yes to having a disability, no one from the school contacts them and follows up to find out what kind of accommodations they may need.
- **Is there an Office for Students with Disabilities?**
  The school does not have an office for students with disabilities.
- **Drawing from your experience at this school, what are, in your opinion, the most pressing issues currently facing the students with disabilities?**
  The most pressing issues at the school regarding people with disabilities is that there aren't enough ramps at the entrances of rooms and buildings. Elevators should be built too.
- **If you were able to make certain changes to the school, what would they be?**
  The school would be supportive in building ramps. They could also use accessible bathrooms. Educating people is more important than signs as people do not really use or respect signs in Morocco. People will park in front of the handicap spot with the ramp. Education is important because there are no students with disabilities in the medical field. The environment does not allow for it. Many cannot get internships either because the workplaces do not have proper equipment either.

We then had everyone write down improvements as shown in Fig. 27 on sticky notes that they would make to the medical school in terms of accessibility. We collected their responses and went over them as a group.

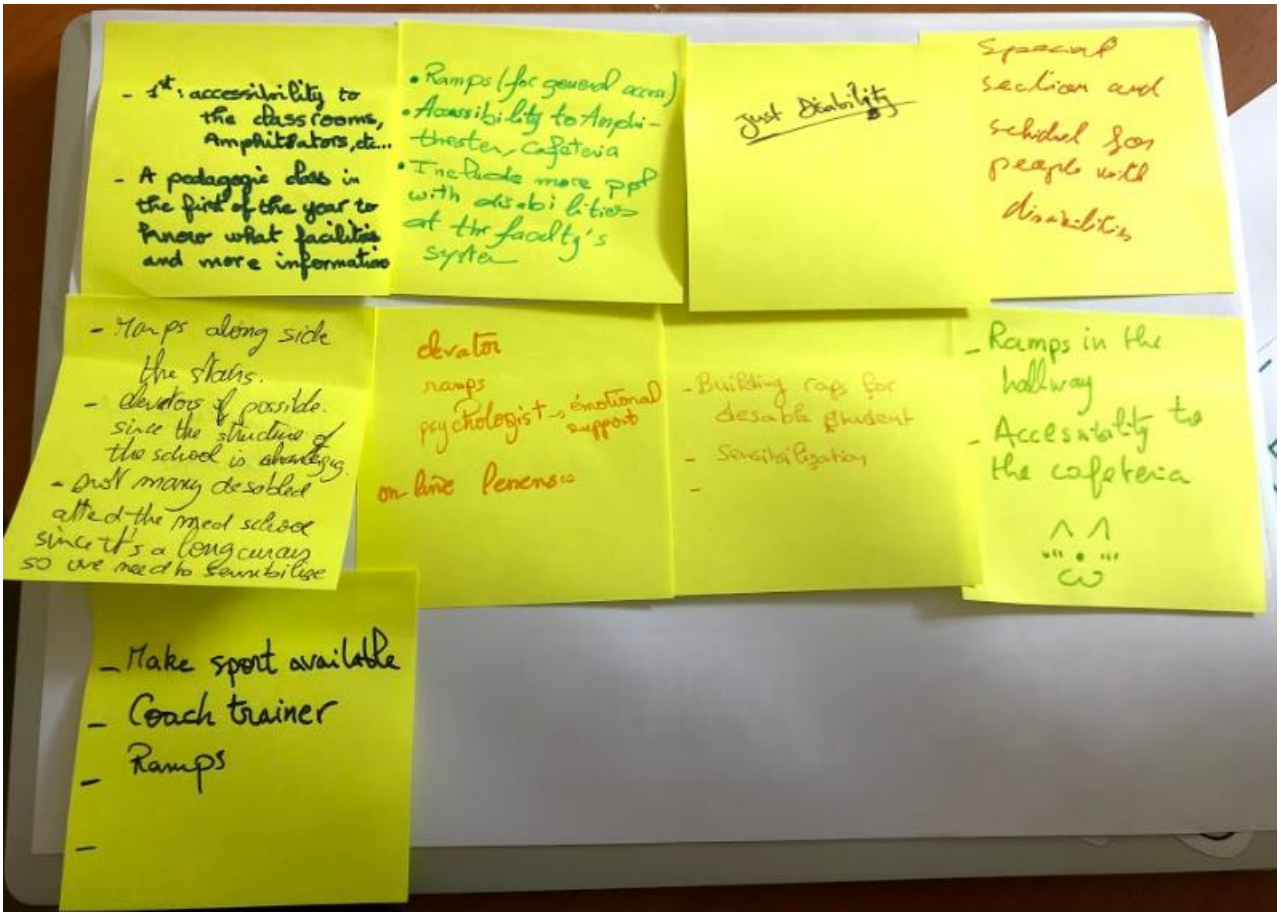


Figure 27: Individual Recommendations. February 3, 2020.

APPENDIX H: ACCESSIBILITY AUDIT DAT

Room	ADA Standards	Staff Administration	Measurements	Student Administration	Measurements	Student Administration 2	Measurements	2nd Floor Classroom	Measurements	1st Floor Theater	Measurements	Printing Office	Measurements	Labs	Measurements	Cafeteria	Measurements
Operable Door Handle		Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes	
Door Handle Height	86-121 cm	Yes	111 cm	Yes	110.5 cm 110 cm	Yes	110 cm	Yes	102 cm	Yes	92.5 cm	Yes		Yes		Yes	107 cm
Door Closer		Yes		Yes		Yes		Yes		No		Yes		Yes		Yes	
Accessibility Sign		No		No		No		No		No		No		No		No	
Door Width	<81 cm	Yes	87.4 cm	No	72.5 cm 91 cm	No	78 cm	Yes	131 cm	Yes	86.5 cm	Yes	93 cm	No	79 cm	Yes	
Vertical Threshold	<0.64 cm	No						Yes	1.4 cm	No	7 cm	No	4 cm				
Elevator	<137 cm	Yes	105.5 cm		104 cm (Countertop)		104 cm (Countertop)		53.7 cm (Table)						87.8 cm (Table)		110 cm (Counte
Elevator Interior																	
Elevator Opening	>81 cm	No	75.2 cm														
Control Buttons																	
Floor Surface		Yes		Yes		Yes		Yes		No		Yes		Yes		Yes	
Carpet		No		No		No				No				No		No	
Securly Attatched																No	
Ramp Width	>91 cm											Yes	102 cm				
Stable Surface												Yes					
1:12 Slope	1:12											No	H: 56 cm L: 425 cm				
Accessible Toilet		Yes		No		No				No		No		No		No	
Accessible Toilets Signs		No												No			
Accessible Route		Yes												No			
Sink Clearance	>68 cm , >20 cm	No		Yes	77 cm 18 cm	Yes	77 cm 18 cm				74.5 cm 32 cm		74.5 cm 32 cm	Yes	67 cm 30 cm	No	67 cm 38 cm
Operable Faucet		Yes		No		No								Yes		Yes	