

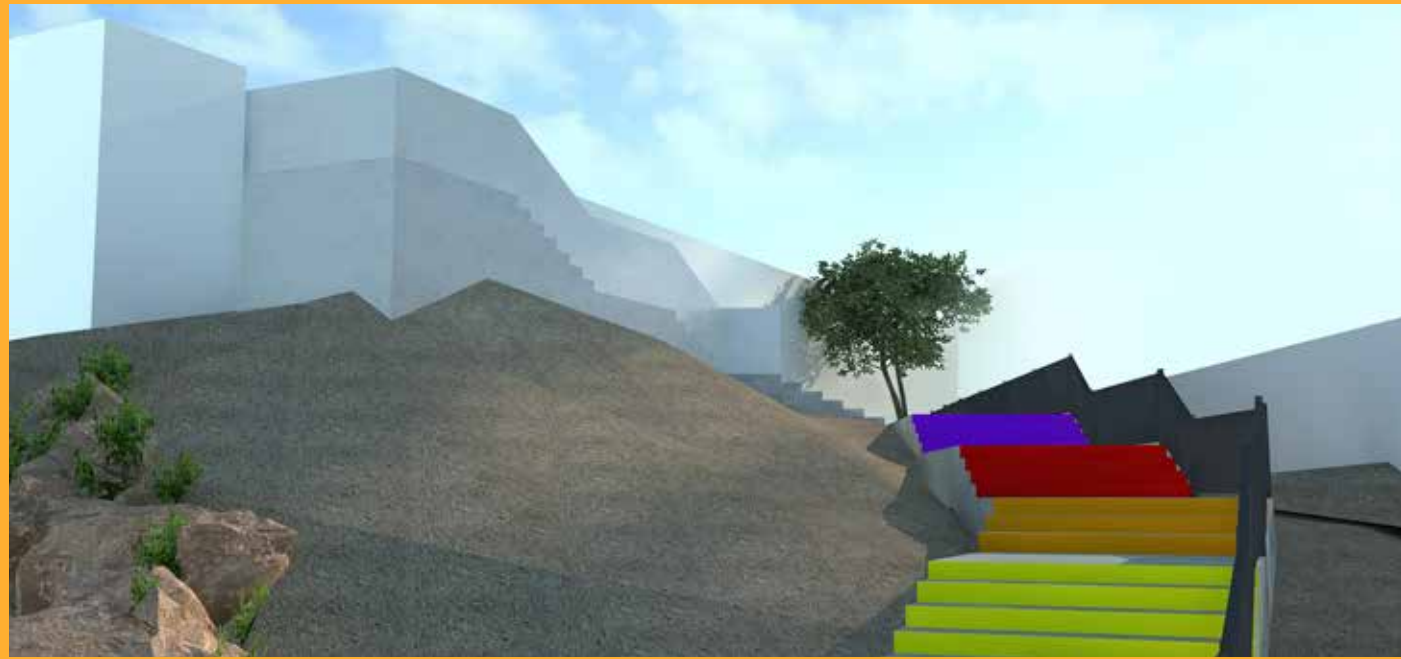
ENHANCING CIVIC RESPONSIBILITY OF YOUTH IN SCHOOLS

USAID Civic Initiative Support Program



A GUIDE TO PARTICIPATORY DESIGN: WORKING WITH YOUTH IN SCHOOLS

Prepared by the Centre for the Study of the Built Environment (CSBE)
Final Draft as of June 03, 2018



Rendering of proposed improvement at Safout School for Boys.



Rendering of proposed improvement at Rumman School for Boys.



Rendering of proposed improvement at Salhoub School for Girls.

ENHANCING CIVIC RESPONSIBILITY OF YOUTH IN SCHOOLS

CSBE Team

Project Manager: Lara Zureikat

Design and Workshop Team: Afnan Barqawi, Ali Attari, Sandy Naffa, Tooma Zaghloul, Samia Kayyali, Zein Abu Hassan, and Yasmine Abuzeid.

Interns: Omnia Hussian.

Authors

Mohammad al-Asad

Lara Zureikat

Sandy Naffa

Afnan Barqawi

Ali Attari

Yasmine Abuzeid

Thanks To

We would like to thank the following organizations and individuals for facilitating the realization of the “Enhancing Civic Responsibility Among Youth in Schools” project.

The Queen Rania Teacher Academy with special thanks to Norma Nemeh,

Dr. Raeda Qussar, Reem al-Far, and Ghada Khalarshah.

Waleed al-Nimer, headmaster, al-Rumman School for Boys

Marwaan Abu Arteemieh, headmaster, Safout School for Boys

Hayat al-Ahmad, head mistress, Salhoub School for Girls

Rama Ishaq, Ala' Alhusseini, and Ahmad Samouh from FHI 360

We would like to thank the following companies for their Contributions to the costs of construction of the school grounds improvements:

Zain Jordan

Ivy Hygiene Solutions

National Paints

Musco Lighting

Ur-Garden

CSBE would also like to thank the following friends and colleagues for the valuable contributions to the realization of the project:

Laith Qasem

Thamer Obeidat

Emile Haddad

Reem Kattan

Zeid Haj-Hassan

Majed Sabbarini

Suzan Abdelkader

Dima Toukan

Photo credits

Wajeeh Saqf El-Hait

Yasmine Abuzeid

Afnan Barqawi

Ali Attari

Mural Artist

Suhaib Attar

Manual Design

Yasmine Abuzeid



Funding Agency
United States Agency for
International Development
(USAID)



Initiated and Supported by
FHI 360



Concept and Implementation
The Center for the Study of the Built
Environment (CSBE)



Additional Support
Queen Rania Teacher Academy
Ivy Hygiene Solutions
Zain Jordan



This publication is made possible by the generous support of the American people through a grant from the USAID Civic Initiatives Support Program implemented by FHI 360 with financing from the United States Agency for International Development (USAID). The contents are the responsibility of the Center of the Study of the Built Environment (CSBE), and do not necessarily reflect the views of USAID, the U.S. Government, or FHI 360.



TABLE OF CONTENTS

01 INTRODUCTION

Pilot Project Summary.

05 SECTION I: PARTICIPATORY DESIGN

07 SESSION 1

Mental Mapping, Interview/Survey, and Registration.

11 SESSION 2

Drawing an Architectural Map.

15 SESSION 3

Developing a Base-Map and Site Analysis.

19 SESSION 4

Survey Data Collection and Elements of Design.

23 SESSION 5

Summarizing the Design Process and Designing a Mural.

27 SESSION 6

Design Setting-Out and Model Making.

31 SESSION 7

Final Design (Construction Documents).

33 SESSION 8

Sustainability Plan.

36 SECTION II: IMPLEMENTATION

38 MURALS

Painting of murals in the three Schools.

41 FINAL DESIGN

Final products in the three Schools.

61 LESSONS LEARNED

Lessons learned throughout the implementation process.

62 APPENDICES

Appendices 1 - 7.

INTRODUCTION

This manual is intended for use by architects, designers, and other professionals working in the fields of environmental design who wish to apply participatory processes in the design and building of community spaces, particularly in school environments.

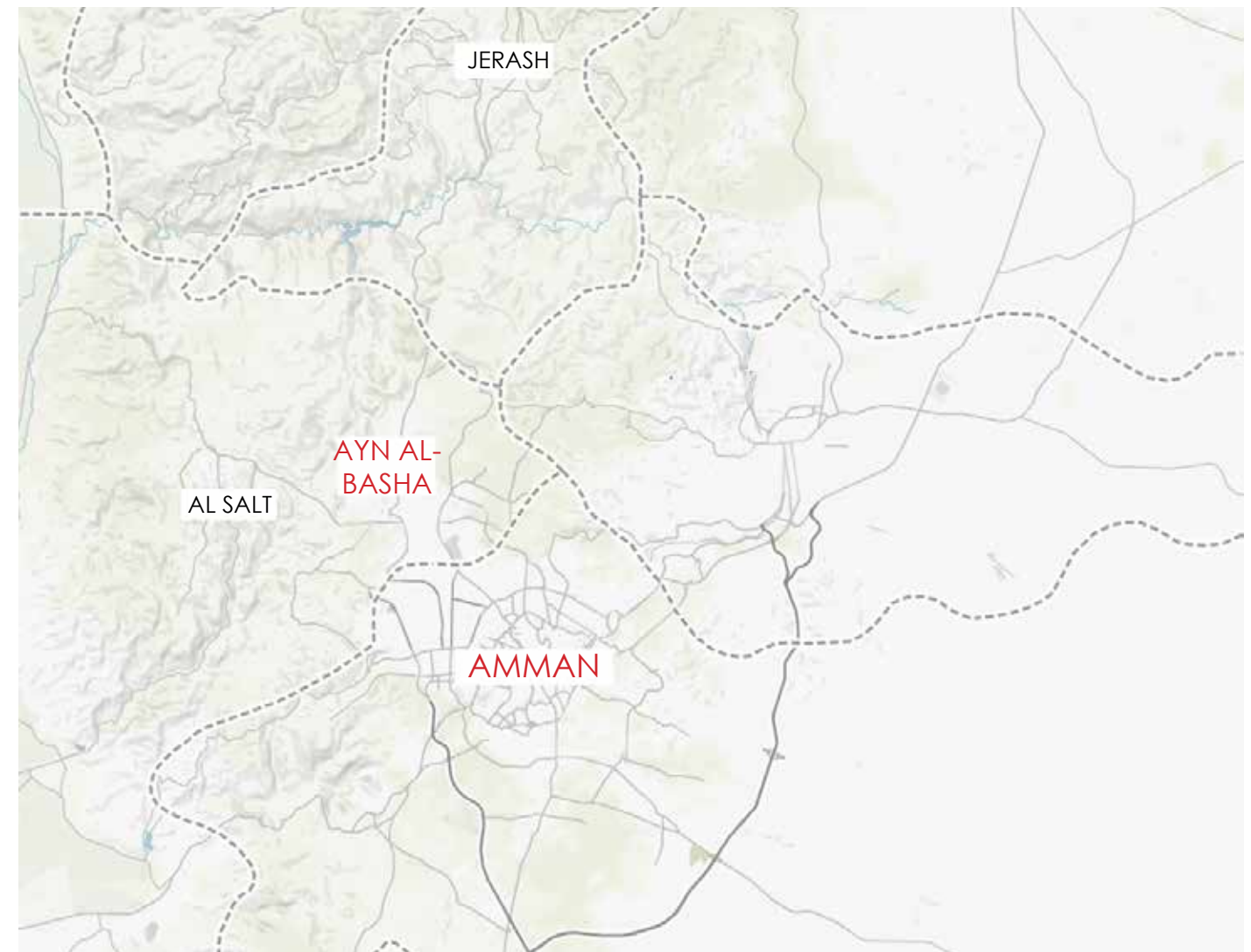
Participatory design is an approach to design attempting to actively involve all stakeholders in the design process to help ensure that the results meet their needs. It allows for a more responsive design and encourages user by-in as well as a higher degree of ownership and responsibility towards one's environment.

The process described in this manual was developed for the Jordanian context, but it may be applied anywhere.

The manual documents a participatory design process conducted during the implementation of the Center for the Study of the Built Environment's pilot project "Enhancing Civic Responsibility Among Youth in Schools". The project was funded by the United States Agency for International Development (USAID) through a grant from the USAID Civic Initiatives Support Program implemented by FHI 360. The project was also conducted in partnership with the Queen Rania Teacher Academy.

The aim of the pilot project accordingly is to promote civic engagement and civic responsibility, and also build up a sense of belonging among students, their families, and other members of the community towards the public sphere. The project furthermore aims at enabling and facilitating the creation of an environment that gives students and other members of the community a sense of empowerment and that allows them to become agents of positive change through participatory processes.

The participatory process described in the next section can be applied to both private and public schools. Private school students generally tend to be more exposed to design education than public school students as many high schools in Jordan offer design classes. The content in this manual was developed for public school students who have no prior background in design.



Map showing location of Ayn al-Basha with reference to Amman.

PILOT PROJECT SUMMARY

The project provided public-school students with opportunities to take part in designing and implementing improvements to their school grounds. In collaboration with the Queen Rania Teacher Academy, three public schools, in the Ayn al-Basha area, at the outskirts of Amman were selected. The selection process focused on schools located in less privileged areas where the administration is open to such an activity, and where a clear need for grounds improvement is evident. The three selected schools were: Rumman School for Boys, the Safout School for Boys, and the Salhoub School for Girls. Students from different grade levels were selected to participate in the project for the pilot: The 7th grade class at Safout, the 9th grade at Salhoub, and a mixture of students from grades 5-10 at al-Rumman.

Several interactive sessions, detailed in Section I, were conducted with the students and their teachers. During the first phase of the project, CSBE introduced students to the different stages of the design process, and worked closely with them in order to determine the improvements they wished to see in their school grounds. During the second phase of the project, the students participated in the implementation of the construction and finishing works, and came up with plans to maintain and sustain the improvements.



PROJECT START-UP

SELECTION OF SCHOOLS

The most important factor in selecting schools is locating ones with administrators who are open and committed to participating in such a project. A supportive administration is necessary in scheduling the needed time with the students, and in arranging some of the project logistics. In many cases, enthusiasm may not be followed by the necessary commitment. Partnering with organizations in the education sector who generally have established relationships with schools greatly facilitates the process of selecting willing and committed schools.

Although the focus of the participatory design process is fostering a sense of ownership and responsibility towards one's environment, the process does result in physical improvements that benefit schools. It is therefore recommended to select schools with little resources and in less privileged areas.

If more than one school is selected to apply the process concurrently, it is recommended to select schools in close proximity. In most cases, sessions with students may be scheduled in multiple schools on the same day at different time slots.

Working in schools requires governmental approvals from the Ministry of Education (MoE). A detailed project brief along with details of the activities to be implemented in each school should be submitted to MoE for approval. When approvals are granted, the MoE sends the approval letter directly to the Directorate of Education in the designated area. The Directorate is then responsible for forwarding the approval letter to the selected schools. It is recommended to get a copy of the approval letters for one's records.

Once approvals are granted, the project team should meet with the selected school administrators and teachers to explain to them the aims of the project. Preliminary feedback on what types of improvements the administration would like to see take place may also be sought during the initial meeting.

PARTICIPATORY DESIGN PROCESS GUIDE

The participatory design process guide is divided into two sections. Section I describes the participatory design process, and Section II describes the implementation of the proposed designs.

SECTION I: PARTICIPATORY DESIGN SESSIONS

PARTICIPATORY DESIGN WORK WITH STUDENTS

This section provides a how-to guide for conducting participatory design work with school-age children and youth. It consists of eight to ten interactive sessions. The number of sessions detailed below (eight) is the minimum number recommended in order to achieve a satisfactory result. If additional time is available, additional sessions may be conducted. In that case, the group-work segments outlined below may be extended over longer periods of time.

A typical session usually includes a PowerPoint presentation, a group or individual exercise/discussion, and a homework assignment that typically lasts one hour. Sample PowerPoint presentations used in the pilot project are included in the appendix.

As many of the sessions include in-class exercises and group work, we recommend that there be one facilitator for every five students in each session.

The sessions include some preparatory work before the session, and documentation work after each session.

The use of a camera, laptop, and a projector is often needed in most of the sessions. This equipment is best provided by the facilitating team, although many public schools in Jordan do have computer labs with decent facilities.



DETAILED CONTENT OF PARTICIPATORY DESIGN

SESSION 1: MENTAL MAPPING, INTERVIEW/SURVEY, AND REGISTRATION

Objective:

The purpose of the session is to understand how students perceive their school grounds, and to gain insight into which aspects they like, which aspects they dislike, and which aspects they would change given the opportunity to do so.

Materials:

- Blank A3 paper.
- Pencils.
- Color pencils, markers, and other coloring materials.

Pre-prepared Materials:

- Class attendance list that includes the name, age, and gender for each student (one copy per class).
- Interview form (one copy per student).

Session Content:

- Drawing a mental map (twenty to thirty minutes).
- Interviewing students (two to three minutes per student).
- Registration (two to three minutes per student).



Drawing a Mental Map:

1. Distribute a blank A3 size sheet of paper to each student.
2. Ask each student to draw his/her school grounds on the sheet of paper. The drawing can be a plan or "map" or a less formal representation of the school grounds. If students have difficulty drawing, they may write a description.
3. Students may use pencils, pens, color pencils, markers etc...
4. As the students engage in the exercise, the facilitator should stress the following:
 - This is not a graded exercise.
 - There is no right or wrong answer.
 - The drawing should be a personal drawing that expresses the students conception of the grounds and not a copy of his/her neighbor's drawing.

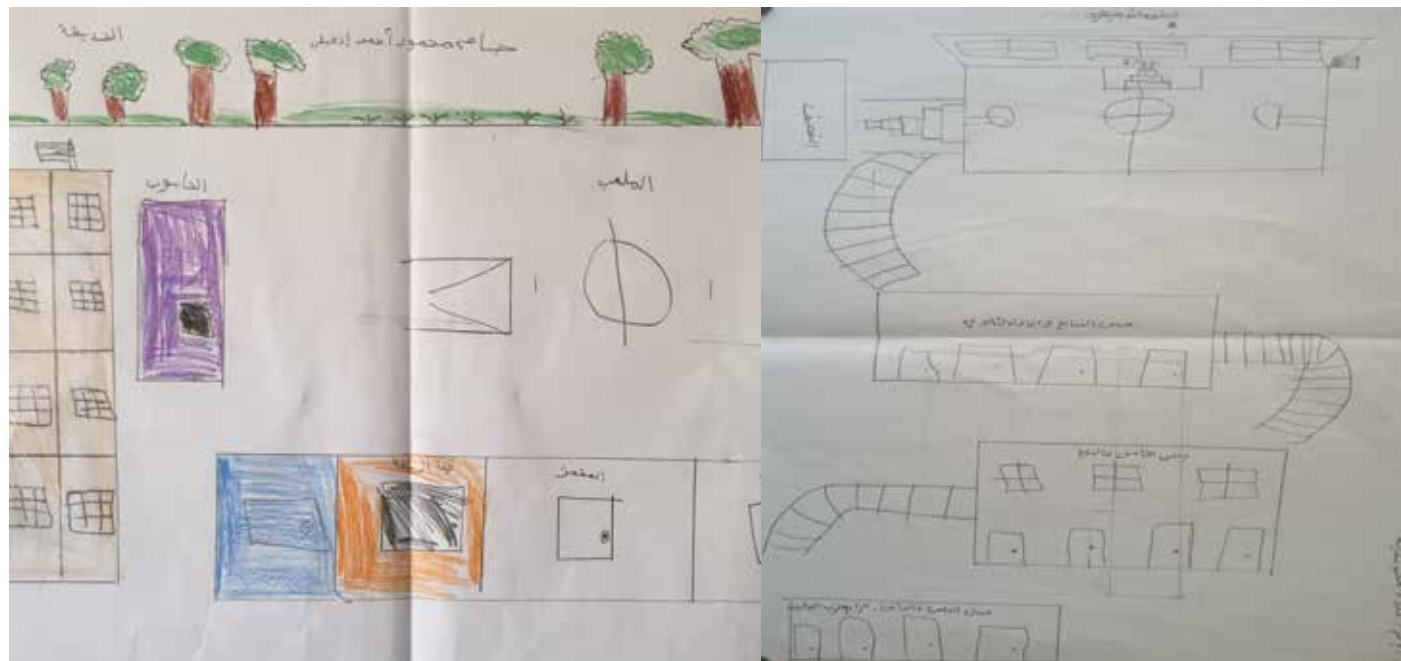
Background information for the facilitator on mental maps:

- It is a tool used in behavioral geography.
- It is "a person's point-of-view perception of their area of interaction".
- It is used to determine subjective qualities and personal preferences.
- The most influential study of mental maps (or what he refers to as sketch maps) was carried out by Kevin Lynch in his *The Image of the City* (Cambridge, Mass., 1960), pp. 59 – 140.
- Participants are usually asked to draw a particular space or place they use in their daily lives. The space may range from the scale of the city to the scale of one's backyard.

Explanation of the Mental Map Drawings by the Students to the Facilitators and Baseline Interview:

As each student completes his/her mental map drawing, s/he should turn in the drawing to one of the facilitators. Students will typically take different amounts of time to complete their drawings. As soon as a student is done with the drawing, s/he should be directed to show his/her drawing to one of the facilitators. The facilitator should then:

1. Ask the student to explain his/her mental map drawing.
2. Make sure to ask the student what each drawn element refers to.
3. Write notes in pencil on the drawing explaining each element.
4. Raise further inquiries should they come up.



Sample mental maps drawn by students during the pilot project.

5. The facilitator should at this point also conduct the baseline interview with the students. The interview is to include the following questions:
 - Which elements do they like?
 - Which elements do they dislike?
 - Given the option, which aspects of their school grounds would they change or improve?

Registration:

As each student finishes his/her interview, s/he will move to the final station to have his photograph taken.

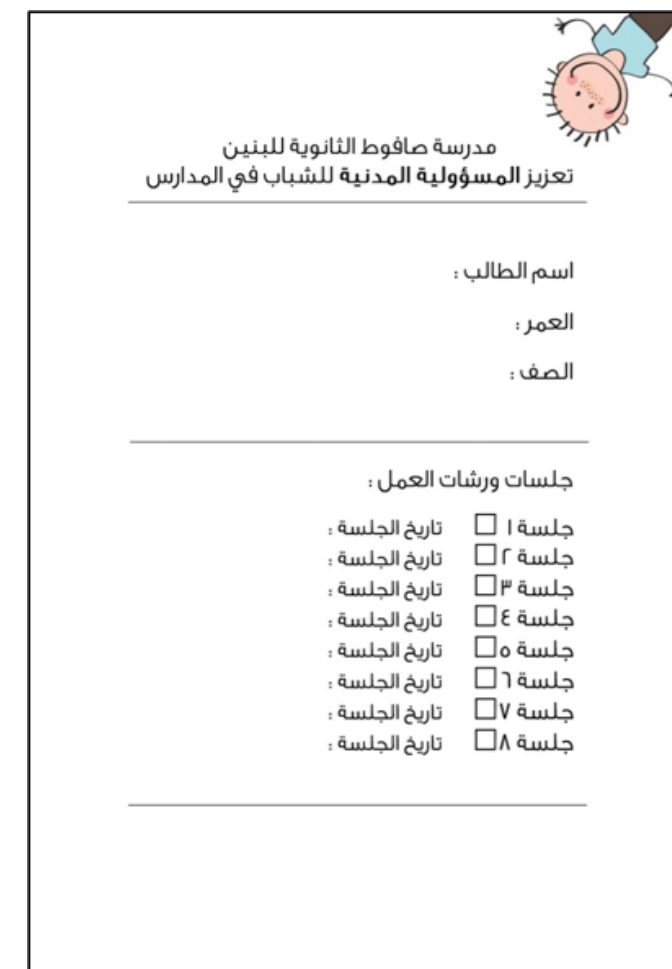
- Photograph each student against a neutral background.
- Each student should hold a name tag with his/her name written on it in order to relate the name to the photo.



Sample photograph of student to be used in making the ID badge.



Sample ID badge.



Sample attendance sheet.

Post-Session Analysis and Documentation:

- Scan or photograph all mental map drawings.
- Prepare a documentation spread sheet; record the type of elements drawn by each student.
- Record the students attendance for the session.
- Note recurring elements/themes in the drawings.
- Prepare a badge for each student using the photographs taken during the session.



Presentation:

The presentation should introduce the students to the various design disciplines such as industrial design, architecture, interior design, landscape architecture and urban design, and help them understand and read architectural drawings, and emphasis the purpose of and need for design. Refer to [Appendix 1](#) for the a sample detailed presentation.



A sample presentation slide intended to explain how function drives design.

SESSION 2: DRAWING AN ARCHITECTURAL PLAN

Objective:

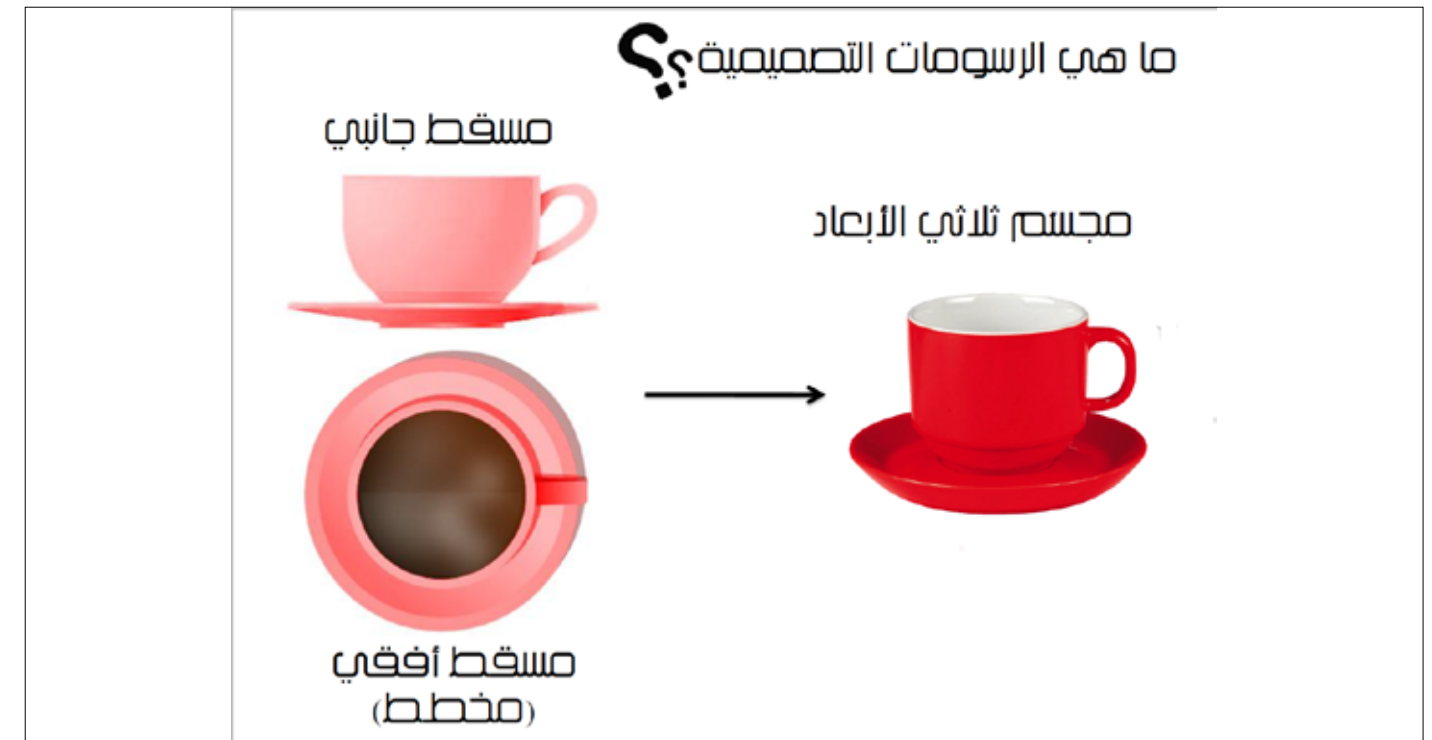
The objective of the session is to explain to the students the purpose of design, to introduce them to the various design disciplines, and to teach them how to draw a simple architectural plan.

Materials:

- Blank A3 paper.
- Pencils.
- Rulers.
- Color pencils, markers, and other coloring materials.
- Furniture block stickers.
- Laptop.
- Projector.

Session Content:

- Presentation (twenty minutes). [\[see sample in Appendix 1\]](#)
- Group activity - measuring and drawing the classroom (thirty-five minutes).
- Explanation of the homework assignment: measuring and drawing each student's living room (five minutes).



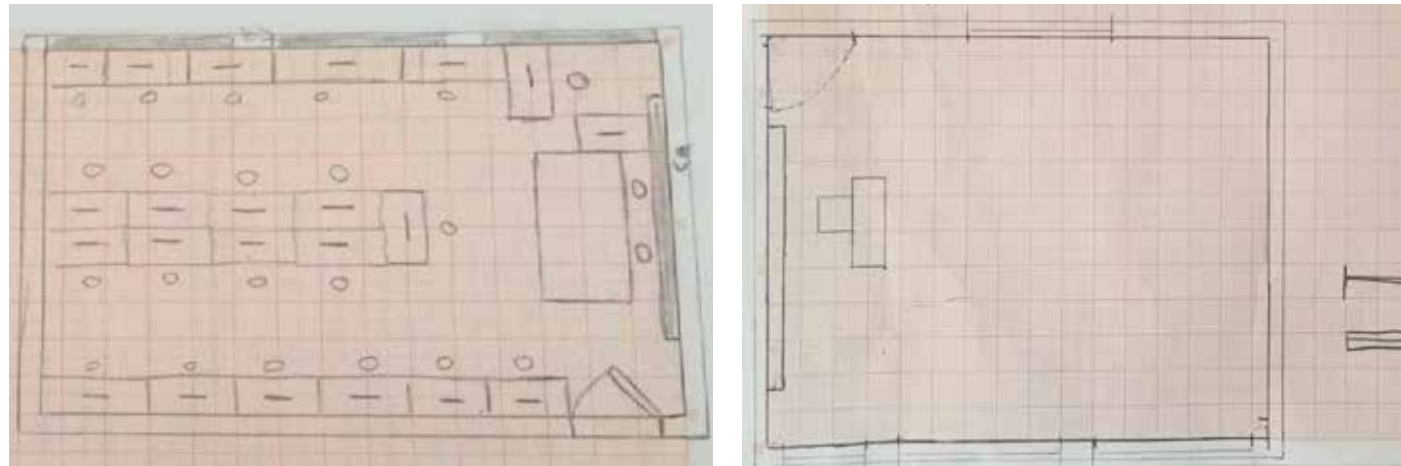
A sample presentation intended to explain the plan (top view) and elevation (side view).

Group Activity - Measuring and Drawing the Classroom:

1. Divide the students into groups of four to five students.
2. Distribute one piece of graph paper to each group.
3. Assign two students to do the measuring of the classroom elements, and one student to draw the drawing. The other two to three students will assist and/or alternate in the drawing activity.

The measuring is done by counting the number of floor tiles in the classroom. Each tile corresponds to a square on the graph paper provided for completing the drawing. For example, if there are fifteen tiles across the length of the classroom, the students should count fifteen squares on the graph paper to represent the length of the classroom on the drawing.

The students are to draw the classroom walls, door, and windows. In addition, if time allows, other elements such as tables, chairs, and the blackboard may be added to the drawing.

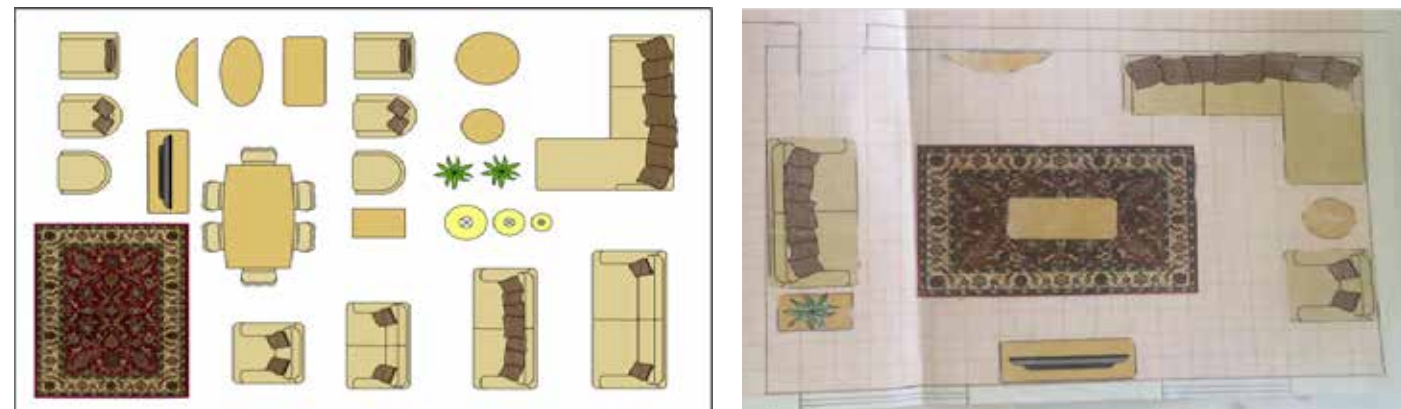


Sample drawings of classrooms on graph paper.

Homework Assignment - Measuring and Drawing the Students Living Rooms

Each student is to measure and draw a plan of his/her living room using graph paper and pre-made furniture block stickers (the living room is a good example, but they can draw another room in their house if they prefer).

- Make sure all the students understand the assignment.
- Distribute the pre-made furniture block stickers (sofas, chairs, table, etc...) to the students.



Sample furniture block stickers.

Sample of completed homework assignment.

Post-Session Analysis and Documentation:

- Scan or photograph each drawing done by the students.
- Record the students' attendance for the session.



SESSION 3: DEVELOPING A BASE-MAP AND SITE ANALYSIS

Objective:

The purpose of the session is to introduce the students to the components of a base-map and to the process of analyzing a site. The students are to apply this gained knowledge in conducting a site analysis activity on their school site.

Materials:

- Blank A3 paper.
- Pencils
- Color pencils, markers, and other coloring materials
- Sticker blocks (trees, arrows, benches, etc...)
- Glue stick
- Laptop
- Projector

Pre-prepared Materials:

- A printed basic site plan of the school site. Prepare one copy for each group of students (groups should consist of four to five students each).
- Site plan furniture blocks such as trees, benches, soccer goals / sports field equipment, lighting poles, etc...
- A PowerPoint presentation that introduces the students to the components of a base-map and to the concept and method of site analysis.

[see sample in [Appendix 2](#)]

- Survey questions printed on A4 paper (each survey is to be carried out by two students).

Session Content:

- Collection of the homework assignment* from Session 2 (two minutes).
- Presentation (twenty minutes).
- Group activity - Drawing the school base map and conducting a site analysis carried out in groups of four to five students (thirty-five minutes).
- Explaining the homework assignment (three minutes).

*After collecting the homework assignment from the previous session, ask the students what they thought of it. Was it difficult? Was it enjoyable?



Presentation:

The first part of the presentation should introduce the students to the concept of a base-map and its components. An aerial photograph and site plan of the actual school should be presented along with main elements such as buildings, entrances, roads, fences, etc... The presentation should focus on how to conduct a basic site analysis. Refer to [Appendix 2](#) for a sample detailed presentation.

Tips:

- Use simple symbols for the site analysis such as a drawing of the sun to delineate "sunny areas".
- Use the actual school site as an example to explain the site analysis method.
- Ask the students questions during the presentation to encourage participation.



Sample slide intended to explain the concept of a base map.



SESSION 4: SURVEY DATA COLLECTION AND ELEMENTS OF DESIGN

Objective:

The purpose of the first part of the session is to demonstrate a participatory approach to decision-making by compiling the results of the survey/interviews conducted by the students and to stress the importance of the participatory process to achieve long term sustainability. The purpose of the second part of the session is to assist the students in coming up with design solutions based on their needs, desires, and the information collected.

Materials:

- White or black board with markers or chalks.
- Pencils.
- Color pencils, markers, and other coloring materials.
- Blank A3 paper.
- Laptop.
- Projector.

Pre-prepared Materials:

- PowerPoint presentation outlining the process of design and showing different ideas/ images for inspiration. [\[See sample in Appendix 3\]](#)
- A site plan/base-map of the school grounds.
- The site analysis sheets.

Session Content:

- Compiling the results of the survey/interviews conducted by the students (twenty minutes).
- Q&A discussion (five minutes).
- Presentation (ten minutes).
- Group activity - improving the school-grounds design (twenty five minutes).

Compiling the Results of the Survey/Interviews:

In groups of two - as assigned during the previous session, students should present their findings by reading the answers they got to the interview questions. One of the facilitators should write all the results on the board and summarize the answers. The interview questions should be written in table form on the board. Answers should be filled in by the facilitator in each row/column after each group presents.

Q&A Session:

After summarizing the survey results, the facilitator should lead a brief discussion focusing on the concepts of inclusion and sustainability by asking the following questions to the students: What is participatory design? Why do we implement participatory design? What are the benefits of participatory design? Can participatory design improve sustainability?

Tips:

- Choose the students who are willing to answer questions without embarrassing other students who do not show any interest in participating.
- Encourage the students to answer by using different games such as tossing a small ball to the student who volunteers to answer a question. That student may then toss the ball to the next volunteer.
- If the students' answers do not adequately answer the question, try to reorient their thoughts by giving them more examples and asking simpler questions.



Presentation:

The presentation should focus on design elements usually found in the school grounds such as sports fields, benches, stairs, and murals can be presented to students in order to inspire their imagination and help them visualize the school ground design for the next step. Refer to [Appendix 3](#) for a sample detailed presentation.

Tips:

- Present a variety of design concepts for each element.
- Focus on the elements that can be implemented in each school based on the school ground conditions and the budget.



Group Activity - Improving the School Grounds Design:

Working in groups, the students are to document and draw new elements they would like to add to their school grounds. Also identify any existing elements they would like to improve.

- Divide the students into groups of four to five students.
- Distribute the pre-prepared site plan of the school.
- Begin by asking the group what elements they would like to add or improve upon.
- Remind the group of the survey results discussed earlier in the session.
- Have the students draw or write suggestions on the plan.
- The facilitators should check each group's work process and provide them with any help they may need.



Post-Session Analysis and Documentation:

- Document, compile, and analyze the collected data from the survey/interview.
- Scan or photograph all the students' drawings.
- Record the students' attendance for the session.
- Review the students' drawings to register what elements they want to have in their school grounds, what elements they removed, and what elements they want to improve upon.
- Prepare design drawings incorporating all the ideas generated by the students. The drawing set should include typical architectural drawings used in client presentations, including plans, sections, elevations, and three dimensional drawings. This activity will take time to prepare. It is recommended that the next session be scheduled accordingly.

Fourth session 22.03.2016						
Group number	Student name	class	Target group	Which elements do they like?	Which elements do they dislike?	Which aspects would they change or improve?
1	علي عبداللطيف النور	السابع	Students	Football field, Garden	Car parking place, Running the school properties, Writing and drawing on the class room walls	Leveling the football field ground, Planting trees, Painting the class room walls, Fixing the bathrooms
	قتيبة عبد اللطيف النور	السابع				
	حسام محمود أحمد الداهلي	الخامس				
2	أحمد فايز ابو جرار	السابع	Students	Football field, kiosk, Garden	Bathrooms, Fights between students	Changing bathrooms fixtures, Football field, new football goal
3	أحمد عبد الحي سالم النور	السابع	Students	Football field, Garden	Garbage, Bathrooms, water fountains, water tanks	Collecting garbage from the garden, New water fountains and water tanks, painting classrooms walls
	سهوبه راضي موسى الخوالدة	الثاني				
4	عيسى عبد الحي سالم النور	الخامس	Students	Football field, kiosk, Garden, computer lab	Bathrooms, water fountains, Shading element	Football field, improving the garden and planting more trees
	حسام محمود أحمد الداهلي	الخامس				
5	احمد عبد الله اسحاق الغوياتي	الثاني	Teachers	Football field, Garden, upper ground	Car parking place, Football goal, The flooring texture of the play ground.	New water fountains, improving the garden, Football field
	محمود عبد الحي سالم النور					
6	فارس امين عبد الحليم الحارثي	الثاني	Students	Football field, Garden	Fights between students, Bathrooms	Football field, Garden
	صبيح بانف الخوالدة	الثاني				

Sample of analysis of data collected from the survey/interview at one school.



SESSION 5: SUMMARIZING THE DESIGN PROCESS AND DESIGNING A MURAL

Objective:

The purpose of the session is to summarize the design process conducted in the previous sessions, and to summarize the ideas that each group came up with to improve the school grounds. The students will also review the design prepared by the facilitating team to insure that it incorporates all their main needs/ideas.

Materials:

- Color pencils, markers, and other coloring materials.
- Pencils.
- Magazines or other images for collage making.
- Children's scissors.
- Glue stick.
- Laptop.
- Projector.

Pre-prepared Materials:

• Printed preliminary design drawings that take into account all the improvement "wish lists" of the students. Presentation summarizing the design process and the work carried out in previous sessions, including examples of the students' work, the prepared preliminary design incorporating the ideas of the students and images of different design developments that may included in the final design.

[See sample in [Appendix 4](#)]

- Murals are often cost-effective and relatively easy to implement. If this design improvement is to be carried out, prepare a printed paper with the selected school wall or mural area (elevation), or any other design improvement that came up during the previous sessions.
- Summary sheet of the proposed design on an A3- paper. The sheet may include a plan and/or a 3D drawing. (1 sheet for every 2 students)

Session Content:

- Presentation and discussion (twenty minutes).
- Design development activity – mural design or other (thirty five minutes).
- Explanation of the homework assignment - get feedback from other students on the proposed design (five minutes).

Presentation and Discussion:

The presentation should be a summary of the design process and the work carried out in previous sessions. It should include samples of the students' work: the drawings of the classroom, the site analyses, the analyzed results of their surveys/interviews, and the preliminary design drawings for the implementation of the proposed improvements. The presenter should pause between slides and engage the students in making comments. Refer to [Appendix 4](#) for a sample detailed presentation.

- Remind the students of the design process they learned in Sessions 3 & 2 (drawing a plan, conducting a site analysis, considering functions and activities).
- Recap the survey/interview results collected by the students in Session 4.
- Present the preliminary design that was drawn up by the facilitating team based on the survey results and the group design activities.
- Ask the students to evaluate the proposed design, and to give their objections and suggestions.

Design Development Activity - Mural Design or Other Activity:

Mural designs are relatively inexpensive and are conducive to participatory activities in their implementation. They also provide students with the opportunity to exercise their creativity and to propose individual artistic outputs. Other design development activities may also be proposed, such as the design of seating, paving, or trashcans.

- Distribute drawing materials and plain paper or a pre-prepared elevation drawing of the proposed mural area.
- Distribute magazines or other collage materials.
- Ask the students to imagine what they would want the mural to look like and what elements they would like to include in it. Students may draw/color and/or make collages using cutouts from magazines or other printed images.



Sample mural designs done by students.



Homework Assignment – Design Review Survey:

- Ask the students to divide into groups of two
- Distribute the A3 - design summary sheets to each group
- Ask the students to show the design to at least five other students and to get their feedback on the proposal. The students may ask the following questions: Do you like the design? Do you have any suggestions?

Post-Session Analysis and Documentation:

- Develop/revise proposed designs based on feedback from the session.
- Conduct cost estimates for the proposed designs.
- Scan or photograph the mural drawings/design development activity.
- Record the students attendance for the session.



SESSION 6: DESIGN SETTING-OUT AND MODEL MAKING

Objective:

The purpose of this session is to help students put everything together and visualize the different improvement proposals for their schools. Students should be shown the final detailed designs prepared by the facilitating team, and should participate in an interactive exercise to visualize these plans on the site itself. Additionally, students should be introduced to the concept of costs and budgeting. Subjects for discussion include materials, construction costs, and labor.

Materials:

- Measuring tape.
- Rolls of colored duct tape.
- Colored rope.
- Wooden pegs.
- Chalk.
- Play dough.
- Foam board.
- Laptop.
- Projector.

Pre-prepared Materials:

- Final design drawings for the proposed designs/improvements that include dimensions and benchmarks for the setting-out activity.
- Computer-generated three-dimensional models of the proposed designs/improvements.
- PowerPoint presentation showing the proposed designs/improvement, cost estimates, and budgets. [See sample in [Appendix 5](#)]
- Base-maps for model making.

Session Content:

- Presentation and discussion (twenty minutes).
- On-the-ground visualizations or model making (thirty to forty minutes).



Presentation and Discussion:

The presentation should show the final proposed design and introduce the concepts of cost estimates, budgeting, setting design priorities, and fundraising. The presenter should pause between slides and engage the students in a discussion. Refer to [Appendix 5](#) for a sample detailed presentation.

- Begin by showing a few examples of the students' mural exercise work from the previous session.
- Show the students the designs that were prepared by the facilitating team using drafting software such as AutoCAD and Sketch Up. Explain the different elements included in the designs so that the students can understand the drawings (use picture examples whenever possible).
- Ask the students to evaluate the final design, and to give their objections and suggestions.
- Ask the students to verbally present the feedback they received from their homework assignment (design review survey). The designated facilitator should record the student's comments.
- Present the pre-prepared cost estimate and discuss the various costs that are involved in the implementation of the project. These includes labor costs, materials, and design costs.
- Show the students the breakdown of the costs as well as the amount budgeted for the implementation.
- Ask the students now that they know more about the project costs of the whole project which elements of the project they prefer over others. Conduct a quick vote (by having the students raise their hands) to determine the improvement priorities.
 - For example, if the improvements include upgrading a soccer field, adding seating, and providing a shade element, ask the students which improvement is the most important to them if the overall cost is over-budget and only one improvement can be built.
 - This part is important because if complete funding is not secured, the students' input needs to be taken into account when deciding which elements to forego.
- Organize a small brainstorming session with the students that discusses how to raise needed additional funds if the costs are over budget.
- Discuss some of the ways you might have used to raise additional funds, and share with the students some successful methods for fundraising.

On-the Ground Visualizations:

Option 1: On-site Setting-out of the Proposed Design Elements

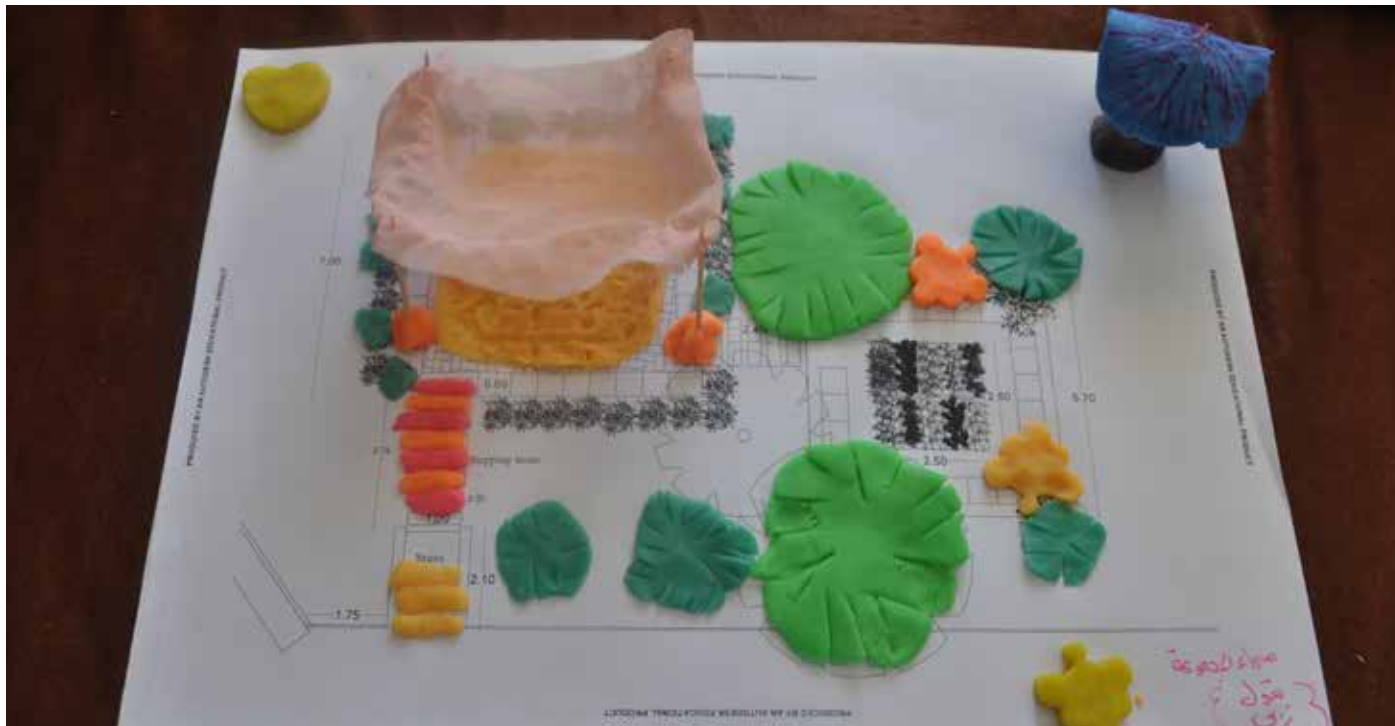
- Assemble the students by the location where the improvements are to take place.
- Depending on the number of students and the number of changes, students may be split into groups of five to six each.
- Distribute the elements to be set-out between the groups. For example, if the proposed improvements include a seating area, an herb garden, and a playground, have one group measure and set-out the seating area, another group the herb garden, and the third group the playground.
- With assistance from the facilitators, students should read the dimensions on the plan and measure out the components on the proposed site at a one-to-one scale using a tape measure.
- Duck tape may be used to indicate the boundaries of proposed improvements such as the outline of a soccer field, seating locations, or the size and outline of a shade structure.



Example of Option 1.

Option 2: Model Making

Physical models may also be used for visualization. Pre-prepared bases for model-making should be done before the session. Play-dough, fabric, wooden pegs, pre-made trees are good materials to use.



Example of Option 2.

The session may include both options (on-the-ground visualizations and model making). The class may be divided into two groups. One group can participate in the setting-out activity and the other group in the model making activity.

Post-Session Analysis and Documentation:

- Update and revise designs based on the feedback on available budgets, the priorities of the students, the design review survey, and the setting-out activity. Draft the construction drawing set. The facilitating team should enlist the support of qualified consultants to produce the needed construction documents. This may include structural engineers, quantity surveyors, or electrical/mechanical engineers.
- Photograph the models (this may be done after the session if models are to be left at the school)
- Fill a documentation spreadsheet for absences and presences for each school.



SESSION 7: FINAL DESIGN (CONSTRUCTION DOCUMENTS)

Objective:

The purpose of the session is to present the final designs to be implemented using drawings, as well as a three-dimensional model (optional). Depending on how much time has passed since the conduction of the previous session, the facilitating team may choose to also review the entire design process with the students. The review should focus on input from the students to encourage them to recount their experience.

Materials:

- Laptop.
- Projector.
- SketchUp or other three-dimensional drawing program.

Pre-prepared Materials:

- Printed final drawing set/construction documents (one set per group of five students).
- PowerPoint presentation showing the final drawing set and a review of the entire design process. [\[See sample in Appendix 6\]](#)

Session Content:

- Presentation (twenty minutes).
- Group work activity - Explaining the final design (two-dimensional and three-dimensional drawings) and answering questions (forty minutes).



Presentation and Discussion:

The presentation should re-introduce the students to the major lessons learned and main points made in each of the previous sessions. Refer to [Appendix 6](#) for a sample detailed presentation.

Group Work Activity – Explaining the Final Design:

Divide the students into groups of four to five students. Distribute one drawing set to each group. The facilitator will begin by explaining the two-dimensional drawings. Explain floor plans, sections, elevations, and detail drawings to students. Ask questions while explaining to make sure the students understand the drawings.

After looking at the two-dimensional drawings, students will get to 'walk-through' a three-dimensional SketchUp model of the intervention that will take place in their school.

Post-Session Analysis and Documentation:

Fill documentation spreadsheet for absences and presences for each school.

SESSION 8: SUSTAINABILITY & MAINTENANCE PLAN

Objective:

The purpose of the session is to have the students contemplate the participatory process and come up with plans, rules, and incentives for maintaining the built improvements implemented in their schools.

Materials:

- Laptop.
- Projector.
- Colored pencils, pencils, and other writing materials.

Pre-prepared Materials:

- PowerPoint presentation. [\[See sample in Appendix 7\]](#)
- Video-clip about existing sustainable practices in schools.
- Printed satisfaction questionnaire forms. [\[See sample in Appendix 7\]](#)

Session Content:

- Presentation (twenty minutes) with a video-clip about existing sustainable practices in schools (two-three minutes)
- Discussion. (ten minutes)
- Filling out the satisfaction survey. (ten minutes)



Presentation and Discussion:

The presentation should re-introduce the students to the major lessons learned and main points made in each of the previous sessions. It should also showcase the changes implemented in each of the schools using before and after images. Students are asked and encouraged to give honest feedback about the changes.

A short video may also be shown of a school's model performance in maintenance practices. For example, schools in Japan require students to conduct the daily cleaning. It is preferable to use local or regional examples if these are available. Refer to [Appendix 7](#) for a sample detailed presentation.

Satisfaction Questionnaire:

The satisfaction survey's intent is to get honest and anonymous feedback from the students about the improvements implemented in their schools. It will also help the team approach similar future projects with a more realistic and practiced knowledge of the students' reactions and opinions.

After looking at the two-dimensional drawings, students will get to 'walk-through' a three-dimensional SketchUp model of the intervention that will take place in their school.

Questions asked:

1. Did you enjoy the participatory sessions with the facilitating team?
2. In general, do you like the improvements made?
3. Do you like the [name of improvement in the school]?
4. Did the [name of improvement in the school] turn out as you expected? If not, why?
5. Do you use the [name of improvement in the school] regularly?
6. Do you have any additional suggestions?

Refer to [Appendix 7](#) for a sample questionnaire sheet.

Post-Session Analysis and Documentation:

- Fill documentation spread sheet for absence and presence for each school.
- Fill in an excel worksheet with the data from the satisfaction surveys at each school.



SECTION II: IMPLEMENTATION

Implementation:

A professional contractor, builder, or other specialized building professional may be hired to implement the designs resulting from the participatory process.

In order to complete the participatory process, the team should include the students in the implementation phase. Painting murals, applying finishing materials, or even helping with stacking concrete blocks, are possible if safety standards can be ensured. The team may also take the students on periodic site inspections to observe the construction process first hand.

Stenciling concrete tiles, painting, or decorating seating with pieces of ceramic tiles are good examples of easy and fun implementation activities.



MURALS:

SALHOUB SCHOOL FOR GIRLS:



RUMMAN SCHOOL FOR BOYS:



SAFOUT SCHOOL FOR BOYS:



FINAL DESIGN:

SALHOUB SCHOOL FOR GIRLS:

BEFORE:



AFTER:

Interventions

1. Outdoor classroom seating
2. Shade Structure
3. Stenciling tiles
4. Herb Garden





Interventions

- 5. Mural
- 6. Stairs to garden

DETAILS:



THE STUDENTS & THE SPACE:



RUMMAN SCHOOL FOR BOYS:

BEFORE:



AFTER:



Interventions

1. Acrylic football field
2. Goal Posts
3. Floodlights
4. Tires: recycled seating
5. Mural

DETAILS:



THE STUDENTS & THE SPACE:



SAFOUT SCHOOL FOR BOYS:
BEFORE:



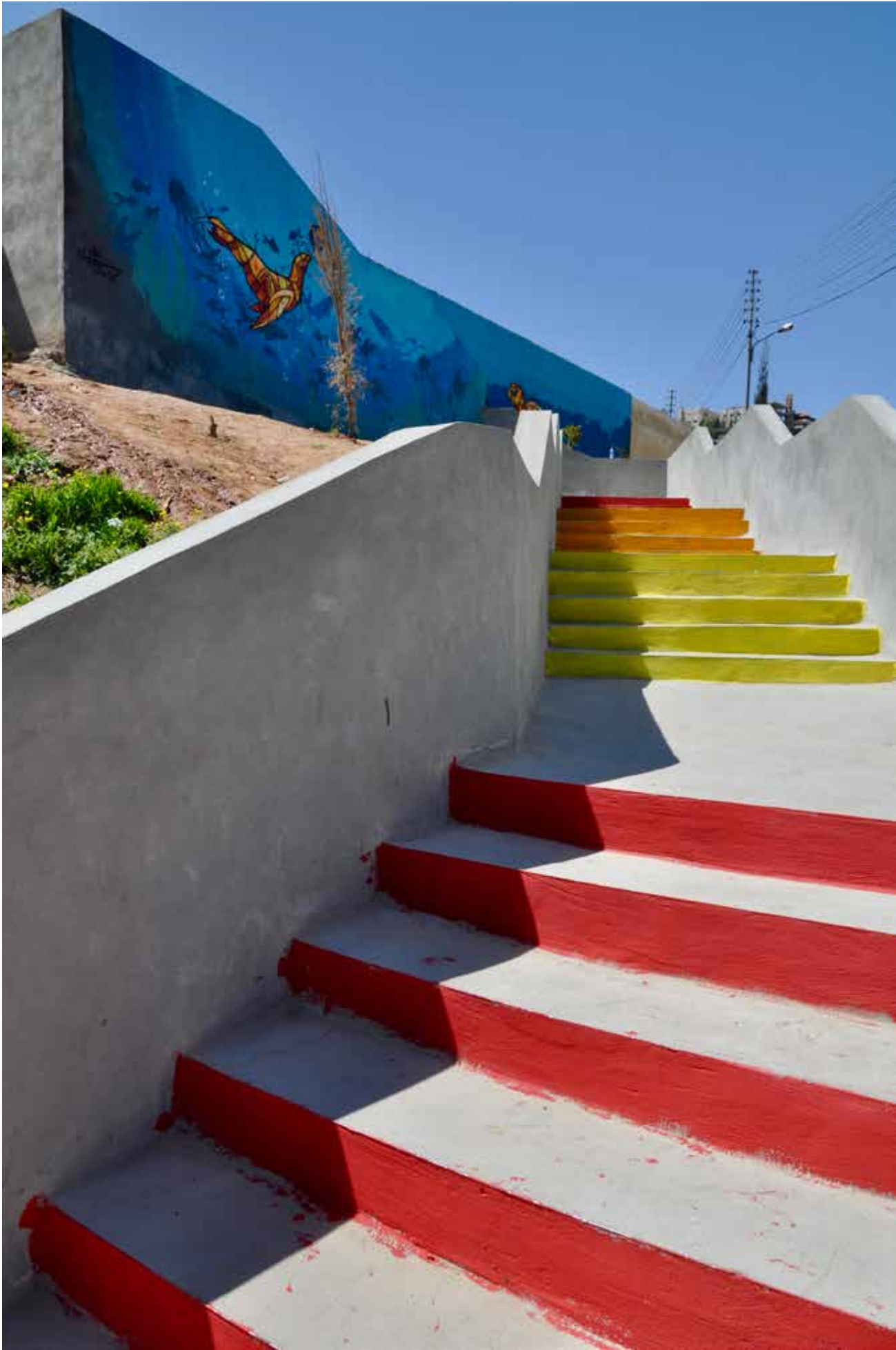
AFTER:



Interventions

1. Stairs: connecting upper and lower buildings
2. Painting stair risers
3. Mural

DETAILS:



THE STUDENTS & THE SPACE:



LESSONS LEARNED:

Since this is a pilot project that we have implemented for the first time, and because of the myriad of changing variables that are part of the implementation process, our team faced some unexpected challenges. Below are the lessons we learned along the way:

1. Positively engaging everyone involved.

Since participatory design is an approach that attempts to actively involve all stakeholders in the design process, there is a need to positively engage all the students and the teachers in a given school. We found that it was more difficult to engage the teachers than initially expected. Teachers tended to have somewhat different opinions and reactions to the changes than the students. Ultimately, this project was designed around the students and their opinions and needs. Also taking the teachers' opinions into account, however, would ensure a higher level of buy-in among the school community in the long run.

Additionally, there is a need to engage the whole student population in the school, and not just the students participating in the sessions. The project fostered a sense of pride and appreciation amongst the participating students. This, however, did not seem to extend to include the rest of the student body.

2. Having a CSBE representative on site during critical stages of the construction process.

Although members of the CSBE team visited the school sites regularly, we have come to the conclusion that a member of the team should be present on-site at critical moments during the implementation stage to ensure that all work is being completed on time and at the required level of quality.

3. Limiting vandalism.

Vandalism is a problem from which all schools in the country face. This problem may be addressed in two manners. The first is through engaging the whole school community in the grounds upgrading process to ensure a higher level of ownership and care amongst them regarding the upgrades. The second is to incorporate design features that limit vandalism. For example, as the project came to its conclusion, we decided to enclose the floodlights in the Rumman School within a cage structure in order to protect the light bulbs from being broken and to prevent their theft. We also installed tires with concrete poured into them around the soccer field in that school to prevent cars from parking on the field since a few teachers started parking their cars on it as soon as it was completed. The tires also serve as seats that the students can use.

4. Drawing a clear line regarding the extent of upgrades to be carried out.

There is always more that may be done and expectations of what may be done can understandably be high among the school community. There accordingly is a need to draw a clear line relating to how much work may be carried out, and to what cannot be carried out, and this has to be clearly communicated to the school community.

APPENDICES 1-7

Appendices available in digital form at www.csbe.org

