The little Artist

Interactive Art Center

Fatymah
Thesis Project 2011 Spring
Introduction

In this project, an art learning center located in a shopping mall in Saudi Arabia is designed for 3 to 5 year old kids.
Physical map of Shopping Center

- Shopping Center
- Etc.
- Food
- Store
- Parking
- The Art Center
- Etc.
- Store
- Entertainments
- Etc.
Physical map of the Art Center

- Traditional Platform
- Sand area
- Multi-media Platform
- 3 years old playground
- Library Platform
- Office
- Reception area
- Entrance
- Reception
- Gallery
- Cafe
Design Research

Including surveys, cultural research, marketing research and user needs mining.
The Survey and the result

14 questions designed to find people’s needs and wants;
27 Saudi participants.
Demographic information

1- Gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>male</td>
<td>8</td>
<td>30%</td>
</tr>
<tr>
<td>female</td>
<td>19</td>
<td>70%</td>
</tr>
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</table>

2- Do you have kids?

<table>
<thead>
<tr>
<th>Have Kids</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>yes</td>
<td>17</td>
<td>63%</td>
</tr>
<tr>
<td>no</td>
<td>10</td>
<td>37%</td>
</tr>
</tbody>
</table>

3- If yes how many?

<table>
<thead>
<tr>
<th>Number of Kids</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 to 3</td>
<td>13</td>
<td>48%</td>
</tr>
<tr>
<td>4 to 6</td>
<td>4</td>
<td>15%</td>
</tr>
<tr>
<td>more than 6</td>
<td>0</td>
<td>0%</td>
</tr>
</tbody>
</table>

4- How old are they?

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>less than 3 years</td>
<td>4</td>
<td>25%</td>
</tr>
<tr>
<td>3 to 5 years</td>
<td>8</td>
<td>50%</td>
</tr>
<tr>
<td>6 to 8 years</td>
<td>1</td>
<td>6%</td>
</tr>
<tr>
<td>9 and older</td>
<td>7</td>
<td>44%</td>
</tr>
</tbody>
</table>
Shopping mall behaviors and habits

5- On average, how many hours of free time do you have on weekdays?

- Less than 2 hours: 3 (11%)
- Between 2 and 4 hours: 14 (52%)
- Between 4 and 6 hours: 10 (37%)

6- On average, how many hours do you have on weekend days (both days combined)

<table>
<thead>
<tr>
<th>Hours Range</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 8 hours</td>
<td>3</td>
<td>11%</td>
</tr>
<tr>
<td>Between 8 and 12</td>
<td>8</td>
<td>30%</td>
</tr>
<tr>
<td>Between 12 and 16</td>
<td>11</td>
<td>41%</td>
</tr>
<tr>
<td>Between 16 and 20</td>
<td>2</td>
<td>7%</td>
</tr>
<tr>
<td>More than 20</td>
<td>3</td>
<td>11%</td>
</tr>
</tbody>
</table>

7- Is there any close by shopping mall?

- Yes: 14 (52%)
- No: 13 (48%)

8- Is there any park area near by your home?

- Yes: 13 (48%)
- No: 14 (52%)
9- How do you spend your free time?

- Relax at home: 11 (41%)
- Visit friends: 3 (11%)
- Watch a movie: 4 (15%)
- Go to shopping mall: 5 (19%)
- Other: 4 (15%)

10- Do you consider shopping malls as a place for entertainment or relaxing?

- yes: 19 (70%)
- no: 8 (30%)

11- On average, how many times do you go to shopping mall on monthly basis?

- less than 2 times: 10 (37%)
- 2 to 4 times: 9 (33%)
- 5 to 7: 7 (26%)
- 7 top 9 times: 1 (4%)
- More than 9 times: 0 (0%)
Needs and wants

12- As a %, what was the purpose of going to the mall? - **Entertainment** purposes

<table>
<thead>
<tr>
<th>Importance</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Important</td>
<td>1</td>
<td>4%</td>
</tr>
<tr>
<td>Important</td>
<td>7</td>
<td>26%</td>
</tr>
<tr>
<td>Neither Important...</td>
<td>3</td>
<td>11%</td>
</tr>
<tr>
<td>Unimportant</td>
<td>1</td>
<td>4%</td>
</tr>
<tr>
<td>Very Unimportant</td>
<td>2</td>
<td>7%</td>
</tr>
</tbody>
</table>

12- As a %, what was the purpose of going to the mall? - **Eating** purpose

<table>
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<td>11%</td>
</tr>
<tr>
<td>Important</td>
<td>5</td>
<td>19%</td>
</tr>
<tr>
<td>Neither Important...</td>
<td>4</td>
<td>15%</td>
</tr>
<tr>
<td>Unimportant</td>
<td>2</td>
<td>7%</td>
</tr>
<tr>
<td>Very Unimportant</td>
<td>0</td>
<td>0%</td>
</tr>
</tbody>
</table>

12- As a %, what was the purpose of going to the mall? - **Shopping** purpose

<table>
<thead>
<tr>
<th>Importance</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Important</td>
<td>6</td>
<td>22%</td>
</tr>
<tr>
<td>Important</td>
<td>6</td>
<td>22%</td>
</tr>
<tr>
<td>Neither Important...</td>
<td>2</td>
<td>7%</td>
</tr>
<tr>
<td>Unimportant</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
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<td>0%</td>
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</table>

12- As a %, what was the purpose of going to the mall? - **Socializing**

<table>
<thead>
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</tr>
<tr>
<td>Very Unimportant</td>
<td>6</td>
<td>22%</td>
</tr>
</tbody>
</table>
12- As a %, what was the purpose of going to the mall? - **Entertaining kids**

- Very Important: 7 (26%)
- Important: 1 (4%)
- Neither Important...: 2 (7%)
- Unimportant: 0 (0%)
- Very Unimportant: 4 (15%)

13- Do you consider shopping malls a good place for entertaining kids?

- Yes: 20 (74%)
- No: 6 (22%)

14- What would you require if you want to accompany kids for a shopping mall?

- Good / variety of food courts: 9 (33%)
- Availability of theater and movies for kids: 19 (70%)
- Availability of games (whether video games or physical games): 16 (59%)
- Size of the mall and shops: 5 (19%)
Cultural Research

Different Shopping mall culture;
Different eating in public culture;
Different proxemics …
The Shopping Mall Culture
The weekday in Saudi Arabia start on Saturday ending on Wednesday. Weekend is Thursday and Friday. The malls open seven day a week starting at 9 am or 10 and close in midnight. Except Fridays, the malls open after noon.
There are five prayer times each day, and all shops and department stores and other establishments dealing with the public (for example gasoline stations, banks, post offices and customer service centers) are required to shut temporarily for about 30 minutes during this time.
Who is going to shopping malls more?
The answer is: you’ll see more women than men!

The majority of malls are viewed as family malls. There will likely be security guards at each entranceway to the mall to ensure that only women and families are allowed entry. Single men or groups of men are generally not allowed admittance to the mall.
Why go to Shopping Malls?
Shopping malls are not just for shopping. People go there for many reasons. Because there are not many places for entertaining in Saudi Arabia, shopping malls are the perfect place to spend time shopping, meeting friends, eating, even entertaining kids.

The weather usually is hot and hummed in Saudi Arabia, people prefer indoor activities. The malls provide comfortable environment for people to go.
Saudi women are not allowed to work as salesperson in any of these shops in Saudi Arabia unlike other countries. So whether it is ladies clothes shop or a cosmetic agency, sellers will find only men.
Almost all items and well-known brands available in Europe and North America can be found in Saudi Arabia, with the exception of course of course of alcohol and pork products.
Restaurants and food service outlets are required to have two queues to order, one for women, the other for men.
Restaurants and food service outlets are required to have two entrances with two segregated seating areas, one for males and the other for families and females.
Entertaining kids

Most of the new shopping malls has play area for kids
Socializing

Shopping malls consider a good place to meet with friends and spending the day together.
We have big supermarkets open inside the mall
Proxemics

- **Shaking hands**: Formal, people you meet for the first time
- **Kissing on cheeks**: Friends or people you know
- **Holding hands**: Friends
- **Kissing head**: Older people, showing respect
- **Hugging**: Friends
**Proxemics**

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**Strangers** — **Friends**
Between different genders.

**Family**
- Relatives
- Husband

**Non-family**
- Stranger
- Colleagues
  - No shake hand, no touch or any physical contact.
  - Standing very close or sitting next to each other is not recommended.
Marketing Research

As a new way of providing service, research about traditional education and the education market was carried out here.
The Education Market

Only 8% of the Saudi kids go to kindergarten. They are not enough kindergarten. It is more difficult for younger age kids to find a kindergarten. For working moms they either keep their kids with the grand moms or with the house made.
Many people think art education is not very important. The art class in Saudi Arabia school is not serious. Usually just replaced by math or since classes.
Art Education

People interested in art has hard time to find places to learn either for themselves or for their kid.
Student graduating from art school have difficult time to find jobs too.
The Literature Review

About learning
About child development
Learning: Informal Learning

- Informal education
  - It is semi-structured and occurs in a variety of places, such as learning at home, work, and through daily interactions and shared relationships among members of society.

- Informal learning can be characterized as follows:
  - It often takes place outside educational establishments standing out from normal life and professional practice;
  - It does not necessarily follow a specified curriculum and is not often professionally organized;
  - It is not necessarily planned;
  - It is experienced directly in its "natural" function of everyday life.
Learning: Informal Learning

- Non-formal education. Some may contrast informal with non-formal education. The people who do this tend to present:
  - informal education as the lifelong process in which people learn from everyday experience; and
  - non-formal education as organized educational activity outside formal systems.

- Formal education is linked with schools and training institutions; non-formal with community groups and other organizations; and informal covers what is left, e.g. interactions with friends, family and work colleagues.

(See, for example, Coombs and Ahmed 1974).
Learning: Situated Learning

- At its simplest, situated learning is learning that takes place in the same context in which it is applied.

- It is situated in a specific context and embedded within a particular social and physical environment.

(Jean Lave and Etienne Wenger)
Learning: Community of practice

- It is a group of people who share an interest, a craft, and/or a profession

- Sharing information and experiences with the group that the members learn from each other, and have an opportunity to develop themselves personally and professionally

(Lave & Wenger 1991)
Learning: Experiential Learning

It is a philosophy of education that describes the process that occurs between a teacher and student that infuses direct experience with the learning environment and content.

- It is the process of making meaning from direct experience.
- Experiential learning focuses on the learning process for the individual.
- Experiential learning requires no teacher and relates only to the meaning making process of the individual's direct experience.
Learning: Constructivism

All knowledge is constructed by the learner

Constructivism

Behaviorist learning

Discovery learning

Traditional lecture and text

Learner constructs knowledge

Incremental learning, added bit by bit

Theory of Knowledge

Learning Theory

George E. Hein knowledge exists outside the learner

Knowledge exists outside the learner
Constructivism -
Constructivism argues that both knowledge and the way it is obtained are dependent on the mind of the learner. Learners construct knowledge as they learn; they don't simply add new facts to what is known, but constantly reorganize and create both understanding and the ability to learn as they interact with the world.
Learning: Constructivism

- Constructivism is a theory of knowledge that argues that humans generate knowledge and meaning from an interaction between their experiences and their ideas.

- The importance of the background and culture of the learner

- Young children develop their thinking abilities by interacting with other children, adults and the physical world.

- From the social constructivist viewpoint, it is thus important to take into account the background and culture of the learner throughout the learning process, as this background also helps to shape the knowledge and truth that the learner creates, discovers and attains in the learning process.

(Wertsch 1997).
Learning is an active, social process

- McMahon (1997) agrees that learning is a social process. He further states that learning is not a process that only takes place inside our minds, nor is it a passive development of our behaviors that is shaped by external forces and that meaningful learning occurs when individuals are engaged in social activities.

- Vygotsky (1978) also highlighted the convergence of the social and practical elements in learning by saying that the most significant moment in the course of intellectual development occurs when speech and practical activity, two previously completely independent lines of development, converge. Through practical activity a child constructs meaning on an intrapersonal level, while speech connects this meaning with the interpersonal world shared by the child and her/his culture.
Child development

Jean Piaget

From his observation of children, Piaget understood that children were creating ideas. They were not limited to receiving knowledge from parents or teachers; they actively constructed their own knowledge. Piaget's work provides the foundation on which constructionist theories are based.

Constructionists believe that knowledge is constructed and learning occurs when children create products or artifacts. They assert that learners are more likely to be engaged in learning when these artifacts are personally relevant and meaningful.
In studying the cognitive development of children, Piaget identified four major stages: sensorimotor, preoperational, concrete operational and formal operational.

**Sensorimotor**
- Birth to about age 2
- Children experience the world through movement and senses (use five senses to explore the world)

**Preoperational**
- 2 to 7
  - (magical thinking predominates. Acquisition of motor skills)
  - Egocentrism begins strongly and then weakens. Children cannot conserve or use logical thinking.

**Concrete operational**
- 7 to 11
  - (children begin to think logically but are very concrete in their thinking)
  - Children can now conserve and think logically but only with practical aids. They are no longer egocentric.

**Formal operational**
- 11-16 and onwards
  - (development of abstract reasoning)
  - Children develop abstract thought and can easily conserve and think logically in their mind.
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During this stage, the child learns to use and to represent objects by images, words, and drawings. The child is able to form stable concepts as well as mental reasoning and magical beliefs.
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**The Symbolic Function Sub stage**
- Occurs between about the ages of 2 and 4
- During 2-4 years old, kids cannot yet manipulate and transform information in logical ways, but they now can think in images and symbols.
- Children tend to pick their own view of what they see rather than the actual view shown to others.

**The Intuitive Thought Sub stage**
- Occurs between about the ages of 4 and 7
- Children tend to become very curious and ask many questions, wanting to know why things are the way they are.
- Piaget considered that children primarily learn through imitation and play throughout these first two stages, as they build up symbolic images through internalized activity.
- Children tend to pick their own view of what they see rather than the actual view shown to others.
Designing the art center

Personas, scenario, storyboarding
Frameworks, 3D models
Prototype
Testing
Modeling the users
Personas of kids and parents.
Personas

• 34 Years working mother.
• Has one kid (Arwa) 4 years old
• a math high school teacher
• Mona has been married for 6 years
• She keep her daughter with the grandma while she is working from 6 am to 3 pm.

Mona
Personas

• 4 years old girl
• love drawing and crafts.
• Arwa used to spend most of her time in her grandparents' house drawing, she makes paintings for her mom and dad every day.
Personas

- 37 years old housewife has 3 kids 12, 8 and 5
- Deena has been married for 14 years.
- She is the one take care of the house, kids, and their school.
- She wake up every morning to prepare the kids for the school, preparing the breakfast for them. Waiting until they leave to start the housework, Doing the grocery, cocking.

Deena
Personas

• 5 years old boy very interested in video game
• Mahdi goes to day care in the morning until 1 pm.
• He spend his free time playing computer game. He always refuse to go out with his family because he wants to stay home playing.
• He gives every body hard time when they are out, complaining about everything. Asking to go home because he is board.
Sketching the experience
A story how the art center works and benefit the kids and the parents
It is sunny Thursday, which is regular shopping day for Deena.
While she was shopping with her son Mahdi she passed The Art Center
There were many people there, drinking coffee chatting with each other and watching their kids playing behind the glass windows. By accident Mona Deena's friend was there. She waved her to come inside.
They greeted each other.

Then, Deena started to complain about how difficult to shop with kids.
Mona introduced Deena to the art center
She suggested her to put her son there while you are shopping?
Deena is watching her son who is standing in front of the glass window watching the kids and smiling.
Mona introduced Deena to Jana one of the teacher in the art center.
Jana took Deena to take a tour in the art center
Deena liked the place, and she asked a few questions about the membership. Jana told her they take all kids age 3 to 5. She explained the way they charge, and she gave some free trial.
After three weeks, Mona, Deena and other friends were in art center’s gallery looking very proud of what their kids have made.
Virtualizing the Art Center

Physical maps, 3D models and a real prototype…
Physical map of the Art Center

- Traditional Platform
- Sand area
- Multimedia Platform
- 3 years old playground
- Library Platform
- Office
- Reception area
- Entrance
- Reception
- Gallery
- Cafe
The floor plan
The Reception Area
Applying Falk and Dierking's Model of Learning
**Personal context:**

Interests: crafts and art education for their kids.

Motivations: getting some free time without their kids.

Concerns: safety of the place, money (how much is it costing)

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**Socio culture context**

Parents accompany their children

The interaction between the parents and the staff

The coffee area helps the interaction between the parents each other.

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**Interactive experience**

**Physical Context**

The coffee area

The children gallery

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**Applying Falk and Dierking's Model of Learning**
The Library Platform
Recordable books

- The recordable storybooks from Hallmark feature unique voice-capture technology that allows a person to record each page of a book and have it played back over as the reader turns each page.
- connect parents with their kids when they are not with them.

E-books

Interactive touchscreen
Applying Falk and Dierking's Model of Learning to the Library Platform

**Personal context:**
Interests: art and crafts, games,
Motivations: play with other kids discover new things

**Socio culture context**
The kids interact with each other, and with teachers.

**Physical Context**
Interact with the physical and video games.
Interact with touch screens
Interact with the books
The Traditional Art Platform and Sand Area
The Traditional Art Platform
Traditional Art Platform: Painting

- Kids really 
  **enjoy** painting, and what parents often don’t realize is that painting is a great activity for child development as well. When they paint, children are able to experiment and express themselves.

- **Language and Social Benefits**

- and painting gives them the **ability to share** their equipment, to clean up their mess.

- Allowing kids to use textures when painting is a great way to increase these **developmental benefits**. One option is finger paint. With finger paints kids are able to feel the paint and the things they paint. Kids can use paints to work on drawing objects or spelling words if they are a bit older.
Physical Benefits

There are physical developmental benefits for kids when they paint as well. Painting is wonderful for helping kids to further develop skills like hand eye coordination, fine motor skills, and gross motor skills. With large spaces they can learn to control larger muscles, and with small areas they can work on this fine motor skills.

Science and Math Benefits

Math and science benefits can be found as well in painting for children. When children paint, in order to cover the entire area they are working with, they develop more spatial awareness. They are able to combine different shapes, work with curved and shaped lines, and more. Kids learn more about volume as well with the paints, learning about how much paint is in a container and more.

When kids are painting, they are able to learn more about colors. They learn how colors look and what they look like when the colors are combined. They can experiment with the colors, mixing them to get other colors. With different paint forms, they can mix the paints to get different textures and thicknesses as well.
Traditional Art Platform: Fabric Collage

- kids will have fun expressing themselves
- and learning about texture with this easy
- It utilizes elements of design, color, the exploration of background and foreground, and basic mathematical principles,
Pottery Creating and coloring

- Working with clay allowed kids work with their hands and consider artistic lines of thinking, such as structure, form and shape. They’ll literally build items using clay, and learn new techniques through trial and error. According to AmericansForTheArts.org, children who are exposed to the arts are more likely to succeed academically, participate in social clubs and volunteer for their community. Working with a potter's wheel helps kids to learn hand-eye coordination as well.
The Sand Area
Traditional Art Platform: Sand activities

- There is no right way to use sand. It invites participation; it permits children to make and test hypotheses; it stretches the imagination; it provides a potentially soothing sensory experience; and it is an excellent avenue for children to learn physical, cognitive, and social skills.

- Because sand play is open-ended, the child determines the direction and path of his or her own play. This freedom then clears the way for the child to build developmental concepts.
Applying Activity Theory to the Traditional Art Platform

Subject: kids

Object: activity

Tools: brushes, paper, glue, etc.....

Rules
- culture rules

Community
- Parents, kids, staff

Division of labor
- Staff job, parents job

Outcome: learning
The Multi-media Platform
Xbox Kinect

Wii
let's create pottery

art puzzle

Toontastic

build a story
Applying Pine and Gilmore’s the experience realms framework to the Multi-media Platform

- Video games
- Xbox Kinect
- wii
- learning arts crafts, shapes, color ..... informal learning
- Design, art
- Video games
- Entertainment
- Educational
- Escapist
- Esthetic
- Passive Participation
- Active Participation
- Absorption
- Immersion
The 3 years old playground
The 3 years old playground
Floor Pattern Blocks
Kids learn shapes, designs, spatial relationships, angles, fractions, area, perimeter and symmetry with pattern block activities.

Shape Builder
Shape Builder encourages cognitive thinking & fine motor skills plus exposes young minds to new music instruments, animals, produce, objects & the alphabet in a fun & engaging format.

Toddler Puzzle Shapes
Toddler Puzzle games are especially made for our little kids, This fun matching game helps improve visual perception & develop fine motor skills by dragging & dropping puzzle pieces to match the blinking silhouette.

LogicLite
The game of Logic is a great educational and teaching aid for young children. It makes the basic learning of colors and shapes easy, and it helps them find similar shapes (figures) and colors in a challenging yet fun format.

Photo Touch Colors
Photo Touch Colors is an exciting educational game that helps your child rapidly learn to differentiate colors by sight, sound, and touch.

Jellytoons Toddler Skills: Bobo’s Birthday Challenge
This game designed to subtly test your child’s ability to match shapes and colors, observe objects and count from one to ten.
Apply Spradley ethnographic approach participant observation to the 3 years old playground
Spradley ethnographic approachparticipant observation

- **social situation**
  
  Every social situation can be identified by three elements

  - **Place:** any physical setting can become the basis for a social situation as long as it has people present and engaged in activity.
  
  - **Actors:** Every social situation includes people who are considered particular kinds of actors.
  
  - **Activity:** a set of related acts people do
  
  - **Object:** the physical that are present
  
  - **Act:** single action that people do
  
  - **Time:** the sequencing that takes place over time
  
  - **Goal:** the thing that people are trying to accomplish
  
  - **Feeling:** the emotion felt and expressed
Branham’s model

Environment
E0: The interactive art center

Sub environment
E1: Library platform
E2: traditional art
E3: shapes and color 3 years old
E4: multimedia

Individual
kids,

Objects
Parents
Staff
Screens, physical games.

Activity
Motive: play
Goal: making painting
ex....

understanding
Testing the idea out

Let the kids tell.
Testing:

The environment

Nada and Lubna start using the I pad for the first time
Zone of proximal development

- The zone of proximal development, often abbreviated ZPD, is the difference between what a learner can do without help and what he or she can do with help.

- A child follows an adult's example and gradually develops the ability to do certain tasks without help.

Lev Vygotsky (1896 – 1934).
Instructional scaffolding

Instructional scaffolding is the provision of sufficient support to promote learning when concepts and skills are being first introduced to students. These supports may include the following:

- Resources
- A compelling task
- Templates and guides
- Guidance on the development of cognitive and social skills

These supports are gradually removed as students develop autonomous learning strategies, thus promoting their own cognitive, affective and psychomotor learning skills and knowledge. Teachers help the students master a task or a concept by providing support. The support can take many forms such as outlines, recommended documents, storyboards, or key questions.
Nada and Lubna were playing Photo Touch Colors, comparing and learning colors and shapes.
Nada and Lubna were playing Jellytoons, Nada taught Lubna how to play hand by hand.
Lubna was playing Super Shapes, learning different shapes.
Nada and Lubna were playing Let’s Make Shapes; they drew shapes to learn.
Testing the record book: recorded by her father.
Testing video
Conclusions

- Game preference related with the complexity of the game and the player’s age.

- Kids are fast learners and mostly learn by trying rather than asking.

- Recorded books were less attractive comparing to the touch-screen.

- Bright colors, animations, music and sounds make the games more fun to kids.

- Kids that were tested have very good memory about the color and shapes.

- Games can be addictive to young kids.


Question Time